FINAL

SWMU 49 MONITORED NATURAL ATTENUATION SAMPLING YEAR FIVE REPORT

RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

Contract No.: W912DR-15-D-0022
Delivery Order No.: W912DR18F0492

Prepared For:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT
Baltimore, Maryland

and

RADFORD ARMY AMMUNITION PLANT
Radford, Virginia

Prepared By:

WESTON SOLUTIONS, INC.
2 Eaton Street, Suite 904
Hampton, VA 23669

January 2022

22P-0019

FINAL

SWMU 49 MONITORED NATURAL ATTENUATION SAMPLING YEAR FIVE REPORT

RADFORD ARMY AMMUNITION PLANT
RADFORD, VIRGINIA

Contract No. W912DR-15-D-0022
Delivery Order No. W912DR18F0492

Prepared For:

U.S. ARMY CORPS OF ENGINEERS
BALTIMORE DISTRICT
Baltimore, Maryland

and

RADFORD ARMY AMMUNITION PLANT
Radford, Virginia

Prepared By:

WESTON SOLUTIONS, INC.
2 Eaton Street, Suite 904
Hampton, VA 23669

JANUARY 2022

W.O. 03886.552.500.1001

TABLE OF CONTENTS

Section **Page**

1. INTRODUCTION 1-1
1.1 SITE DESCRIPTION AND BACKGROUND 1-2
2. PHYSICAL CHARACTERISTICS 2-1
2.1 TOPOGRAPHY 2-1
2.2 SURFACE WATER 2-1
2.3 GEOLOGY 2-1
2.3.1 Regional Geology 2-1
2.3.2 Site-Specific Geology 2-1
2.4 HYDROGEOLOGY 2-2
2.4.1 Regional Hydrogeology 2-2
2.4.2 Site-Specific Hydrogeology 2-3
3. PREVIOUS INVESTIGATIONS 3-1
4. FIELD ACTIVITIES 4-1
4.1 SEVENTEENTH QUARTER GROUNDWATER SAMPLING 4-1
4.1.1 Groundwater Elevation Measurements 4-2
4.1.2 Groundwater Sampling 4-2
4.1.3 Quality Control Samples 4-4
4.2 EIGHTEENTH QUARTER GROUNDWATER SAMPLING 4-4
4.2.1 Groundwater Elevation Measurements 4-4
4.2.2 Groundwater Sampling 4-5
4.2.3 Quality Control Samples 4-5
4.3 NINETEENTH QUARTER GROUNDWATER SAMPLING 4-6
4.3.1 Groundwater Elevation Measurements 4-6
4.3.2 Groundwater Sampling 4-6
4.3.3 Quality Control Samples 4-7
4.4 TWENTIETH QUARTER GROUNDWATER SAMPLING 4-8
4.4.1 Groundwater Elevation Measurements 4-8
4.4.2 Groundwater Sampling 4-8
4.4.3 Quality Control Sampling 4-9
5. CHEMICAL ANALYTICAL RESULTS 5-1
5.1 SELECTION OF COMPARISON CRITERIA 5-1
5.2 SEVENTEENTH QUARTER GROUNDWATER RESULTS 5-1
5.3 EIGHTEENTH QUARTER GROUNDWATER RESULTS 5-3
5.4 NINETEENTH QUARTER GROUNDWATER RESULTS 5-6
5.5 TWENTIETH QUARTER GROUNDWATER RESULTS 5-9

TABLE OF CONTENTS (CONTINUED)

Section **Page**

5.6 YEAR FIVE SAMPLE RESULTS 5-12
5.6.1 Carbon Tetrachloride 5-12
5.6.2 Trichloroethene 5-13
5.7 LABORATORY ANALYSIS, DATA VALIDATION, AND REPORTING 5-14
5.7.1 Precision 5-15
5.7.2 Accuracy 5-15
5.7.3 Representativeness 5-16
5.7.4 Comparability 5-16
5.7.5 Completeness 5-17
5.7.6 Sensitivity 5-17
5.7.7 Data Usability Summary 5-18
6. MNA EVALUATION OF SWMU 49 6-1
6.1 FIRST LINE OF EVIDENCE: OCCURRENCE OF CONTAMINANTS 6-1
6.2 SECOND LINE OF EVIDENCE: GEOCHEMICAL CONDITIONS 6-3
7. SUMMARY AND CONCLUSIONS 7-1
8. REFERENCES 8-1

LIST OF TABLES

Title **Page**

Table 1-1 SWMU 48 & 49 Groundwater Remedial Goals 1-3
Table 3-1 COCs Detected in SWMU 48 & 49 Groundwater Samples – 1996 RFI 3-3
Table 3-2 COCs Detected in SWMU 49 Groundwater Samples – 1998 RFI 3-3
Table 3-3 COCs Detected in SWMU 49 Groundwater Samples – 2006 Groundwater Data Report 3-4
Table 3-4 COCs Detected in SWMU 49 Study Area Groundwater Samples – 2007 RFI ... 3-4
Table 3-5 VOCs Detected in SWMU 49 Study Area Groundwater Samples – 2013 Supplemental RFI 3-5
Table 3-6 Analytes Detected in Baseline Monitoring 3-6
Table 4-1 SWMU 49 Year Five Quarterly Monitoring Analytical Suite 4-10
Table 4-2 SWMU 49 Seventeenth Quarter Groundwater Elevations 4-11
Table 4-3 SWMU 49 Seventeenth Quarter Water Quality Parameters 4-12
Table 4-4 SWMU 49 Eighteenth Quarter Groundwater Elevations 4-13
Table 4-5 SWMU 49 Eighteenth Quarter Water Quality Parameters 4-14
Table 4-6 SWMU 49 Nineteenth Quarter Groundwater Elevations 4-15
Table 4-7 SWMU 49 Nineteenth Quarter Water Quality Parameters 4-16
Table 4-8 SWMU 49 Twentieth Quarter Groundwater Elevations 4-17
Table 4-9 SWMU 49 Twentieth Quarter Water Quality Parameters 4-18
Table 5-1 SWMU 49 Summary of Detected Constituents in Seventeenth Quarter Groundwater Samples 5-19
Table 5-2 SWMU 49 Detected Analytes In Seventeenth Quarter Groundwater Samples 5-20
Table 5-3 SWMU 49 Summary of Detected Constituents in Eighteenth Quarter Groundwater Samples 5-22
Table 5-4 SWMU 49 Detected Analytes in Eighteenth Quarter Groundwater Samples ... 5-23
Table 5-5 SWMU 49 Summary of Detected Constituents in Nineteenth Quarter Groundwater Samples 5-26
Table 5-6 SWMU 49 Detected Analytes in Nineteenth Quarter Groundwater Samples ... 5-27
Table 5-7 SWMU 49 Summary of Detected Constituents in Twentieth Quarter Groundwater Samples 5-29
Table 5-8 SWMU 49 Detected Analytes in Twentieth Quarter Groundwater Samples 5-30

LIST OF TABLES (CONTINUED)

Title **Page**

Table 5-9 Summary of Sample and Analyses 5-32
Table 5-10 Analytical Methods 5-32
Table 5-11 Data Qualifiers 5-33
Table 5-12 Holding Time Exceedances 5-33
Table 5-13 Field Duplicate Precision Exceedances 5-34
Table 5-14 MS/MSD RPD Exceedances 5-34
Table 5-15 LCS Recovery Exceedances 5-34
Table 5-16 MS/MSD Recovery Exceedances 5-35
Table 5-17 Serial Dilution 5-35
Table 5-18 Calibration Exceedances 5-36
Table 5-19 Blank Flags 5-36
Table 6-1 SWMU 49 Carbon Tetrachloride and TCE Quarterly Concentrations 6-9
Table 6-2 Water Quality Parameters for Groundwater Performance Monitoring at SWMU 49 6-10

LIST OF FIGURES

Title **Page**

Figure 1-1 SWMU 49 Site Location Map 1-4
Figure 2-1 SWMU 49 Cross Section 2-4
Figure 2-2 SWMU 49 Cross-Section A-A' 2-5
Figure 2-3 SWMU 49 Cross-Section B-B' 2-6
Figure 2-4 SWMU 49 January 2015 Potentiometric Surface Map 2-7
Figure 4-1 SWMU 49 Monitoring Well Sample Locations 4-19
Figure 4-2 SWMU 49 October 2019 Groundwater Contour Map 4-20
Figure 4-3 SWMU 49 January 2020 Groundwater Contour Map 4-21
Figure 4-4 SWMU 49 April 2020 Groundwater Contour Map 4-22
Figure 4-5 SWMU 49 July 2020 Groundwater Contour Map 4-23
Figure 5-1 SWMU 49 October 2019 Carbon Tetrachloride Isopleths 5-37
Figure 5-2 SWMU 49 October 2019 Trichloroethene Isopleths 5-38
Figure 5-3 SWMU 49 January 2020 Carbon Tetrachloride Isopleths 5-39
Figure 5-4 SWMU 49 January 2020 Trichloroethene Isopleths 5-40
Figure 5-5 SWMU 49 April 2020 Carbon Tetrachloride Isopleths 5-41
Figure 5-6 SWMU 49 April 2020 Trichloroethene Isopleths 5-42
Figure 5-7 SWMU 49 July 2020 Carbon Tetrachloride Isopleths 5-43
Figure 5-8 SWMU 49 July 2020 Trichloroethene Isopleths 5-44
Figure 5-9 SWMU 49 Seventeenth Quarter CT and TCE Concentrations 5-45
Figure 5-10 SWMU 49 Eighteenth Quarter CT and TCE Concentrations 5-46
Figure 5-11 SWMU 49 Nineteenth Quarter CT and TCE Concentrations 5-47
Figure 5-12 SWMU 49 Twentieth Quarter CT and TCE Concentrations 5-48
Figure 5-13 SWMU 49 CT Concentration Trends 5-49
Figure 5-14 SWMU 49 TCE Concentration Trends 5-50
Figure 6-1 SWMU 49 Seventeenth Quarter CT to Chloroform Correlation 6-11
Figure 6-2 SWMU 49 Seventeenth Quarter TCE to cis-1,2-DCE Correlation 6-12
Figure 6-3 SWMU 49 Eighteenth Quarter CT to Chloroform Correlation 6-13
Figure 6-4 SWMU 49 Eighteenth Quarter TCE to cis-1,2-DCE Correlation 6-14
Figure 6-5 SWMU 49 Nineteenth Quarter CT to Chloroform Correlation 6-15

LIST OF FIGURES (CONTINUED)

Title **Page**

Figure 6-6 SWMU 49 Nineteenth Quarter TCE to cis-1,2-DCE Correlation 6-16
Figure 6-7 SWMU 49 Twentieth Quarter CT to Chloroform Correlation 6-17
Figure 6-8 SWMU 49 Twentieth Quarter TCE to cis-1,2-DCE Correlation..... 6-18
Figure 6-9 CT and Chloroform Concentration Trends Relative to Specific Conductivity 48MW2 and 48MW3 6-19
Figure 6-10 TCE and cis-1, 2-DCE Concentration Trends Relative to Specific Conductivity 48MW2 and 48MW3 6-20
Figure 6-11 48MW2 MNA Indicators Years One, Two, Three, Four, and Five..... 6-21
Figure 6-12 48MW3 MNA Indicators Years One, Two, Three, Four, and Five..... 6-22
Figure 6-13 Water Quality Parameters 48MW2 and 48MW3 Years One, Two, Three, Four, and Five 6-23

LIST OF APPENDICES

Appendix A-1 Field Sampling Logs

Appendix A-2 Calibration Forms

Appendix A-3 Field Notes

Appendix B-1 Data Validation Reports

Appendix B-2 Laboratory Analytical Reports

Appendix C Mann-Kendall Analysis

LIST OF ACRONYMS AND ABBREVIATIONS

°C	degrees Celsius
%D	percent difference
µg/L	micrograms per liter
µS/cm	microsiemens per centimeter
1,1,1-TCA	1,1,1-trichloroethane
1,1-DCA	1,1-dichloroethane
amsl	above mean sea level
bgs	below ground surface
BSEn	Bearing Sea Environmental, LLC
BTOC	below top of casing
CB&I	CB&I Federal Services LLC
CCV	continuing calibration verification
cis-1,2-DCE	cis-1,2-dichloroethene
CMO	corrective measures objective
CoC	chain-of-custody
COC	contaminant of concern
COD	chemical oxygen demand
CT	carbon tetrachloride
DO	dissolved oxygen
DoD	U.S. Department of Defense
DTW	depth to water
EEA	Eurofins Eaton Analytical
ELAP	Environmental Laboratory Accreditation Program
FD	field duplicate
Fe	ferrous iron
Fe^{2+}	dissolved ferrous iron
ft	feet/foot
HHRA	human health risk assessment
I.M.	Interim Measures
ICV	initial calibration verification
IDW	investigation-derived waste
ITRC	Interstate Technology and Regulatory Council
LCS	laboratory control sample
LCSD	laboratory control sample duplicate
LOQ	limit of quantitation
LTM	long-term monitoring
MCL	maximum contaminant level
MDL	Method Detection Limit
mg/L	milligrams per liter
mL/min	milliliters per minute
MNA	monitored natural attenuation
MRL	method reporting limit

LIST OF ACRONYMS AND ABBREVIATIONS (CONTINUED)

MS	matrix spike
mS/cm	millisiemens per centimeter
MSD	matrix spike duplicate
mV	millivolt
MWP	Master Work Plan
NA	not applicable
ND	not detected/non-detect
NT	not tested
NTU	Nephelometric Turbidity Unit
OR	over range
ORP	oxidation reduction potential
Parsons	Parsons Engineering Science, Inc.
PCE	tetrachloroethene
PDS	post digestion spike
pH	corrosivity/hydrogen ion concentration
PID	photoionization detector
POC	point of compliance
ppm	parts per million
QA	quality assurance
QAPP	Quality Assurance Project Plan
QC	quality control
RCRA	Resource Conservation and Recovery Act
RFAAP	Radford Army Ammunition Plant
RFI	RCRA Facility Investigation
RG	remedial goal
RPD	relative percent difference
RSL	regional screening level
SU	standard unit
SWMU	Solid Waste Management Unit
TCE	trichloroethene
TCL	target compound list
TOC	total organic carbon
URS	URS Corporation
USACE	U.S. Army Corps of Engineers
USATHAMA	U.S. Army Toxic and Hazardous Materials Agency
USEPA	U.S. Environmental Protection Agency
Validata	Validata Chemical Services, Inc.
VDEQ	Virginia Department of Environmental Quality
VI	verification investigation
VOC	volatile organic compound
WESTON®	Weston Solutions, Inc.

1. INTRODUCTION

Weston Solutions, Inc. (WESTON®) has been contracted by the United States Army Corps of Engineers (USACE), Baltimore District, to perform Long-Term Monitoring (LTM) and Monitored Natural Attenuation (MNA) at Solid Waste Management Unit (SWMU) 49 (RAAP-013), Propellant Burning Ash Disposal Area, at Radford Army Ammunition Plant (RFAAP), Radford, VA. This report provides a description of the groundwater sampling activities completed and analysis of results from the seventeenth through twentieth quarterly rounds conducted in 2019 (October) through 2020 (January, April, and July). Further, this report provides a summary of the Year Five sampling, consisting of those four sampling events.

This work was performed under Contract No. W912DR-15-D-0022, Delivery Order No. W912DR18F0492 in accordance with the *Radford Army Ammunition Plant, Radford, Virginia, Final Master Work Plan (MWP)* (URS Corporation [URS], 2003) and with Part II (D)(11-21) Interim Measures (I.M.) of the RFAAP Resource Conservation and Recovery Act (RCRA) Corrective Action Permit (U.S. Environmental Protection Agency [USEPA], 2000).

Groundwater at the SWMU 49 study area has been investigated from the mid-1990s through 2020 and has been fully characterized and delineated. Based on the contamination assessment and human health risk assessment (HHRA) performed and presented in the Draft SWMU 48/49 Resource Conservation and Recovery Act (RCRA) Facility Investigation (RFI) Report (CB&I Federal Services LLC [CB&I], 2014a), carbon tetrachloride (CT) and trichloroethene (TCE) were identified as the primary contaminants of concern (COCs). (Note: SWMU 49 used to be a combined study area with SWMU 48; however, previous investigations and sample data have determined that suspected contaminants reportedly disposed of at SWMU 48 were, in fact, likely disposed at SWMU 49. Therefore, this LTM report concerns only contamination associated with SWMU 49.) CT and TCE were identified as the COCs that are contributing to potential future industrial and residential risk at the study area. Based on the MNA results presented in the SWMU 49 MNA Sampling Baseline Report (CB&I, 2015), MNA processes including biodegradation, sorption, dilution, dispersion, and chemical stabilization are occurring in groundwater at the SWMU 49 study area.

The Year Five MNA sampling program was developed and conducted in accordance with the USEPA and Virginia Department of Environmental Quality (VDEQ) approved Draft SWMU 48/49 RFI Report (CB&I, 2014a) and the Draft Final SWMU 49 MNA Groundwater Monitoring Work Plan (CB&I, 2014b). The corrective measures objectives (CMOs) and remedial goals (RGs) were developed and presented in the Draft SWMU 48/49 RFI Report (CB&I, 2014a). The site-specific CMO for SWMU 49 is to reduce COC (i.e., CT and TCE) concentrations to below the RGs/maximum contaminant levels (MCLs) in order to avoid adversely impacting future beneficial use of groundwater; and to the extent practicable, achieve the goal of restoring site groundwater to the most beneficial use.

The objectives of the MNA program are as follows:

- To measure and track the reduction of CT and TCE to levels below the RGs as defined in **Table 1-1**.
- To monitor and evaluate the daughter products of the COCs to determine the progress (effectiveness and timeliness) of the degradation process.

1.1 SITE DESCRIPTION AND BACKGROUND

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

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

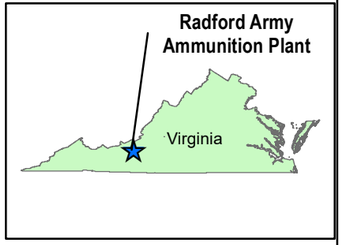
Table 1-1 SWMU 48 & 49 Groundwater Remedial Goals

Chemical of Interest	Groundwater RG (µg/L)	Groundwater RG Source (*)(1)
Carbon Tetrachloride	5.0	MCL
Trichloroethene	5.0	MCL

Notes:
(*) RGs are also the MCLs listed in the USEPA 2018 Edition of the Drinking Water Standards and Health Advisories (USEPA, 2018).
(1) RGs developed and presented in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
µg/L = micrograms per liter
MCL = maximum contaminant level
RG = remedial goal
SWMU = Solid Waste Management Unit

Legend

- SWMU 49 Boundary
- Other SWMU Boundary



Aerial Source:
ESRI Imagery Mapping Service, 2019

N

0 150 300 600 Feet

Prepared By:

Baltimore District

FIGURE 1-1
SWMU 49 SITE LOCATION MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU_48_49_Site_Location_Map.mxd, 10/21/2020 1:17:24 PM, johna

2. PHYSICAL CHARACTERISTICS

2.1 TOPOGRAPHY

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

2.2 SURFACE WATER

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

2.3 GEOLOGY

2.3.1 Regional Geology

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

2.3.2 Site-Specific Geology

The lithology of the SWMU 49 subsurface was characterized during the advancement of soil borings and monitoring well borings at the site. One soil boring (48SB05) was advanced within SWMU 49 to 37 ft in depth. In addition to 48SB05, two monitoring wells were installed directly north and south of the target study area: 48MW1 and 48MW2, respectively. Plan views of lines A-A' and B-B' that run through the adjacent sites of SWMU 48, SWMU 50, and SWMU 59 are presented on **Figures 2-1**, with geologic cross sections of A-A' and B-B' presented on **Figures 2-2** and **2-3,** respectively. Based on the borings, the subsurface geology consists of alluvium and residual deposits comprised of clay and silt with some sand and gravel overlying

bedrock. Well 48MW1 was advanced to 154 ft below ground surface (bgs), with the bedrock elevation encountered at 72 ft bgs. Well 48MW2 was advanced to 133.7 ft bgs, with the bedrock elevation encountered at approximately 41 ft bgs. Depths to bedrock were directly measured at the monitoring well borings. Bedrock elevations ranged from approximately 1,745 to 1,776 ft amsl, with the bedrock surface sloping to the north.

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

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

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

2.4 HYDROGEOLOGY

2.4.1 Regional Hydrogeology

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

Groundwater flow paths are typically short, commonly extending no more than several miles in their longest dimension. The largest groundwater supplies are produced from the carbonate rocks, especially where they are associated with thick regolith, an important storage reservoir throughout

the entire area. The regolith serves as a store of recharge that would otherwise be rapidly diverted to overland flow. It also slowly releases water to underlying carbonate aquifers. Because of the widespread distribution of carbonate rocks and associated regolith, abundant precipitation in a humid climate, and relatively steep hydraulic gradients, this region (and locality) is one of the major karstlands in the eastern United States.

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

2.4.2 Site-Specific Hydrogeology

Monitoring wells installed at SWMU 49 were screened in both the surficial unconsolidated deposits and in the underlying bedrock. Boring logs and well construction diagrams for the SWMU 49 study area wells are presented in the SWMU 49 MNA Sampling Baseline Report (CB&I, 2015). Water levels were measured in the wells to determine the groundwater flow direction at the site. A groundwater contour map prepared from the Baseline MNA monitoring completed in January 2015 is provided in **Figure 2-4**. A steep bluff separates SWMU 49 and SWMU 13; therefore, no monitoring wells are positioned between these sites. Contour lines shown on the figure represent lines of equal elevation of the water table; consequently, groundwater flow direction is always perpendicular to the contour lines and feeds into the New River, which generally runs south-to-north course, but west-to-east at this location. Groundwater at the site tends to flow south towards SWMU 13 and appears to discharge to the New River, south of the study area. Groundwater elevations at SWMU 49 vary minimally from each of the four sampling quarters, suggesting little seasonal impact on groundwater elevations. Based on the Year Five groundwater elevations recorded, the flow direction did not change appreciably from quarter to quarter (see discussion in Sections 4.1.1, 4.2.1, 4.3.1, and 4.4.1).

Legend

- Well
- Cross Section
- SWMU 49 Boundary

Aerial Source:
Near Map Imagery, February 2020

N

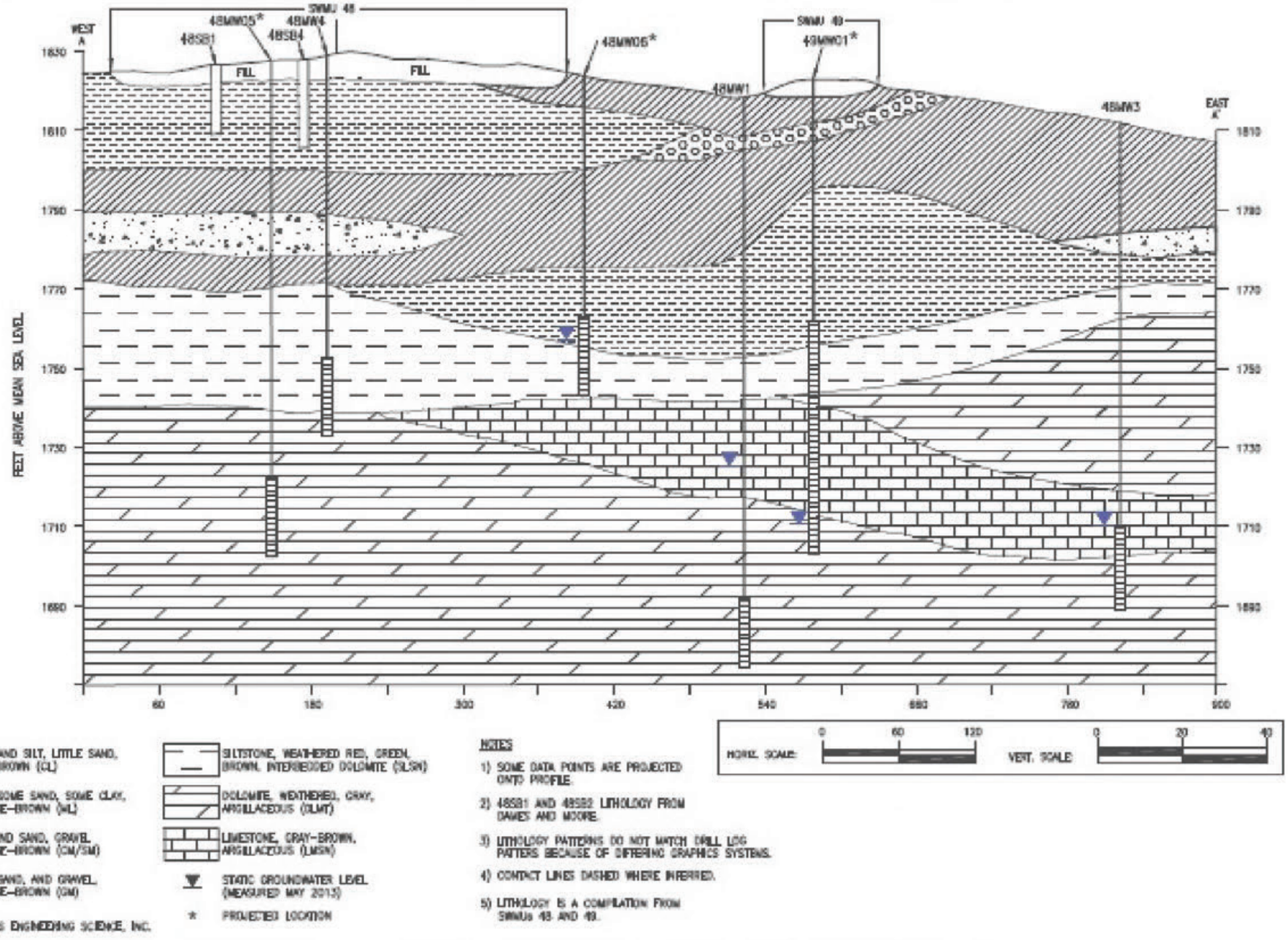
0 55 110 220 Feet

Prepared By:

Baltimore District

FIGURE 2-1
SWMU 49
CROSS SECTION
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Topography_Cross_Section.mxd, 2/2/2021 5:37:17 PM, johna



Legend

Aerial Source:
Near Map Imagery, February 2020

N

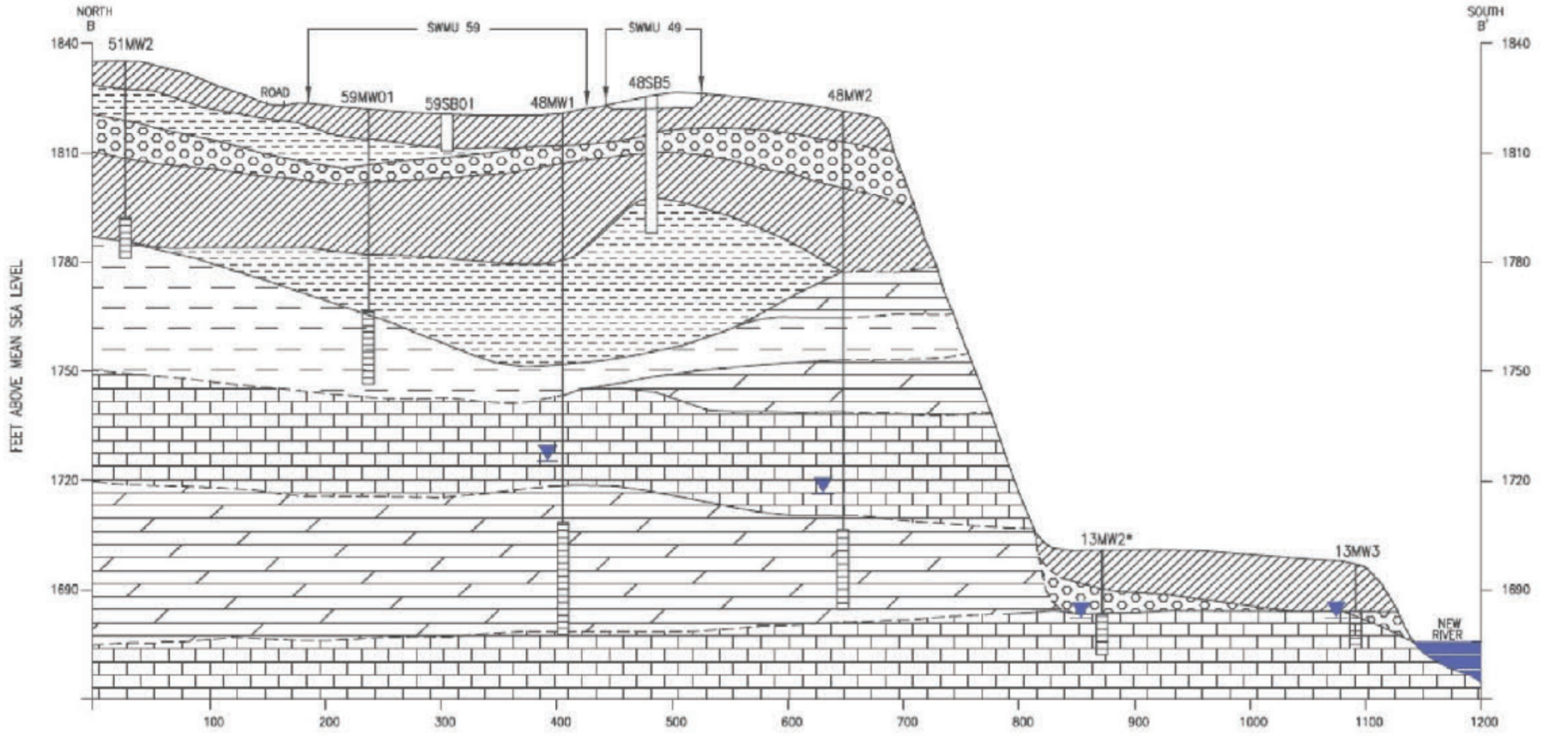
Prepared By:

Baltimore District

FIGURE 2-2
SWMU 49
CROSS SECTION A-A' SWMU 49
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Cross_Section_A_A_Template.mxd, 10/29/2020 9:50:34 AM, johna

20P-0251



HORIZ. SCALE: 0 100 200 VERT. SCALE: 0 30 60

LEGEND

- CLAY AND SILT, LITTLE SAND, RED–BROWN (CL)
- SILT, SOME SAND, SOME CLAY, ORANGE–BROWN (ML)
- SILT AND SAND, GRAVEL ORANGE–BROWN (CM/SM)
- SILT, SAND, AND GRAVEL, ORANGE–BROWN (GM)
- SILTSTONE, WEATHERED RED, GREEN, BROWN, INTERBEDDED DOLOMITE (SLSN)
- DOLOMITE, WEATHERED, GRAY, ARGILLACEOUS (DLMT)
- LIMESTONE, GRAY–BROWN, ARGILLACEOUS (LMSN)
- STATIC GROUNDWATER LEVEL (MEASURED MAY 2013)

NOTES

1) SOME DATA POINTS ARE PROJECTED ONTO PROFILE.
2) 51MW2 AND 13MW2 LITHOLOGY FROM DAMES AND MOORE.
3) LITHOLOGY PATTERNS DO NOT MATCH DRILL LOG PATTERNS BECAUSE OF DIFFERING GRAPHICS SYSTEMS.
4) CONTACT LINES DASHED WHERE INFERRED.
5) ADDITIONAL WELLS SHOWN TO AID IN CROSS–SECTION ACCURACY.

SOURCE: PARSONS ENGINEERING SCIENCE, INC.

Legend

Aerial Source:
Near Map Imagery, February 2020

N

Prepared By:
Baltimore District

FIGURE 2-3
SWMU 49
CROSS SECTION B-B' SWMU 49
RADFORD, VIRGINIA

WESTON SOLUTIONS

BSEn
BERING SEA ENVIRONMENTAL LLC

51MW1
51MW2
48MW7
1780
48MW4
1770
1760
59MW1
48MW5
1750
48MW6
1720
1730
48MW1
49MW3
1740
49MW1
SWMU 49
1710
50MW1
48MW3
49MW2
48MW2
1700
50MW2
1690
49MW5
49MW4
13MW2
13MW5
1680
13MW4
13MW3
NEW RIVER

Legend

- Well
- Groundwater Contour
- SWMU 49 Boundary
- Groundwater Flow Direction

Aerial Source:
Near Map Imagery, February 2020

N

0 55 110 220
Feet

Prepared By:

Baltimore District

FIGURE 2-4
SWMU 49 JANUARY 2015
POTENTIOMETRIC SURFACE MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Potentiometric_Surface_Map_Jan2015.mxd, 11/22/2020 3:47:42 PM, johna

3. PREVIOUS INVESTIGATIONS

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

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

WESTON has performed the LTM and MNA at SWMU 49 since October 2019 through the present, including the seventeenth through twentieth quarterly sampling rounds, for Year Five of sampling at RFAAP. The nature and extent assessment identified several volatile organic compounds (VOCs) and metals in groundwater as elevated and contributing to potential future risks. Two of the VOCs associated with potential future industrial and residential risk in the HHRA (CT and TCE) were present above USEPA's MCLs (USEPA, 2018) during the multiple groundwater sampling events at the study area. A comparison of concentrations from the

mid-1990s to 2019 indicates that the majority of the VOCs are no longer present in these sampled areas and have broken down through natural processes. Analysis of the groundwater data during this roughly 20-year period shows that concentrations of CT and TCE plume have changed as follows: (1) decreased overall, (2) decreased to 1 microgram per liter (µg/L) surrounding the center of the plume, and (3) decreased at least by one half in the center of the plume. The presence of daughter products (i.e., chloroform and cis-1,2-dichloroethene [cis-1,2-DCE]) in groundwater at the study area indicates that limited biological degradation of the chlorinated solvents is occurring.

The HHRA determined that CT and TCE are the primary COCs in groundwater that are contributing potential future industrial and residential risk at the SWMU 49 study area. Because the RFI demonstrated that groundwater contamination is present at concentrations associated with unacceptable human health concerns, CMOs and RGs were developed to address the concerns.

The site-specific CMO for SWMU 49 is to reduce COC concentrations to below RGs/MCLs in order to avoid adversely impacting future beneficial use of groundwater; and to the extent practicable, achieve a goal of restoring site groundwater to the most beneficial use. The SWMU 49 groundwater COCs have been identified as CT and TCE. The groundwater RGs (presented in **Table 1-1** of this report) will be used to compare results from groundwater monitoring wells to assess the progress of the MNA.

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

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

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

Notes:
µg/L =micrograms per liter (parts per billion)
COC = contaminant of concern
NT = Analyte not tested
RFI =RCRA Facility Investigation
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

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

Bold outline indicates an RG exceedance.

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

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

Notes:
µg/L = micrograms per liter (parts per billion)
COC = contaminant of concern
MDL = Method Detection Limit
MRL = Method Reporting Limit
RFI = RCRA Facility Investigation
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
U = Analyte not detected at the method reporting limit.
Val Q = Validation Data Qualifiers
J = Estimated concentration.
U = Analyte not detected.
-2 = Sample code signifies the second round of sampling conducted at these four wells. Original samples were collected during the 1998 RFI performed by ICF Kaiser.

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

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

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

Notes:
µg/L = micrograms per liter (parts per billion)
COC = contaminant of concern
MDL = Method Detection Limit
MRL = Method Reporting Limit
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

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

Bold outline indicates an RG exceedance.

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

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

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

Notes:
µg/L = micrograms per liter (parts per billion)
COC = contaminant of concern
MDL = Method Detection Limit
MRL = Method Reporting Limit
RFI = RCRA Facility Investigation
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

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

Bold outline indicates an RG exceedance.

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

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

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

Notes:
µg/L = micrograms per liter (parts per billion)
MDL = Method Detection Limit
MRL = Method Reporting Limit
NA = not applicable
RFI = RCRA Facility Investigation
RG = Remedial Goal developed for carbon tetrachloride and trichloroethene in CB&I, 2014.
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

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

Bold outline indicates an RG exceedance.

Table 3-6 Analytes Detected in Baseline Monitoring

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

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

Bold outline indicates an RG exceedance.

Lab Q = Lab Data Qualifiers
D = Sample was run at a dilution.
J = Value < MRL and > MDL and is considered estimated.
N = Matrix Spike/Matrix Spike Duplicate accuracy and/or precision were outside criteria
U = Analyte not detected at the method reporting limit.
X = The associated ICV/CCV exceeded the upper control limit.
Val Q = Validation Data Qualifiers
B = Blank contamination. Value detected in sample and associated blank.
J = Estimated concentration.
K = Estimated concentration bias high.
L = Estimated concentration bias low.
UL = Estimated concentration non-detect bias low

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

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

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

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

Bold outline indicates an RG exceedance.

4. FIELD ACTIVITIES

The following sections provide a discussion of field activities conducted by WESTON in the Year Five MNA monitoring at SWMU 49.

The Year Five groundwater monitoring consisted of four sampling events conducted in October 2019 (seventeenth quarter), January 2020 (eighteenth quarter), April 2020 (nineteenth quarter), and July 2020 (twentieth quarter). Fifteen monitoring wells were included in the monitoring well network, of which eleven were sampled on a quarterly basis and four on an annual basis. The Year Five MNA groundwater monitoring consisted of a synoptic water level measurement and sampling of the 15 point of compliance (POC) monitoring wells for target compound list (TCL) VOCs and dissolved gases (methane, ethane, ethene). In addition, the following indicator parameters were collected: total organic carbon (TOC), dissolved ferrous iron, and the anions chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included corrosivity/hydrogen ion concentration (pH), temperature, specific conductivity, dissolved oxygen (DO), oxidation-reduction potential (ORP), and turbidity utilizing a daily calibrated YSI water quality meter. The list of monitoring wells and sample frequency is provided in **Table 4-1**. Groundwater samples were submitted to a U.S. Department of Defense (DoD) Environmental Laboratory Accreditation Program (ELAP) accredited laboratory (CT Laboratories, LLC). Field activities were conducted in accordance with the Draft Final SWMU 49 MNA Groundwater Monitoring Work Plan (CB&I, 2014b). Copies of the groundwater sample forms, meter calibration records, and field notes are presented in **Appendix A-1, A-2,** and **A-3**, respectively.

4.1 SEVENTEENTH QUARTER GROUNDWATER SAMPLING

Groundwater elevation measurements were collected from all 15 POC monitoring wells, whereas samples were collected from 11 of the 15 wells. The seventeenth quarter of groundwater sampling was conducted 15 through 17 October 2019. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.1.1 Groundwater Elevation Measurements

Water level elevations were collected during each Year Five quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-2** provides the measured depth to water (DTW) levels (from the top of the casing) and groundwater elevations amsl collected on 15 October 2019. **Figure 4-2** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event. Groundwater contours were derived using Esri ArcGIS Desktop Spatial Analyst 10.7.1 software and creating a spline interpolated continuous surface based on limited groundwater data collected in the field. The surface model was executed using default values in most cases and forced to cover an area inclusive of all wells using the extent polygon to define the area of interest. Contour lines were then constructed from the output splined surface at 10-ft and 2-ft intervals, depending on the site, with zero base contour. The results of the automated processing were then reviewed by subject knowledge experts and manually adjusted to accurately represent ground conditions.

4.1.2 Groundwater Sampling

Groundwater samples were collected from 11 of the 15 POC monitoring wells from 15 through 17 October 2019 and analyzed for the analytical suites covering TCL VOCs and the dissolved gases methane, ethane, and ethene. In addition, the following indicator parameters were collected: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature, specific conductivity, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49. **Table 4-1** presents the suite of analytes collected for analysis during the seventeenth quarterly monitoring event.

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

1. A photoionization detector (PID) reading was taken upon removing the well cap to determine the presence of potentially hazardous levels of volatile gases. The PID readings were collected during the water elevation sweeps and again during sample collection. All PID readings were within acceptable levels.

2. During the water level sweep, DTW and total depth measurements were recorded to determine the amount of water in the well casing and sand pack. Only approximate total well depths were measured during the quarterly events to confirm that the total depths were consistent with the data from the previous reports.

3. Groundwater samples were collected after all water level elevations had been recorded. The general practice was to lower the peristaltic pump tubing to a depth where the pump tubing inlet was within the screened interval. Ample hydraulic head was maintained above the tubing depth to ensure a sufficient water supply. The pump was connected to a Geocontrol PRO control unit, whereas the discharge tubing was connected to a YSI 556 water quality flow cell.

4. Monitoring wells were pumped at a rate of approximately 200 milliliters per minute (mL/min). Flow rate was determined by gauging the time it took to fill a 200-mL vial. Water quality parameters were recorded continuously including temperature, pH, DO, ORP, turbidity, and specific conductivity. Turbidity was measured using a Hach 2100Q turbidity meter, whereas concentrations of dissolved ferrous iron were measured in the field using a Hach DR900 test kit via Method 8146.

5. The groundwater flow rate was maintained during sample collection. Samples were collected, labeled, and packed in ice until shipment to the laboratory. Chain-of-custody (CoC) forms were filled out and shipped with the samples. Copies of the CoC forms are provided in **Appendix B-2** along with the raw analytical data packages.

Table 4-3 presents a summary of the final (stabilized) water quality readings for each well from the seventeenth quarter. Based on the seventeenth quarter DO data, aerobic groundwater conditions are prominent in all 11 monitoring wells at SWMU 49 (i.e., DO >1 parts per million [ppm]). The DO levels ranged from a low of 6.6 milligrams per liter (mg/L) at monitoring well 13MW4 to a high of 69.3 mg/L at monitoring well 13MW2. ORP measurements ranged from a low of 42.9 millivolts (mV) in monitoring well 48MW1 to a high of 76.8 mV at monitoring well 49MW04. Measurements of pH ranged from a low of 6.94 standard units (SU) at monitoring well 50MW02 to a high of 7.65 at monitoring well 49MW01. As evidenced in **Table 4-3**, all pH measurements were below 8.0. Measuring the suitability of the groundwater to support microbial species is accomplished via pH readings. Microbial activity tends to be reduced outside of pH range of 5 to 9, and anaerobic microorganisms are typically sensitive to pH extremes (Interstate Technology and Regulatory Council [ITRC], 1999). Measurements of specific conductivity ranged from a low of 432 microsiemens per centimeter (µS/cm) at monitoring well 48MW1 to a high of 799 µS/cm at monitoring well 48MW06.

4.1.3 Quality Control Samples

Quality control (QC) samples including a duplicate sample, trip blank, and matrix spike/matrix spike duplicate (MS/MSD) blanks were collected during the seventeenth monitoring event.

Two duplicate samples were collected during the seventeenth monitoring event at 48MW3 (duplicate as 48TM3) and 13MW3 (duplicate as 13TM3) and analyzed for the same full suite of compounds as the parent sample. Further, one MS/MSD was collected at monitoring well 13MW2 and analyzed for the same full suite of compounds as the parent sample.

In previous sampling years, one equipment rinse blank was collected during each quarter. However, as only disposable equipment (disposable tubing with a peristaltic pump) was utilized during the sampling, no equipment rinse blanks were warranted.

One IDW purge water sample (49IDW) was collected and analyzed for pH, chemical oxygen demand (COD), and total metals. All collected purge water for all events was taken to the ACD area for storage and deposited in a 55-gallon drum labeled 48/49 with Radford AAP providing subsequent disposal.

Results of the quality assurance (QA)/QC samples are presented in the raw analytical data package provided in **Appendix B-2**.

4.2 EIGHTEENTH QUARTER GROUNDWATER SAMPLING

Groundwater elevation measurements and samples were collected from all 15 POC monitoring wells. The eighteenth quarter of groundwater sampling was conducted from 28 through 30 January 2020. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.2.1 Groundwater Elevation Measurements

Water level elevations were collected during each Year Five quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-4** provides the measured DTW levels (from the top of the casing) and groundwater elevations amsl

collected on 28 January 2020. **Figure 4-3** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event.

4.2.2 Groundwater Sampling

Groundwater samples were collected from all 15 POC monitoring wells from 28 through 30 January 2020. The eighteenth quarter monitoring samples were tested for the same analytes as the seventeenth quarter, which are presented in **Table 4-1**. In addition, the same MNA indicator parameters were collected in the eighteenth quarter as were collected in the seventeenth quarter: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature, specific conductivity, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49.

Groundwater samples were collected applying the same method and approach used during the seventeenth quarterly monitoring event: specifically, via low-flow peristaltic pumps.

Table 4-5 presents a summary of the final (stabilized) water quality readings for each well from the eighteenth quarter. Based on the eighteenth quarter DO data, aerobic groundwater conditions exist at SWMU 49 (i.e., DO >1 ppm). The DO levels ranged from a low of 2.26 mg/L at monitoring well 49MW04 to a high of 10.88 mg/L at monitoring well 48MW07. ORP measurements ranged from a low of 39.5 mV in monitoring well 48MW07 to a high of 126.5 mV at monitoring well 48MW06. Measurements of pH ranged from a low of 6.74 SU at monitoring well 13MW5 to a high of 7.87 SU at monitoring well 48MW07. Measurements of specific conductivity ranged from a low of 190 µS/cm at monitoring well 48MW07 to a high of 764 µS/cm at monitoring well 49MW05. Copies of the CoC forms are provided in **Appendix B-2** along with the raw analytical data packages.

4.2.3 Quality Control Samples

QC samples including a duplicate sample, trip blank, and MS/MSD blanks were collected during the eighteenth monitoring event.

Two duplicate samples were collected during the eighteenth monitoring event at 48MW3 (duplicate as 48TM3) and 13MW3 (duplicate as 13TM3) and analyzed for the full suite of compounds as the parent sample. Further, one MS/MSD was collected at monitoring well 13MW2 and analyzed for the same full suite of compounds as the parent sample.

In previous sampling years, one equipment rinse blank was collected during each quarter. However, as only disposable equipment was utilized during the sampling, no equipment rinse blanks were warranted.

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

4.3 NINETEENTH QUARTER GROUNDWATER SAMPLING

Groundwater elevation measurements were collected from all 15 POC monitoring wells, whereas samples were collected from 11 of the 15 wells. The nineteenth quarter of groundwater sampling was conducted 27 through 30 April 2020. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.3.1 Groundwater Elevation Measurements

Water level elevations were collected during each Year Five quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-6** provides the measured DTW levels (from the top of the casing) and groundwater elevations amsl collected on 27 April 2020. **Figure 4-4** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event.

4.3.2 Groundwater Sampling

Groundwater samples were collected from 11 of the 15 POC monitoring wells from 27 through 30 April 2020. The nineteenth quarter monitoring samples were tested for the same analytes as the seventeenth and eighteenth quarters, which are presented in **Table 4-1**. In addition, the following MNA indicator parameters were collected: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature,

specific conductivity, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49.

Groundwater samples were collected applying the same method and approach used during the seventeenth and eighteenth quarterly monitoring events: specifically, via low-flow peristaltic pumps.

Table 4-7 presents a summary of the final (stabilized) water quality readings for each well from the nineteenth quarter. Based on the nineteenth quarter DO data, anaerobic and aerobic groundwater conditions exist at SWMU 49 (i.e., DO >1 ppm). The DO levels ranged from a low of 0.18 mg/L at monitoring well 48MW06 to a high of 12.87 mg/L at monitoring well 13MW2. ORP measurements ranged from a low of 85.2 mV in monitoring well 48MW06 to a high of 112.8 mV at monitoring well 49MW04. Measurements of pH ranged from a low of 6.79 SU at monitoring well 13MW4 to a high of 7.68 SU at monitoring well 48MW1. Measurements of specific conductivity ranged from a low of 252.9 µS/cm at monitoring well 13MW4 to a high of 678 µS/cm at monitoring well 48MW3. Copies of the CoC forms are provided in **Appendix B-2** along with the raw analytical data packages.

4.3.3 Quality Control Samples

QC samples including a duplicate sample, trip blank, and MS/MSD blanks were collected during the nineteenth monitoring event.

Two duplicate samples were collected during the nineteenth monitoring event at 48MW3 (duplicate as 48TM3) and 13MW3 (duplicate as 13TM3) and analyzed for the same full suite of compounds as the parent sample. Further, one MS/MSD was collected at monitoring well 13MW2 and analyzed for the same full suite of compounds as the parent sample.

In previous sampling years, one equipment rinse blank was collected during each quarter. However, as only disposable equipment was utilized during the sampling, no equipment rinse blanks were warranted.

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

Results of the QA/QC samples are presented in the raw analytical data package provided in **Appendix B-2**.

4.4 TWENTIETH QUARTER GROUNDWATER SAMPLING

Groundwater elevation measurements were collected from all 15 POC monitoring wells, whereas samples were collected from 11 of the 15 wells. The twentieth quarter of groundwater sampling was conducted from 20 through 23 July 2020. Groundwater elevation measurements were collected prior to sampling activities. The locations of monitoring wells sampled during this quarterly event are provided in **Figure 4-1**.

4.4.1 Groundwater Elevation Measurements

Water level elevations were collected during each Year Five quarterly event from the 15 monitoring wells at SWMU 49 prior to the collection of groundwater samples. **Table 4-8** provides the measured DTW levels (from the top of the casing) and groundwater elevations amsl collected on 20 July 2020. **Figure 4-5** presents a groundwater elevation contour map developed from the elevation data collected during this quarterly monitoring event.

4.4.2 Groundwater Sampling

Groundwater samples were collected from 11 of the 15 POC monitoring wells from 20 through 23 July 2020. The twentieth quarter monitoring samples were tested for the same analytes as all previous quarters, which are presented in **Table 4-1**. In addition, the following MNA indicator parameters were collected: TOC, dissolved ferrous iron, chloride, nitrate, and sulfate. Water quality parameters collected during low flow sampling included pH, temperature, specific conductivity, DO, ORP, and turbidity. These parameters are discussed in Section 6.2 regarding the potential for biodegradation in the groundwater at SWMU 49.

Groundwater samples were collected applying the same method and approach used during the nineteenth quarterly monitoring event: specifically, via low-flow peristaltic pumps.

Table 4-9 presents a summary of the final (stabilized) water quality readings for each well from the twentieth quarter. Based on the twentieth quarter DO data, aerobic groundwater conditions exist at SWMU 49 (i.e., DO >1 ppm) at all but one monitoring well (48MW06). The DO levels

ranged from a low of 0.72 mg/L at monitoring well 48MW06 to a high of 7.75 mg/L at monitoring well 48MW2. ORP measurements ranged from a low of 47.8 mV in monitoring well 49MW02 to a high of 186.0 mV at monitoring well 13MW2. Measurements of pH ranged from a low of 6.68 SU at monitoring well 13MW4 to a high of 7.79 SU at monitoring well 48MW1. Measurements were recorded continuously for temperature, pH, DO, ORP, turbidity, and specific conductivity. Turbidity was measured using a Hach 2100Q turbidity meter, whereas concentrations of dissolved ferrous iron were tested in the field using a Hach DR900 test kit via Method 8146.

4.4.3 Quality Control Sampling

QC samples including a duplicate sample, trip blank, and MS/MSD blanks were collected during the twentieth monitoring event.

Two duplicate samples were collected during the twentieth monitoring event at 48MW3 (duplicate as 48TM3) and 13MW3 (duplicate as 13TM3) and analyzed for the full suite of compounds as the parent sample. Further, one MS/MSD was collected at monitoring well 13MW2 and analyzed for the full suite of compounds as the parent sample.

In previous sampling years, one equipment rinse blank was collected during each quarter. However, as only disposable equipment was utilized during the sampling, no equipment rinse blanks were warranted.

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

Results of the QA/QC samples are presented in the raw analytical data package provided in **Appendix B-2**.

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

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

Notes:
ID = identification
MNA = monitored natural attenuation
SWMU = Solid Waste Management Unit
TCL = target compound list
VOC = volatile organic compound

Table 4-2 SWMU 49 Seventeenth Quarter Groundwater Elevations

Well ID	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level(*) (ft BTOC)	Elevation (top of casing) (ft amsl)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82	20	82	Dry	1833.69	NA	PID = 0.0
13MW5	14 - 25	19	25	17.99	1696.40	1678.41	PID = 0.0
49MW03	77 - 117	40	117	104.21	1811.82	1707.61	PID = 0.0
49MW05	16 - 37	19	36.8	20.42	1699.74	1679.32	PID = 0.0
48MW06	58 - 78	20	78	66.09	1822.85	1756.76	PID = 0.0
48MW1	110 - 140	30	140	108.52	1816.42	1707.9	PID = 0.0
48MW2	113 - 134	20	133.7	124.03	1816.27	1692.24	PID = 0.0
48MW3	100 - 120	20	120	96.52	1808.56	1712.04	PID = 0.0
49MW01	90 - 121	31	121	115.39	1826.42	1711.03	PID = 0.0
49MW02	103 - 133	30	133	92.95	1806.29	1713.34	PID = 0.0
50MW02	89 - 119	30	119	115.26	1809.63	1694.37	PID = 0.0
13MW2	19 - 29	10	29	22.06	1702.62	1680.56	PID = 0.0
13MW3	9 - 19	10	19	15.58	1694.47	1678.89	PID = 0.0
13MW4	14 - 24	10	24	17.67	1696.40	1678.73	PID = 0.0
49MW04	50 - 70	20	72	21.29	1703.00	1681.71	PID = 0.0

Notes:
(*) Groundwater levels measured on October 15, 2019.
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
Dry = no water present in the well
DTW = depth to water
ft = feet/foot
ID = identification
NA = not available
PID = photoionization detector
ppm = parts per million
SWMU = Solid Waste Management Unit

Table 4-3 SWMU 49 Seventeenth Quarter Water Quality Parameters

Well ID	Temperature (°C)	Specific Conductivity (µS/cm)	pH	Dissolved Oxygen (mg/L) [1]	ORP (mV)	Turbidity (NTU)
48MW06	14.73	799	7.13	45.7	56.9	79.1
48MW1	13.33	432	7.61	26.8	42.9	5.63
48MW2	13.39	463	7.33	63.2	64.1	118
48MW3	12.87	662	7.15	29.5	43.5	12.2
49MW01	12.75	437	7.49	44.6	43.5	113
49MW02	13.42	517	7.34	71.4	47.8	290
50MW02	13.22	630	6.94	61.2	61.2	44.7
13MW2	16.22	676	6.98	52.9	69.3	2.69
13MW3	17.28	647	7.02	22.4	37.5	2.27
13MW4	17.41	533	7.22	6.6	38.4	1.27
49MW04	16.58	592	7.65	36.3	76.8	0.32

Notes:
[1] Despite appropriate calibration, DO levels were significantly above the saturation value for unknown reasons and consequently are questionable.

°C = degrees Celsius
µS/cm = microsiemens per centimeter
DO = dissolved oxygen
ID = identification
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric Turbidity Unit
ORP = oxidation-reduction potential
pH = corrosivity/hydrogen ion concentration
SWMU = Solid Waste Management Unit

Table 4-4 SWMU 49 Eighteenth Quarter Groundwater Elevations

Well ID	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (ft BTOC)	Elevation (top of casing) (ft amsl)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82	20	82	42.43	1833.69	1791.26	PID = 0.0
13MW5	14 - 25	19	25	15.23	1696.40	1681.17	PID = 0.0
49MW03	77 - 117	40	117	97.36	1811.82	1714.46	PID = 0.0
49MW05	16 - 37	19	36.8	18.80	1699.74	1680.94	PID = 0.0
48MW06	58 - 78	20	78	62.38	1822.85	1760.47	PID = 0.0
48MW1	110 - 140	30	140	99.85	1816.42	1716.57	PID = 0.0
48MW2	113 - 134	20	133.7	122.40	1816.27	1693.87	PID = 0.0
48MW3	100 - 120	20	120	97.48	1808.56	1711.08	PID = 0.0
49MW01	90 - 121	31	121	114.51	1826.42	1711.91	PID = 0.0
49MW02	103 - 133	30	133	93.57	1806.29	1712.72	PID = 0.0
50MW02	89 - 119	30	119	113.17	1809.63	1696.46	PID = 0.0
13MW2	19 - 29	10	29	20.18	1702.62	1682.44	PID = 0.0
13MW3	9 - 19	10	19	14.61	1694.47	1679.86	PID = 0.0
13MW4	14 - 24	10	24	15.46	1696.40	1680.94	PID = 0.0
49MW04	50 - 70	20	72	19.72	1703.00	1683.28	PID = 0.0

Notes:
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
ft = feet/foot
ID = identification
PID = photoionization detector
ppm = parts per million
SWMU = Solid Waste Management Unit

Table 4-5 SWMU 49 Eighteenth Quarter Water Quality Parameters

Well ID	Temperature (°C)	Specific Conductivity (µS/cm)	pH	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)
48MW07	11.15	190	7.87	10.88	39.5	31.2
13MW5	11.75	491	6.74	7.60	65.9	6.86
49MW03	11.58	357	7.37	6.74	79.4	62.4
49MW05	11.97	764	6.93	3.82	88.7	30.5
48MW06	6.72	521	7.07	3.57	126.5	353
48MW1	10.74	537	7.32	4.14	107.9	37.2
48MW2	11.59	454	7.21	6.94	88.7	NA
48MW3	11.58	357	7.37	6.74	79.4	62.4
49MW01	11.06	464	7.60	6.52	73.0	NA
49MW02	11.59	454	7.21	6.94	88.7	NA
50MW02	10.97	670	7.09	5.50	54.6	463
13MW2	14.51	679	6.93	5.38	84.7	8.95
13MW3	12.73	597	7.01	5.62	79.4	3.42
13MW4	13.08	319	6.76	9.25	74.5	7.26
49MW04	13.19	645	7.49	2.26	93.1	1.79

Notes:
°C = degrees Celsius
µS/cm = microsiemens per centimeter
ID = identification
mg/L = milligrams per liter
mV = millivolts
NA = not available
NTU = Nephelometric Turbidity Unit
ORP = oxidation-reduction potential
pH = corrosivity/hydrogen ion concentration
SWMU = Solid Waste Management Unit

Table 4-6 SWMU 49 Nineteenth Quarter Groundwater Elevations

Well ID	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (ft BTOC)	Elevation (top of casing) (ft amsl)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82	20	82	44.16	1833.69	1789.53	PID = 0.0
13MW5	14 - 25	19	25	14.96	1696.40	1681.44	PID = 0.0
49MW03	77 - 117	40	117	90.89	1811.82	1720.93	PID = 0.0
49MW05	16 - 37	19	36.8	18.06	1699.74	1681.68	PID = 0.0
48MW06	58 - 78	20	78	63.52	1822.85	1759.33	PID = 0.0
48MW1	110 - 140	30	140	98.80	1816.42	1717.62	PID = 0.0
48MW2	113 - 134	20	133.7	121.15	1816.27	1695.12	PID = 0.0
48MW3	100 - 120	20	120	94.76	1808.56	1713.80	PID = 0.0
49MW01	90 - 121	31	121	110.15	1826.42	1716.27	PID = 0.0
49MW02	103 - 133	30	133	97.12	1806.29	1709.17	PID = 0.0
50MW02	89 - 119	30	119	111.35	1809.63	1698.28	PID = 0.0
13MW2	19 - 29	10	29	21.61	1702.62	1681.01	PID = 0.0
13MW3	9 - 19	10	19	14.65	1694.47	1679.82	PID = 0.0
13MW4	14 - 24	10	24	15.65	1696.40	1680.75	PID = 0.0
49MW04	50 - 70	20	72	23.76	1703.00	1679.24	PID = 0.0

Notes:
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
ft = feet/foot
ID = identification
PID = photoionization detector
ppm = parts per million
SWMU = Solid Waste Management Unit

Table 4-7 SWMU 49 Nineteenth Quarter Water Quality Parameters

Well ID	Temperature (°C)	Specific Conductivity (µS/cm)	pH	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)
48MW06	13.6	796	6.85	0.18	85.2	39.36
48MW1	14.3	386.2	7.68	5.81	92.8	0.37
48MW2	15.8	387.2	7.35	7.52	111.9	435.6
48MW3	12.1	678	7.12	5.93	96.8	0.83
49MW01	14.6	358	7.59	5.46	100.7	180.7
49MW02	13.3	531	7.32	2.63	97.8	153.2
50MW02	12.3	615	6.99	8.41	95.1	210
13MW2	14.2	550	7.05	12.87	110.8	7.51
13MW3	12.9	418.0	6.91	6.93	109.3	1.25
13MW4	13.2	252.9	6.79	7.40	88.9	41.93
49MW04	14.4	485.3	7.38	6.09	112.8	-0.62

Notes:
°C = degrees Celsius
µS/cm = microsiemens per centimeter
ID = identification
mg/L = milligrams per liter
ORP = oxidation-reduction potential
pH = corrosivity/hydrogen ion concentration
mV = millivolts
NTU = Nephelometric Turbidity Unit
OR = over range (sediment in the well samples made the turbidity)
SWMU = Solid Waste Management Unit

Table 4-8 SWMU 49 Twentieth Quarter Groundwater Elevations

Well ID	Screen Interval (ft bgs)	Screen Length (ft)	Total Depth (ft)	Water Level (ft BTOC)	Elevation (top of casing) (ft amsl)	Water Level (ft amsl)	PID Readings (ppm)
48MW07	62 - 82	20	82	47.74	1833.69	1785.95	PID = 0.0
13MW5	14 - 25	19	25	16.85	1696.40	1679.55	PID = 0.0
49MW03	77 - 117	40	117	99.93	1811.82	1711.89	PID = 0.0
49MW05	16 - 37	19	36.8	20.17	1699.74	1679.57	PID = 0.0
48MW06	58 - 78	20	78	65.66	1822.85	1757.19	PID = 0.0
48MW1	110 - 140	30	140	104.62	1816.42	1711.80	PID = 0.0
48MW2	113 - 134	20	133.7	122.73	1816.27	1693.54	PID = 0.0
48MW3	100 - 120	20	120	95.84	1808.56	1712.72	PID = 0.0
49MW01	90 - 121	31	121	115.17	1826.42	1711.25	PID = 0.0
49MW02	103 - 133	30	133	92.47	1806.29	1713.82	PID = 0.0
50MW02	89 - 119	30	119	113.68	1809.63	1695.95	PID = 0.0
13MW2	19 - 29	10	29	21.32	1702.62	1681.30	PID = 0.0
13MW3	9 - 19	10	19	15.39	1694.47	1679.08	PID = 0.0
13MW4	14 - 24	10	24	16.89	1696.40	1679.51	PID = 0.0
49MW04	50 - 70	20	72	20.55	1703.00	1682.45	PID = 0.0

Notes:
amsl = above mean sea level
bgs = below ground surface
BTOC = below top of casing
ft = feet/foot
ID = identification
PID = photoionization detector
ppm = parts per million
SWMU = Solid Waste Management Unit

Table 4-9 SWMU 49 Twentieth Quarter Water Quality Parameters

Well ID	Temperature (°C)	Specific Conductivity (µS/cm)	pH	Dissolved Oxygen (mg/L)	ORP (mV)	Turbidity (NTU)
48MW06	14.50	864.0	7.58	0.72	118.5	37.76
48MW1	17.70	579.0	7.79	3.59	142.0	48.35
48MW2	14.80	492.4	7.28	7.75	159.1	90.23
48MW3	14.70	682.0	7.01	3.02	169.2	4.00
49MW01	15.30	458.0	7.75	5.19	170.4	175.2
49MW02	13.42	517.0	7.34	7.14	47.8	290.0
50MW02	14.40	630.0	7.01	4.97	124.0	70.23
13MW2	17.60	775.0	6.97	7.15	186.0	69.32
13MW3	18.40	619.0	6.83	4.12	163.1	2.90
13MW4	15.40	429.5	6.68	2.49	133.2	16.45
49MW04	18.90	647.0	9.2	4.31	171.3	1.54

Notes:
°C = degrees Celsius
µS/cm = microsiemens per centimeter
Fe = ferrous iron
ID = identification
mg/L = milligrams per liter
mV = millivolts
NTU = Nephelometric Turbidity Unit
ORP = oxidation-reduction potential
pH = corrosivity/hydrogen ion concentration
SWMU = Solid Waste Management Unit

Legend

- Well
- SWMU 49 Boundary

Aerial Source:
Near Map Imagery, February 2020

N

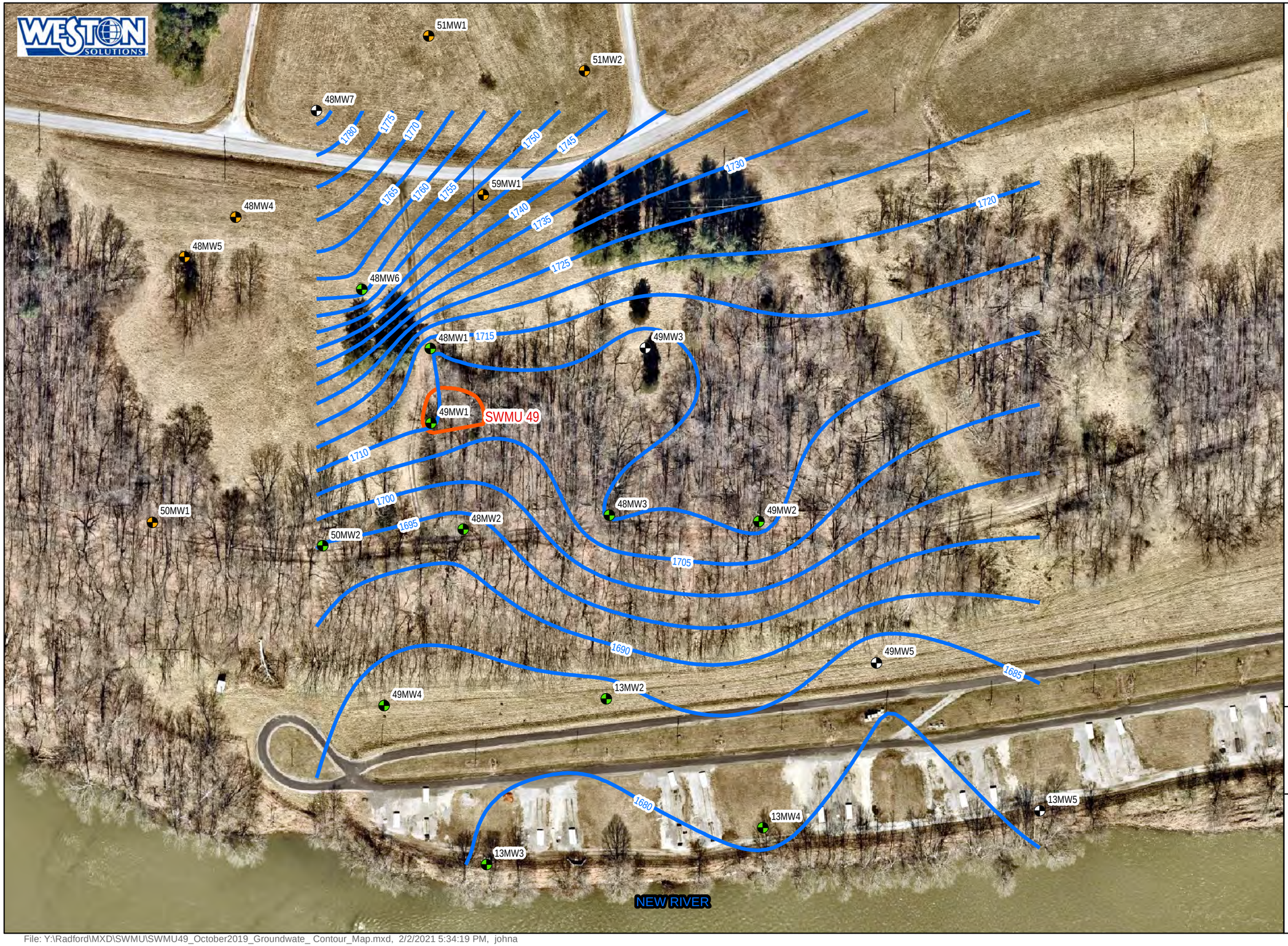
0 55 110 220 Feet

Prepared By:

Baltimore District

FIGURE 4-1
SWMU 49 MONITORING
WELL SAMPLE LOCATIONS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Monitoring_Well_Sample_Locations.mxd, 10/21/2020 1:12:15 PM, johna



Legend

- Monitoring Well Sampled Annually
- Monitoring Well Sampled Quarterly
- Well not included in MNA Program
- Groundwater Contour
- SWMU 49 Boundary

Note:
Contours are in feet above mean sea level (amsl).

Aerial Source:
Near Map Imagery, February 2020

N

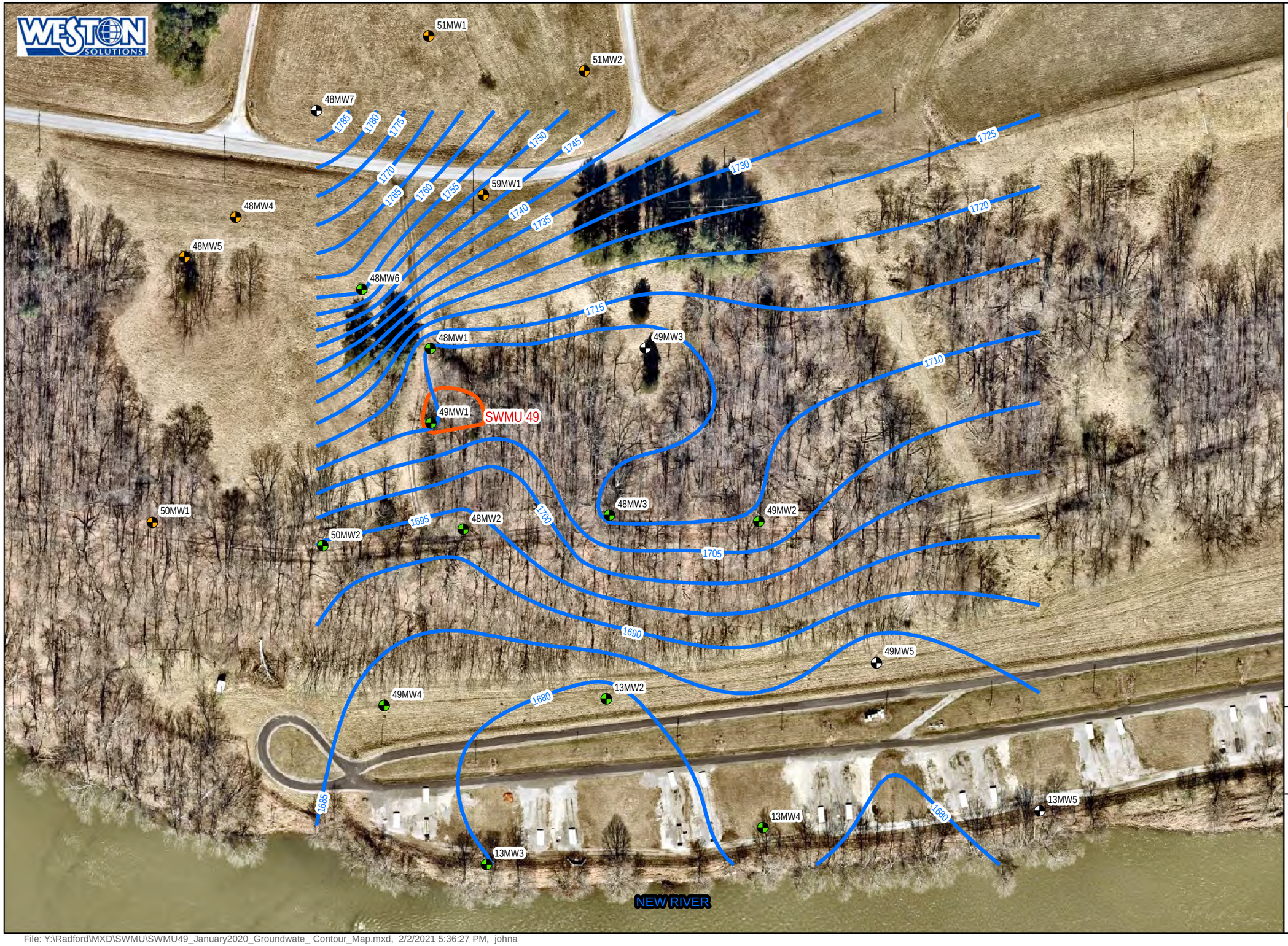
0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 4-2
SWMU 49 OCTOBER 2019
GROUNDWATER CONTOUR MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_October2019_Groundwate_ Contour_Map.mxd, 2/2/2021 5:34:19 PM, johna



Legend

- Monitoring Well Sampled Annually
- Monitoring Well Sampled Quarterly
- Well not included in MNA Program
- Groundwater Contour
- SWMU 49 Boundary

Note:
Contours are in feet above mean sea level (amsl).
It is the only quarter in which all wells in the program are sampled. (Annual wells)

Aerial Source:
Near Map Imagery, February 2020

N

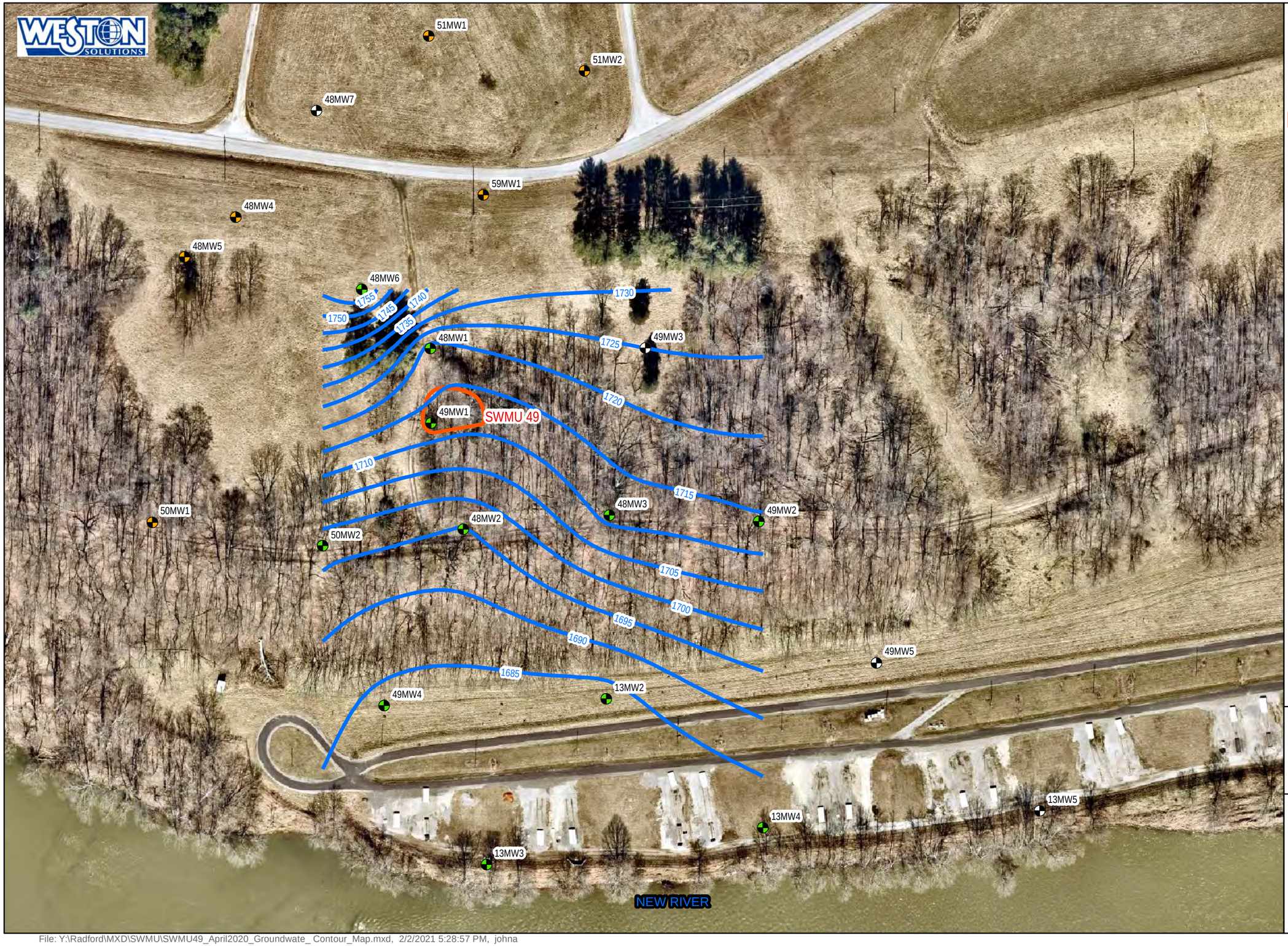
0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 4-3
SWMU 49 JANUARY 2020
GROUNDWATER CONTOUR MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_January2020_Groundwate_ Contour_Map.mxd, 2/2/2021 5:36:27 PM, johna



Legend

- Monitoring Well Sampled Annually
- Monitoring Well Sampled Quarterly
- Well not included in MNA Program
- Groundwater Contour
- SWMU 49 Boundary

Note:
Contours are in feet above mean sea level (amsl).

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 4-4
SWMU 49 APRIL 2020
GROUNDWATER CONTOUR MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_April2020_Groundwate_ Contour_Map.mxd, 2/2/2021 5:28:57 PM, johna

Legend

- Monitoring Well Sampled Annually
- Monitoring Well Sampled Quarterly
- Well not included in MNA Program
- Groundwater Contour
- SWMU 49 Boundary

Note:
Contours are in feet above mean sea level (amsl).

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 4-5
SWMU 49 JULY 2020
GROUNDWATER CONTOUR MAP
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_July2020_Groundwate_ Contour_Map.mxd, 2/2/2021 5:27:02 PM, johna

5. CHEMICAL ANALYTICAL RESULTS

5.1 SELECTION OF COMPARISON CRITERIA

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

5.2 SEVENTEENTH QUARTER GROUNDWATER RESULTS

Eleven groundwater monitoring wells were sampled during this quarterly monitoring event including wells 13MW2, 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, 48MW06, 49MW01, 49MW02, 49MW04, and 50MW02, whereas two duplicate samples were collected from monitoring wells 48MW3 (duplicate as 48TM3) and 13TW3 (duplicate as 13TM3). Sample locations are provided in **Figure 4-1**.

Samples were submitted for TCL VOCs, and MNA indicator parameter analyses, including dissolved gases (methane, ethane, and ethene) and dissolved iron (Fe). A summary of detected constituents is summarized in **Table 5-1**, and a subset of the results, consistent with the reporting in previous SWMU 49 LTM reports, is presented in **Table 5-2**. The CT plume is shown in **Figure 5-1** and the TCE plume is shown in **Figure 5-2** The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

Six VOCs were detected in groundwater samples including 1,1,1-trichloroethane (1,1,1-TCA), 1,1-dichloroethane (1,1-DCA), CT, chloroform, cis-1,2-DCE, and TCE. Eight of the eleven monitoring wells had one or more detections of the VOCs listed above; monitoring wells 49MW02, 49MW04, and 13MW2 did not have any detections of VOCs.

The VOC 1,1,1-TCA was detected at monitoring well 48MW06 at an estimated concentration of 0.43 µg/L. An RG for 1,1,1-TCA has not been established for SWMU 49. However, the USEPA MCL for 1,1,1-TCA is 200 µg/L (USEPA, 2018).

The VOC 1,1-DCA was detected in two monitoring wells, 48MW06 and 48MW1, at an estimated concentration of 3.3 µg/L (48MW06) and a concentration of 0.76 µg/L (48MW1). An RG for 1,1-DCA has not been established for SWMU 49. There is no USEPA MCL for 1,1-DCA (USEPA, 2018); however, the Tapwater regional screening level (RSL) is 2.8 µg/L (USEPA, 2020).

The VOC CT was detected at five monitoring wells including 48MW2, 48MW3 (and field duplicate 48TM3), 13MW3 (and field duplicate 13TM3), 49MW01, and 50MW02. Two wells contained CT concentrations that exceeded the RG of 5 µg/L: monitoring wells 48MW2 (63 µg/L) and 48MW3 (88 µg/L) (and field duplicate 13TM3 at 91.0 µg/L). The range of concentrations detected during this quarter went from a low of an estimated value of 2.0 µg/L (50MW02) to a high of 91 µg/L (field duplicate 13TM3). The CT plume is shown on **Figure 5-1;** the size of the area still exceeding the RG of 5 µg/L is estimated at 3.5 acres. The RG exceedance area presented on **Figure 5-1** was estimated based on triangulation of CT concentrations in the wells to establish the area above the RG of 5 µg/L. This methodology was used to estimate the RG exceedance area for all contaminants of concern for each quarterly event.

The VOC chloroform was detected in four monitoring wells including 48MW2, 48MW3 (and field duplicate 48TM3), 49MW01, and 13MW3(and field duplicate 13TM3). Concentrations ranged from an estimated low of 0.44 µg/L (49MW01) to a high of 12.0 µg/L (48MW3 and field duplicate 48TM3). An RG for chloroform has not been established for SWMU 49. However, the USEPA MCL for chloroform is 80 µg/L (USEPA, 2018).

The VOC cis-1,2-DCE was detected in two monitoring wells, 48MW06 and 48MW1, at an estimated concentration of 5.7 µg/L at 48MW06 and a concentration of 0.55 µg/L at 48MW1. An RG for cis-1,2-DCE has not been established for SWMU 49. However, the USEPA MCL for cis-1,2-DCE is 70 µg/L (USEPA, 2018).

The VOC TCE was detected at seven monitoring wells including 48MW06, 48MW1, 48MW2, 48MW3 (and field duplicate 48TM3), 50MW02, 13MW3 (and field duplicate 13TM3), and 13MW4. Monitoring wells 48MW2 and 48MW3 (and associated field duplicate 48TM3) contained a concentration of TCE that exceeded the RG of 5 µg/L. The range of concentrations

detected during this quarter went from an estimated low of 0.63 µg/L (13MW3 and field duplicate 13TM3) to a high of 15.0 µg/L (48MW3 and field duplicate 48TM3). The TCE plume is shown on **Figure 5-2**; the size of the area still exceeding the RG of 5 µg/L is estimated at 1 acre.

Miscellaneous Analytes

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

Observed levels of TOC from all monitoring wells ranged from an estimated value of 0.60 µg/L (49MW01) to an estimated high of 0.93 mg/L (48MW2). Dissolved ferrous iron levels ranged from a low of 0.0 mg/L (non-detect) (six wells) to a high of 0.25 mg/L (50MW02). Chloride concentrations ranged from a low estimated value of 2.1 mg/L (48MW2) to an estimated high of 6.3 mg/L (49MW04). Detected concentrations of nitrate ranged from an estimated low of 0.15 mg/L (48MW06 and 13MW2) to a high of 5.8 mg/L (48MW3 and associated field duplicate 48TW3). Sulfate concentrations ranged from a low of 0.99 mg/L (49MW01) to a high of 99.0 mg/L (13MW3 and associated field duplicate 13TW3). Methane was detected in one monitoring well (49MW01) at a concentration of 1.5 µg/L. Ethane and ethene went undetected during this quarterly monitoring event. **Table 5-2** presents the MNA indicator parameters sample results.

5.3 EIGHTEENTH QUARTER GROUNDWATER RESULTS

The eighteenth quarter monitoring event served as the annual event for the Year Five MNA sampling. As such, all 15 POC monitoring wells were sampled including wells 13MW2, 13MW3, 13MW4, 13MW5, 48MW1, 48MW2, 48MW3, 48MW06, 48MW07, 49MW01, 49MW02, 49MW03, 49MW04, 49MW05, and 50MW02. Two duplicate samples were collected from monitoring wells 48MW3 (duplicate as 48TM3) and 13MW3 (duplicate as 13TM3). Sample locations are provided in **Figure 4-1**. (Note: both annual and quarterly wells were sampled during this monitoring event.)

Samples were submitted for TCL VOC, dissolved gases (methane, ethane, and ethene), and MNA indicator parameter analyses. A summary of detected constituents is summarized in **Table 5-3**, and a subset of the results, consistent with the reporting in previous SWMU 49 LTM reports, is

presented in **Table 5-4**. The CT plume is shown in **Figure 5-3** and the TCE plume is shown in **Figure 5-4**. The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

Six VOCs were detected in groundwater samples including 1,1,1-TCA, 1,1-DCA, CT, chloroform, cis-1,2-DCE, and TCE. Eight monitoring wells had one or more detected concentrations of the VOCs listed above. Monitoring wells 48MW07 (up gradient well), 13MW5, 49MW03, 49MW05, 49MW02, 13MW2, and 13MW4 did not have detected concentrations of VOCs.

The VOC 1,1,1-TCA was detected in monitoring well 48MW1 at an estimated concentration of 0.32 µg/L. 1,1,1-TCA was not detected in monitoring well 48MW1 during the seventeenth quarter but was detected at 48MW06 at an estimated concentration of 0.43 µg/L. 48MW06 did not have any detection of 1,1,1-TCA in the eighteenth quarter. An RG for 1,1,1-TCA has not been established for SWMU 49. However, the USEPA MCL for 1,1,1-TCA is 200 µg/L (USEPA, 2018).

The VOC 1,1-DCA was detected at two monitoring wells, 48MW06 and 48MW1, at concentrations 1.3 µg/L (48MW06) and an estimated concentration of 0.86 µg/L (48MW1). The 1,1-DCA concentrations in 48MW06 and 48MW1 represent a slight decrease based on the seventeenth quarter monitoring event. An RG for 1,1-DCA has not been established for SWMU 49. There is no USEPA MCL for 1,1-DCA (USEPA, 2018); however, the Tapwater RSL is 2.8 µg/L (USEPA, 2020).

The VOC CT was detected at six monitoring wells including 48MW2, 48MW3 (and associated field duplicate 48TM3), 49MW01, 50MW02, 13MW3 (and associated field duplicate 13TM3), and 49MW04. Two wells contained CT concentrations that exceeded the RG of 5 µg/L including monitoring wells 48MW2 (21 µg/L) and 48MW3 (78 µg/L) (73 µg/L in field duplicate 48TM3); this represents a slight decrease in concentrations in both wells in comparison to the seventeenth quarter monitoring event. The size of the area still exceeding the RG of 5 µg/L reduced slightly from the seventeenth quarter and is estimated at 3 acres. The range of concentrations detected during this quarter went from a low of an estimated value of 0.6 µg/L (49MW04) to a high of

78 µg/L (48MW3) (**Figure 5-3**). Compared to the seventeenth quarter monitoring results, the detected concentrations of CT decreased in five wells (48MW2, 48MW3, 49MW01, 49MW04, and 50MW02), and increased in one well (13MW3) during this quarterly event.

Chloroform was detected in four monitoring wells, 48MW2, 48MW3 (and field duplicate 48TM3), 49MW01, and 13MW3 (and field duplicate 13TM3), at concentrations ranging from a low of 0.38 µg/L (49MW01 and field duplicate 13TM3) to a high of 13.0 µg/L (48MW3 and field duplicate 48TM3). Compared to the seventeenth quarter monitoring results, the detected concentration of chloroform in 49MW01 decreased slightly, but increased in 48MW3. An RG for chloroform has not been established for SWMU 49. However, the USEPA MCL for chloroform is 80 µg/L (USEPA, 2018).

The VOC cis-1,2-DCE was detected in two monitoring wells, 48MW06 and 48MW1, at a concentration of 2.3 µg/L and an estimated concentration of 0.76 µg/L, respectively. When compared to the seventeenth quarter monitoring results, concentrations in 48MW06 decreased slightly, while 48MW1 increased slightly. An RG for cis-1,2-DCE has not been established for SWMU 49. However, the USEPA MCL for cis-1, 2-DCE is 70 µg/L (USEPA, 2018).

The VOC TCE was detected at seven monitoring wells including 48MW06, 48MW1, 48MW2, 48MW3 (and field duplicate 48TW3), 50MW02, 13MW3 (and field duplicate 13TW3), and 13MW4. Monitoring well 48MW3 contained a concentration of TCE that exceeded the RG of 5 µg/L (15.0 µg/L in 48MW3 and 14.0 µg/L in field duplicate 48TM3). The size of the area still exceeding the RG of 5 µg/ is estimated at 1 acre. The range of concentrations detected during this quarter went from an estimated value of 0.72 µg/L (field duplicate 13TW3) to a high of 15.0 µg/L (48MW3) (**Figure 5-4**). When compared to the previous quarter sampling results, concentrations in wells 50MW02, 48MW1, 48MW2, and 48MW06 decreased during this quarterly event, whereas concentrations in wells 13MW4 and 13MW3 increased, and concentrations at 48MW3 remained stable.

Miscellaneous Analytes

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

TOC was only detected in one of the 15 monitoring wells at an estimated value of 0.88 mg/L (48MW06). Dissolved ferrous iron levels ranged from a low of 0.0 mg/L (non-detect) (five wells), to a high of 0.34 mg/L (48MW03). Chloride concentrations ranged from an estimated low of 1.2 mg/L (48MW07) to a high of 9.6 mg/L (48MW06). Detected concentrations of nitrate ranged from an estimated low of 0.88 mg/L (49MW01) to a high of 5.9 mg/L (48MW3). Sulfate concentrations ranged from an estimated low of 0.88 mg/L (49MW01) to a high of 110 mg/L (13MW3 and field duplicate 13TW3). Methane was detected in two monitoring wells, 48MW2 and 49MW02, at concentrations of 1.3 µg/L and 0.88 µg/L, respectively. Ethane and ethene went undetected during this quarterly monitoring event. **Table 5-4** presents the MNA indicator parameters sample results.

5.4 NINETEENTH QUARTER GROUNDWATER RESULTS

Eleven monitoring wells were sampled during the nineteenth quarter monitoring event including wells 13MW2, 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, 48MW06, 49MW01, 49MW02, 49MW04, and 50MW02. Two duplicate samples were collected from monitoring wells 48MW3 (duplicate as 48TM3) and 13MW3 (duplicate as 13TM3). Sample locations are provided in **Figure 4-1**.

Samples were submitted for TCL VOC, dissolved gases (methane, ethane, and ethene), and MNA indicator parameter analyses. A summary of the detected constituents is summarized in **Table 5-5**, and a subset of the results, consistent with the reporting in previous SWMU 49 LTM reports, is presented in **Table 5-6**. The CT plume is shown in **Figure 5-5** and the TCE plume is shown in **Figure 5-6**. The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

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

The VOC 1,1,1-TCA was detected at monitoring well 48MW06 at an estimated concentration of 0.84 µg/L. The concentration of 1,1,1-TCA in this quarter is double the concentration of 1,1,1-TCA detected at 48MW06 in the seventeenth quarter. 1,1,1-TCA was not detected in 48MW06 in the eighteenth quarter. The concentrations were generally in agreement with levels observed during the seventeenth and eighteenth quarterly monitoring events at monitoring wells 48MW1 and 50MW02, but concentrations are increasing slightly each quarter at monitoring well 48MW06. An RG for 1,1,1-TCA has not been established for SWMU 49. However, the USEPA MCL for 1,1,1-TCA is 200 µg/L (USEPA, 2018).

The VOC 1,1-DCA was detected at monitoring wells 48MW06, 48MW1, and 50MW02 at concentrations ranging from an estimated low value of 0.35 µg/L (50MW02) to a high of 5.2 µg/L (48MW06). These concentrations are slightly higher than concentrations observed during the seventeenth and eighteenth quarterly monitoring events. An RG for 1,1-DCA has not been established for SWMU 49. There is no USEPA MCL for 1,1-DCA (USEPA, 2018); however, the Tapwater RSL is 2.8 µg/L (USEPA, 2020).

The VOC CT was detected at seven monitoring wells including 48MW2, 48MW3 (and field duplicate 48TM3), 49MW01, 50MW02, 13MW2, 13MW3 (and field duplicate 13TM3), and 49MW04. Two wells contained CT concentrations that exceeded the RG of 5 µg/L including monitoring wells 48MW2 (33 µg/L) and 48MW3 (64 µg/L) (63 µg/L in field duplicate 48MW3). These wells had elevated concentrations that exceeded the RG during the seventeenth and eighteenth quarterly monitoring events as well. The size of the area still exceeding the RG of 5 µg/L is estimated at 3 acres. The range of concentrations detected during this quarter was from a low of 0.33 µg/L (13MW2) to a high of 64 µg/L (48MW3) (**Figure 5-5**). Compared to the seventeenth and eighteenth quarterly monitoring results, the detected concentrations of CT in monitoring well 48MW3 has fluctuated each quarter as much as 24 µg/L, whereas monitoring

wells 48MW2, 49MW01, 50MW02, and 13MW3 saw slight fluctuations. Monitoring well 13MW2 did not have detections of CT during the seventeenth and eighteenth quarterly monitoring events but did for the nineteenth quarter (0.33 µg/L).

Chloroform was detected in five monitoring wells including 48MW2, 48MW3 (and field duplicate 48TM3), 49MW01, 50MW02, and 13MW3 (and field duplicate 13TM3). Concentrations ranged from an estimated value of 0.37 µg/L (13MW3) to a high of 12.0 µg/L (48MW3 and field duplicate 48TM3). Compared to the seventeenth and eighteenth quarter monitoring results, the detected concentrations of chloroform have been stable at 48MW3, ranging between 12.0 µg/L and 13.0 µg/L. An RG for chloroform has not been established for SWMU 49. However, the USEPA MCL for chloroform is 80 µg/L (USEPA, 2018).

The VOC cis-1,2-DCE was detected in three monitoring wells including 48MW06, 48MW1, and 50MW02. Concentrations ranged from an estimated low of 0.5 µg/L (50MW02) to a high of 8.3 µg/L (48MW06). There were modest fluctuations in the concentrations in monitoring wells 48MW06 and 48MW1 during all three quarterly monitoring events. However, cis-1,2-DCE was not detected at 50MW02 during the seventeenth and eighteenth sampling quarters. An RG for cis-1,2-DCE has not been established for SWMU 49. However, the USEPA MCL for cis-1, 2-DCE is 70 µg/L (USEPA, 2018).

The VOC PCE was detected in monitoring well 48MW06 at an estimated concentrations of 0.82 µg/L. The concentration at 48MW06 was the first seen in all three quarters of the Year Five sampling event. PCE was last detected at 48MW06 during the sixteenth sampling quarter at a concentration of 0.37 µg/L. An RG for PCE has not been established for SWMU 49. However, the USEPA MCL for PCE is 5 µg/L (USEPA, 2018).

The VOC TCE was detected at seven monitoring wells including 48MW06, 48MW1, 48MW2, 48MW3 (and field duplicate 48TM3), 50MW02, 13MW3 (and field duplicate 13TM3), and 13MW4. Monitoring wells 48MW06 (5.4 µg/L) and 48MW3 (and field duplicate 13TM3) (12.0 µg/L) contained concentrations of TCE that exceeded the RG of 5 µg/L. The size of the area still exceeding the RG of 5 µg/L is estimated at 0.60-acre. The range of concentrations detected during this quarter went from an estimated low of 0.56 (13MW4) to a high of 12.0 µg/L (48MW3)

(**Figure 5-6**). In general, the wells with detections of TCE and the concentrations are consistent with quarters seventeen and eighteen. However, the concentrations in monitoring well 48MW06 increased from 1.6 µg/L to 5.4 µg/L from quarter eighteen to quarter nineteen.

Miscellaneous Analytes

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

Observed levels of TOC in the 11 monitoring wells ranged from an estimated low of 0.5 mg/L (13MW3) to a high of 6.3 mg/L (49MW04). The seventeenth and eighteenth quarterly monitoring events had TOC detections ranging from 0.60 µg/L to 0.93 mg/L. Dissolved ferrous iron concentrations ranged from a low of 0.0 mg/L (non-detect) (six wells) to a high of 0.28 mg/L (48MW2). Chloride concentrations ranged from an estimated low of 1.7 mg/L (49MW02) to a high of 8.4 mg/L (48MW06). Detected concentrations of nitrate ranged from an estimated low of 0.26 mg/L (13MW2) to a high of 6.2 mg/L (48MW3 and field duplicate 48TM3). Sulfate concentrations ranged from an estimated low of 1.1 mg/L (49MW01) to a high of 190 mg/L (48MW06). Methane concentrations ranged from an estimated low of 0.37 mg/L (49MW02) to a high of 2.6 mg/L (50MW02). Ethene and ethane went undetected during this quarterly monitoring event. The MNA indicator parameters are presented in **Table 5-6**.

5.5 TWENTIETH QUARTER GROUNDWATER RESULTS

Eleven monitoring wells were sampled during the sixteenth quarter monitoring event including wells 13MW2, 13MW3, 13MW4, 48MW1, 48MW2, 48MW3, 48MW06, 49MW01, 49MW02, 49MW04, and 50MW02. Two duplicate samples were collected from monitoring wells 48MW3 (duplicate as 48TM3) and 13MW3 (duplicate as 13TM3). Sample locations are provided in **Figure 4-1**.

Samples were submitted for TCL VOC, dissolved gases (methane, ethane, and ethene), and MNA indicator parameter analyses. A summary of detected constituents is summarized in **Table 5-7**, and a subset of the results, consistent with the reporting in previous SWMU 49 LTM reports, is presented in **Table 5-8**. The CT plume is shown in **Figure 5-7** and the TCE plume is shown in

Figure 5-8. The potential for biodegradation in the groundwater at SWMU 49 is discussed in Section 6.2.

TCL VOCs

Seven VOCs were detected in groundwater samples including 1,1,1-TCA, 1,1-DCA, CT, chloroform, cis-1,2-DCE, PCE, and TCE. Ten monitoring wells had one or more detected concentrations of the VOCs listed above. Monitoring well 49MW02 did not have detected concentrations of VOCs. The VOC 1,1,1-TCA was detected at monitoring wells 48MW06 and 48MW1 at estimated concentrations of 0.8 µg/L and 0.33 µg/L, respectively. The fluctuations that have taken place during the Year Five MNA sampling events have been minimal and limited to monitoring wells 48MW06 and 48MW1. An RG for 1,1,1-TCA has not been established for SWMU 49. However, the USEPA MCL for 1,1,1-TCA is 200 µg/L (USEPA, 2018).

The VOC 1,1-DCA was detected at three monitoring wells including 48MW06, 48MW1, and 50MW02. Concentrations ranged from an estimated value of 0.41 µg/L (50MW02) to a high of 4.4 µg/L (48MW06). With the exception of 48MW06, the concentrations of 1,1-DCA in these wells fluctuated only slightly during the four quarterly monitoring events. Well 48MW06 fluctuated from low values of 1.3 µg/L in the eighteenth quarter, and to a high of 5.2 µg/L in the seventeenth quarter. An RG for 1,1-DCA has not been established for SWMU 49. There is no USEPA MCL for 1,1-DCA (USEPA, 2018); however, the Tapwater RSL is 2.8 µg/L (USEPA, 2020).

The VOC CT was detected at seven monitoring wells including 48MW2, 48MW3 (and associated field duplicate 48TM3), 49MW01, 50MW02, 13MW2, 13MW3 (and associated field duplicate 13TM3), and 49MW04. Three wells contained CT concentrations that exceeded the RG of 5 µg/L including monitoring wells 48MW2 (24 µg/L), 48MW3 (65 µg/L) and field duplicate 48TM3 (67 µg/L), and 13MW3 (5.4 µg/L) and field duplicate 13TM3 (5.2 µg/L). Monitoring wells 48MW2 and 48MW3 had elevated concentrations that exceeded the RG during all four quarterly monitoring events; however, the exceedance at 13MW3 above the RG was only observed in the twentieth quarter. The size of the area still exceeding the RG of 5 µg/L is estimated at 3.5 acres. The range of concentrations detected during this quarter was from a low estimated value of 0.96 µg/L (13MW2) to a high of 67 µg/L (field duplicate 48TM3) (**Figure 5-7**). All four quarterly

monitoring results were relatively stable in monitoring wells 48MW2, 13MW3, 49MW04, 49MW01, and 50MW02, whereas well 48MW3 had fluctuations ranging from 64 µg/L to 88 µg/L. Monitoring well 13MW2 did not have detections of CT during the seventeenth and eighteenth quarterly monitoring events but did for the nineteenth and twentieth quarters.

Chloroform was detected in four monitoring wells including 48MW2, 48MW3 (and field duplicate 48TM3), 49MW01, and 13MW3 (and field duplicate 13TM3). Concentrations ranged from an estimated value of 0.57 µg/L (field duplicate 13TM3) to a high of 15.0 µg/L (48MW3). All four quarterly monitoring results were relatively stable in monitoring well 48MW3. Wells 50MW02 (undetected in the twentieth quarter), 48MW2, and 13MW3 included quarterly fluctuations from non-detect to a high of 3.3 µg/L in the twentieth quarter at monitoring well 48MW2. An RG for chloroform has not been established for SWMU 49. However, the USEPA MCL for chloroform is 80 µg/L (USEPA, 2018).

The VOC cis-1,2-DCE was detected in three monitoring wells including 48MW06, 48MW1, and 50MW02. Concentrations ranged from an estimated low of 0.36 µg/L (50MW02) and to a high of 8.4 µg/L (48MW06). The concentrations in monitoring well 48MW06 fluctuated in the seventeenth, eighteenth, and nineteenth quarters (2.3 µg/L to 8.3 µg/L), with a high of 8.4 µg/L in the twentieth quarter. Concentrations in wells 48MW1 and 50MW02 fluctuated minimally. An RG for cis-1,2-DCE has not been established for SWMU 49. However, the USEPA MCL for cis-1, 2-DCE is 70 µg/L (USEPA, 2018).

The VOC PCE was detected in monitoring well 48MW06 at an estimated concentration of 0.82 µg/L. Sampling results showed PCE detections in monitoring well 48MW06 in the eighteenth and nineteenth quarters, at concentrations of 0.82 µg/L in both quarters. An RG for PCE has not been established for SWMU 49. However, the USEPA MCL for PCE is 5 µg/L (USEPA, 2018).

The VOC TCE was detected at seven monitoring wells, including 48MW06, 48MW1, 48MW2, 48MW3 (and field duplicate 48TM3), 50MW02, 13MW3 (and field duplicate 13TM3), and 13MW4. Monitoring wells 48MW3 (and field duplicate 48TM3) and 48MW06 contained concentrations of TCE that exceeded the RG of 5 µg/L, at 15 µg/L and 5.6 µg/L, respectively. The size of the area still exceeding the RG of 5 µg/L is estimated at 0.60-acre. The range of

concentrations detected during this quarter went from an estimated low of 0.98 µg/L (13MW4) to a high of 15 µg/L (48MW3 and field duplicate 48TM3) (**Figure 5-8**). TCE was detected all four quarters in monitoring wells 48MW06, 48MW1, 48MW2, 48MW3, 50MW02, 13MW3, and 13MW4, all with relatively stable concentrations and only minor fluctuations, most of which were seen in the seventeenth and twentieth quarters with slight increases.

Miscellaneous Analytes

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

TOC was detected in only one of the 11 monitoring wells (13MW2) at 0.91 mg/L. Estimated values at monitoring wells 49MW04 and 48MW06 were 0.85 µg/L and 0.82 µg/L, respectively. Dissolved ferrous iron levels ranged from a low of 0.0 mg/L (non-detect) (3 wells) to a high of 0.31 mg/L (48MW02). Chloride concentrations ranged from an estimated low of 4.2 mg/L (48MW2) to a high of 17.0 mg/L (48MW06). Detected concentrations of nitrate ranged from an estimated low of 0.18 mg/L (49MW02) to a high of 5.4 mg/L (48TW3). Sulfate concentrations ranged from an estimated low of 1.5 mg/L (non-detect) (49MW01), to a high of 130 mg/L (48MW06). Methane concentrations ranged from an estimated low of 0.3 mg/L (50MW02) to a high of 0.77 mg/L (49MW02). Ethene and ethane went undetected during this quarterly monitoring event. The MNA indicator parameter sample results are provided in **Table 5-8**.

5.6 YEAR FIVE SAMPLE RESULTS

This section discusses the results from the Year Five MNA sampling. Samples collected were analyzed for the full suite of analytical parameters described in **Table 4-1** (TCL VOCs and MNA indicator parameters including dissolved gases [methane, ethane, and ethene] and dissolved Fe).

5.6.1 Carbon Tetrachloride

The VOC CT was detected in five monitoring wells during the seventeenth quarterly monitoring events, six wells during the eighteenth event, and seven wells during the nineteenth and twentieth events. CT was detected in wells 48MW2, 48MW3, 50MW02, 13MW3, and 49MW04 in all four quarters. Monitoring wells 49MW01 and 13MW2 were non-detect for CT in the seventeenth

quarter and 13MW2 was non-detect in the eighteenth quarter. The highest concentrations were consistently detected at monitoring wells 48MW2 and 48MW3, with the highest levels observed at 48MW3. Concentrations detected in these two wells exceeded the RG of 5 µg/L in each quarter. In general, the concentrations detected at 48MW2 and 48MW3 were variable from quarter to quarter with no clear increasing or decreasing trend, consistent with Years Two, Three, and Four MNA sampling results. Concentrations detected in monitoring well 13MW3 fluctuated each quarter from 3.5 µg/L (nineteenth quarter) to a high of 5.4 µg/L (twentieth quarter). The twentieth quarter observed detection at 13MW3 was the only one that exceeded the RG of 5 µg/L in Year Five. This is consistent with Year Four results, in that an exceedance of the RG is noted in the summer sampling month. The remaining wells with observed detections were well below the RG and, in general, had concentrations that were relatively steady, with minor fluctuations, throughout the Year Five MNA sampling. **Figures 5-9** through **5-12** depict the concentrations at these sampling locations throughout Year Five quarterly sampling. **Figure 5-13** provides a time series plot of CT concentrations dating back to samples collected in 1996.

5.6.2 Trichloroethene

The VOC TCE was detected in seven monitoring wells during all four quarterly monitoring events. The wells included 48MW06, 48MW1, 48MW2, 48MW3, 50MW02, 13MW3, and 13MW4. The highest concentrations were consistently detected at monitoring wells 48MW3 and 48MW2, with the highest levels observed at 48MW3. Concentrations detected in 48MW3 exceeded the RG of 5 µg/L in all four quarters (ranging from 12.0 µg/L to 15.0 µg/L) and 48MW06 had detected concentrations of 5.4 µg/L and 5.6 µg/L in the nineteenth and twentieth quarters, respectively, which exceeded the RG. In general, the concentrations detected in all seven monitoring wells were variable from quarter to quarter with no clear increasing or decreasing trend. **Figures 5-9** through **5-12** depict the concentrations at these sampling locations throughout Year Five of quarterly sampling. **Figure 5-14** provides a time series plot of TCE concentrations dating back to samples collected in 1996.

5.7 LABORATORY ANALYSIS, DATA VALIDATION, AND REPORTING

The Year Five MNA sampling for SWMU 49 was collected quarterly in October 2019, January 2020, April 2020, and July 2020. Groundwater samples were collected in accordance with the Quality Assurance Project Plan (QAPP), revised August 2015. Documentation pertaining to CoC and sample condition was filed in field and laboratory records. A summary of samples and analyses is included in **Table 5-9**. Analytical methods are provided in **Table 5-10**.

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

The analytic data were reviewed for consistency with the test methods as noted in **Table 5-10** and the Project QAPP (Radford Army Ammunitions Plant, Virginia – LTM) to ensure that the data set met project data quality objectives and was usable for the purposes of the project. Validation was performed following the National Functional Guidelines for Inorganic Superfund Data Review (USEPA, August 2014), National Functional Guidelines for Superfund Organic Methods Data Review (USEPA, August 2014), and professional judgment. Any anomalies to the requirements for precision, accuracy, representativeness, completeness, comparability, and sensitivity are discussed below and the data were flagged where appropriate.

Application of Data Flags

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

Preservation, Temperature, and Hold Time

All sample preservation requirements were met. Most sample analyses were within holding time. Refer to **Table 5-12** for holding time exceedances.

5.7.1 Precision

Precision was measured from the relative percent difference (RPD) between the parent sample/field duplicate (FD), laboratory duplicates, laboratory control sample (LCS), and the matrix spike and matrix spike duplicate (MS/MSD) pairs. MS/MSD sample collection and analysis was performed at a frequency of 5% of field samples.

Field Duplicates

FDs were collected at a frequency of 10% of field samples. Most RPDs were within control limits. **Table 5-13** lists FD exceedances.

Laboratory Duplicates

Laboratory duplicate analysis was performed at a frequency of 10% of laboratory samples, for inorganic analyses. Most RPDs were within control limits. There were no laboratory duplicate exceedances.

Matrix Spike/Matrix Spike Duplicate RPD

In instances where MS/MSD RPDs were above the laboratory acceptance criteria and the associated results were not detected no data were qualified. **Table 5-14** lists matrix spike/matrix spike duplicate RPD exceedances.

5.7.2 Accuracy

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

Laboratory Control Sample/Matrix Spike/Matrix Spike Duplicate Recovery

One LCS was analyzed for each batch of 20 samples or fewer.

Most LCS recoveries were within control limits. **Table 5-15** lists laboratory control sample exceedances.

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

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

Parent samples only were qualified.

Post Digestion Spike (PDS) Recovery Exceedances

Most recoveries were within control limits. There were no PDS recovery exceedances.

Serial Dilution %D

Most recoveries were within control limits. **Table 5-17** lists the Serial Dilution difference exceedances.

Surrogates

All surrogate recoveries were within control limits. There were no surrogates that exceeded acceptance criteria.

Internal Standards

There were no internal standards outside control limits.

Calibration Verification

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

5.7.3 Representativeness

The samples were collected from locations specified in the approved work plan. Representativeness of the data is considered acceptable.

5.7.4 Comparability

Comparability was acceptable. Standard analytical methods were used. Standard preparatory and analytical methods were applied to the samples across sampling events. In all cases, the detection limits and limits of detection attained were below the specified limits of quantitation (LOQs). All

target compounds detected below the LOQs flagged (J) by the laboratory, are considered estimated concentrations.

5.7.5 Completeness

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

5.7.6 Sensitivity

Sensitivity was measured by evaluating whether the LOQ was less than remedial goals for constituents with RGs, and less than the regulatory criteria for those constituents without RGs. All nominal LOQs were below the regulatory criteria.

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

Blanks (Calibration [Instrument], Method, Trip, and Rinsate)

Calibration blanks were analyzed throughout analytical runs.

One method blank was analyzed with every batch of twenty samples or fewer for each matrix.

One trip blank was included with each cooler for samples to be analyzed for VOCs and dissolved gases (methane, ethane and ethene).

One rinsate blank was analyzed for each sample date.

Table 5-19 presents samples flagged for blank results. Sample results greater than two times the blank concentration were not qualified. Data quality and usability were not affected.

Reporting Limits

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

5.7.7 Data Usability Summary

In summary, all data was considered usable with the qualifications discussed above. The completeness goals for the project were met. The data was considered of good quality for the project goals and no J-flagged results affected the overall conclusions as to whether MNA is occurring.

Low MS/MSD (**Table 5-16**) and PDS % recoveries indicate that the associated results may be biased low for the associated samples.

The RPD for laboratory duplicate and field duplicate exceedance indicate that the associated results were estimated or non-detected estimated for the associated samples.

This Data Quality Assessment was prepared by Validata Chemical Services, Inc. (Validata). Validata has provided data validation services since 1990 with completion of over 350 environmental chemistry data validation contracts for all business sectors including 35 USACE and 252 additional DoD contracts. Validata has been audited by the USEPA Quality Assurance Section and the US Navy Environmental Project Management Group and was approved as a data validation service by both agencies. Data validation reports are presented in **Appendix B-1**.

Table 5-1 SWMU 49 Summary of Detected Constituents in Seventeenth Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples[(1)]	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	µg/L	NA	NA	1	13	ND	0.43	48MW06
1,1-Dichloroethane	µg/L	NA	NA	2	13	ND	3.3	48MW06
Acetone	µg/L	NA	NA	0	13	ND	ND	NA
Bromoform	µg/L	NA	NA	0	13	ND	ND	NA
Bromomethane	µg/L	NA	NA	0	13	ND	ND	NA
Carbon tetrachloride	µg/L	5	2	7	13	ND	91.0	13TM3 (field duplicate of 13MW3)
Chloroform	µg/L	NA	NA	5	13	ND	12.0	48MW3 (and field duplicate 48TM3)
cis-1,2-Dichloroethene	µg/L	NA	NA	2	13	ND	5.7	48MW1
Dibromochloromethane	µg/L	NA	NA	0	13	ND	ND	NA
Ethylbenzene	µg/L	NA	NA	0	13	ND	ND	NA
m- & p-Xylene	µg/L	NA	NA	0	13	ND	ND	NA
o-Xylene	µg/L	NA	NA	0	13	ND	ND	NA
Tetrachloroethene	µg/L	NA	NA	0	13	ND	ND	NA
Trichloroethene	µg/L	5	1	9	13	ND	15.0	48MW3 (and field duplicate 48TM3)
Miscellaneous								
Chloride	mg/L	NA	NA	13	13	2.1	6.3	49MW04
Ethane	µg/L	NA	NA	0	13	ND	ND	NA
Ethene	µg/L	NA	NA	0	13	ND	ND	NA
Methane	µg/L	NA	NA	1	13	ND	1.5	49MW01
Nitrate (as N)	mg/L	NA	NA	13	13	0.2	6.4	48MW3
Sulfate	mg/L	NA	NA	13	13	ND	99	13MW3 (and field duplicate 13TW3)
Total Organic Carbon	mg/L	NA	NA	2	13	0.60	0.93	48MW2

Notes:
[(1)] Includes one duplicate sample
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = not applicable
ND = non-detect
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Table 5-2 SWMU 49 Detected Analytes In Seventeenth Quarter Groundwater Samples

Sample ID			48MW06					48MW1					48MW2					48MW3					48TW3 (Field Duplicate of 48MW3)					49MW01				
Date Collected			10/15/2019					10/16/2019					10/16/2019					10/16/2019					10/16/2019					10/16/2019				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																																
1,1,1-Trichloroethane	µg/L	NA	0.43	J		0.2	0.1	0.6	U	J	0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U	UJ	0.2	0.1
1,1-Dichloroethane	µg/L	NA	3.3			0.2	0.1	0.76	J	J	0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U	UJ	0.2	0.1
Acetone	µg/L	NA	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U		0.2	0.1	10	U	UJ	0.2	0.1
Bromoform	µg/L	NA	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1
Bromomethane	µg/L	NA	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U		0.2	0.1	2	U	UJ	0.2	0.1
Carbon tetrachloride	µg/L	5	0.6	U		0.2	0.1	0.6	U	UJ	0.2	0.1	**63**			0.2	0.1	**88**			0.2	0.1	**91**			0.2	0.1	3.5		J	0.2	0.1
Chloroform	µg/L	NA	0.6	U		0.2	0.1	0.6	U	UJ	0.2	0.1	6.1			0.2	0.1	12			0.2	0.1	12			0.2	0.1	0.44	J	UJ	0.2	0.1
cis-1,2-Dichloroethene	µg/L	NA	5.7			0.2	0.1	0.55	J	J	0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U	UJ	0.2	0.1
Dibromochloromethane	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Ethylbenzene	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
m & p-Xylene	µg/L	NA	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1
o-Xylene	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Tetrachloroethene	µg/L	NA	0.6	U		0.2	0.1	0.6	U	J	0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U	UJ	0.2	0.1
Trichloroethene	µg/L	5	3.1			0.2	0.1	1.7		J	0.2	0.1	**6.5**			0.2	0.1	**15**			0.2	0.1	**15**			0.2	0.1	0.6	U	UJ	0.2	0.1
Miscellaneous																																
Ethane	µg/L	NA	0.7	U		0.2	0.1	0.7	U		0.2	0.1	0.7	U		0.2	0.1	0.7	U		0.2	0.1	0.7	U		0.2	0.1	0.7	U		0.2	0.1
Ethene	µg/L	NA	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1
Methane	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Chloride	mg/L	NA	3.6	Y		0.2	0.1	3.5		J	0.2	0.1	2.1	J		0.2	0.1	2.4	J		0.2	0.1	2.7	J	J	0.2	0.1	5.7		J	0.2	0.1
Nitrate (as N)	mg/L	NA	0.2	J		0.2	0.1	1.3		J	0.2	0.1	0.78			0.2	0.1	5.8			0.2	0.1	5.8			0.2	0.1	0.34	J	J	0.2	0.1
Sulfate	mg/L	NA	46	M		0.2	0.1	45	M	J	0.2	0.1	6.2			0.2	0.1	27			0.2	0.1	27		J	0.2	0.1	0.99	J	UJ	0.2	0.1
Total Organic Carbon	mg/L	NA	1.5	U		0.2	0.1	1.5	U		0.2	0.1	0.93	J		0.2	0.1	1.5	U	U	0.2	0.1	1.5	U	U	0.2	0.1	0.6	J		0.2	0.1
MNA																																
Dissolved Fe^{2+}	mg/L	NA	0.22					0.00					0.11					0.00					0.00					0.15				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by **bold font.**
µg/L = micrograms per liter (parts per billion)
Fe^{2+} = dissolved ferrous iron
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
MNA = monitored natural attenuation
NA = not applicable; remedial goal not established for analyte at SWMU 49
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
J = Estimated value.
H = The sample or analyte was analyzed and reported past the hold time.
M = Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) recovery outside acceptance limits.
U = Analyte concentration was not above the detection level.
Y = A Relative Percent Difference (RPD) exceedance between a Laboratory Control Sample (LCS)and a Laboratory Control Sample Duplicate (LCSD), between an MS and an MSD, or between a parent sample and a duplicate sample.
Z = continuing calibration verification (CCV) or initial calibration verification (ICV) failure for the associated analyte.

Table 5-2 SWMU 49 Detected Analytes In Seventeenth Quarter Groundwater Samples (Continued)

Sample ID			49MW02					50MW02					13MW2					13MW3					13TW3 (Field Duplicate of 13MW3)					13MW4					49MW04				
Date Collected			10/16/2019					10/16/2019					10/15/2019					10/15/2019					10/15/2019					10/15/2019					10/15/2019				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																																				
1,1,1-Trichloroethane	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
1,1-Dichloroethane	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Acetone	µg/L	NA	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U	UJ	0.2	0.1	10	U		0.2	0.1
Bromoform	µg/L	NA	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1
Bromomethane	µg/L	NA	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U	UJ	0.2	0.1	2	U		0.2	0.1
Carbon tetrachloride	µg/L	5	0.6	U		0.2	0.1	2			0.2	0.1	0.6	U		0.2	0.1	4.2			0.2	0.1	4.2			0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Chloroform	µg/L	NA	0.6	U		0.2	0.1	0.6	U	U	0.2	0.1	0.6	U		0.2	0.1	0.51	J	U	0.2	0.1	0.49	J		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
cis-1,2-Dichloroethene	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Dibromochloromethane	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Ethylbenzene	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
m & p-Xylene	µg/L	NA	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1	1.2	U		0.2	0.1
o-Xylene	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Tetrachloroethene	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Trichloroethene	µg/L	5	0.6	U		0.2	0.1	1.7			0.2	0.1	0.6	U		0.2	0.1	0.64	J		0.2	0.1	0.63	J		0.2	0.1	0.72	J		0.2	0.1	0.6	U		0.2	0.1
Miscellaneous																																				
Ethane	µg/L	NA	0.7	U		0.2	0.1	0.7	U		0.2	0.1	0.7	U		0.2	0.1	0.7	U	0.7	0.2	0.1	0.7	U		0.2	0.1	0.7	U		0.2	0.1	0.7	U		0.2	0.1
Ethene	µg/L	NA	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U	1	0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1	1	U		0.2	0.1
Methane	µg/L	NA	1.5			0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U	0.6	0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
Chloride	mg/L	NA	1.9	J		0.2	0.1	6.6			0.2	0.1	3.6	Y		0.2	0.1	3.6		3.6	0.2	0.1	3.6			0.2	0.1	3.6			0.2	0.1	6.3			0.2	0.1
Nitrate (as N)	mg/L	NA	0.26	J		0.2	0.1	1.9			0.2	0.1	0.2	J		0.2	0.1	1.6		1.6	0.2	0.1	1.6			0.2	0.1	0.15	J		0.2	0.1	0.65			0.2	0.1
Sulfate	mg/L	NA	32			0.2	0.1	61			0.2	0.1	46	M		0.2	0.1	99		99	0.2	0.1	99			0.2	0.1	63			0.2	0.1	51			0.2	0.1
Total Organic Carbon	mg/L	NA	1.5	U		0.2	0.1	1.5	U		0.2	0.1	1.5	U		0.2	0.1	1.5	U	1.5	0.2	0.1	1.5	U		0.2	0.1	1.5	U		0.2	0.1	1.5	U		0.2	0.1
MNA																																				
Dissolved Fe^{2+}	mg/L	NA	0.00					0.25					0.00					0.08					0.08					0.00					0.00				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by **bold font.**
µg/L = micrograms per liter (parts per billion)
Fe^{2+} = dissolved ferrous iron
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
MNA = monitored natural attenuation
NA = not applicable; remedial goal not established for analyte at SWMU 49
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
J = Estimated value.
H = The sample or analyte was analyzed and reported past the hold time.
M = Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) recovery outside acceptance limits.
U = Analyte concentration was not above the detection level.
Y = A Relative Percent Difference (RPD) exceedance between a Laboratory Control Sample (LCS)and a Laboratory Control Sample Duplicate (LCSD), between an MS and an MSD, or between a parent sample and a duplicate sample.
Z = continuing calibration verification (CCV) or initial calibration verification (ICV) failure for the associated analyte.

Table 5-3 SWMU 49 Summary of Detected Constituents in Eighteenth Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples[1]	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	µg/L	NA	NA	1	17	ND	0.32	48MW1
1,1-Dichloroethane	µg/L	NA	NA	2	17	ND	1.3	48MW06
Acetone	µg/L	NA	NA	0	17	ND	ND	NA
Bromoform	µg/L	NA	NA	0	17	ND	ND	NA
Bromomethane	µg/L	NA	NA	0	17	ND	ND	NA
Carbon tetrachloride	µg/L	5	3	8	17	ND	34.0	48MW3
Chloroform	µg/L	NA	NA	6	17	ND	7.3	48MW3
cis-1,2-Dichloroethene	µg/L	NA	NA	2	17	ND	2.3	48MW06
Dibromochloromethane	µg/L	NA	NA	0	17	ND	ND	NA
Ethylbenzene	µg/L	NA	NA	0	17	ND	ND	NA
m- & p-Xylene	µg/L	NA	NA	0	17	ND	ND	NA
o-Xylene	µg/L	NA	NA	0	17	ND	ND	NA
Tetrachloroethene	µg/L	NA	NA	0	17	ND	ND	NA
Trichloroethene	µg/L	5	1	8	17	ND	15	48MW3
Miscellaneous								
Chloride	mg/L	NA	NA	17	17	1.2	9.6	48MW06
Ethane	µg/L	NA	NA	0	17	ND	ND	NA
Ethene	µg/L	NA	NA	0	17	ND	ND	NA
Methane	µg/L	NA	NA	2	17	ND	1.3	48MW2
Nitrate (as N)	mg/L	NA	NA	17	17	0.29	6.2	48TM3 (field duplicate of 48MW3)
Sulfate	mg/L	NA	NA	17	17	0.88	110	13MW3 (and field duplicate 13TM3)
Total Organic Carbon	mg/L	NA	NA	1	17	ND	0.88	48MW06

Notes:
[1] Includes one duplicate sample
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = not applicable
ND = non-detect
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

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

Sample ID			48MW07[2]					13MW5[2]					49MW03[2]					49MW05[2]					48MW06					48MW1				
Date Collected			1/28/20					1/28/20					1/29/20					1/29/20					1/29/20					1/30/20				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																																
1,1,1-Trichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.32	J		0.19	0.096
1,1-Dichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	1.3			0.19	0.096	0.86	J		0.19	0.096
Acetone	µg/L	NA	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096
Bromoform	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096
Bromomethane	µg/L	NA	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096
Carbon tetrachloride	µg/L	5	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Chloroform	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
cis-1,2-Dichloroethene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	2.3			0.19	0.096	0.76	J		0.19	0.096
Dibromochloromethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Ethylbenzene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
m & p-Xylene	µg/L	NA	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096
o-Xylene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Tetrachloroethene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U	J	0.19	0.096	0.6	U	J	0.19	0.096
Trichloroethene	µg/L	5	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	1.6			0.19	0.096	2.7			0.19	0.096
Miscellaneous																																
Ethane	µg/L	NA	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096
Ethene	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096
Methane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Chloride	mg/L	NA	1.2	J		0.19	0.096	2.6	J		0.19	0.096	5			0.19	0.096	4.9			0.19	0.096	9.6			0.19	0.096	5.6			0.19	0.096
Nitrate (as N)	mg/L	NA	1.1			0.19	0.096	0.6			0.19	0.096	1			0.19	0.096	0.29	J		0.19	0.096	1.1			0.19	0.096	1.8			0.19	0.096
Sulfate	mg/L	NA	1.5	J		0.19	0.096	52			0.19	0.096	2.6	J		0.19	0.096	92			0.19	0.096	76			0.19	0.096	56			0.19	0.096
Total Organic Carbon	mg/L	NA	1.5	U		0.19	0.096	1.5	U		0.19	0.096	1.5	U		0.19	0.096	1.5	U		0.19	0.096	0.88	J		0.19	0.096	1.5	U		0.19	0.096
MNA																																
Dissolved Fe^{2+}	mg/L	NA	0.07					0.02					0.25					0.16					0.08					0.00				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
[2] Groundwater well sampled annually in January.
Exceedances denoted by **bold font.**
µg/L = micrograms per liter (parts per billion)
Fe^{2+} = dissolved ferrous iron
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
MNA = monitored natural attenuation
NA = not applicable; remedial goal not established for analyte at SWMU 49
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
H = The sample or analyte was analyzed and reported past the hold time.
J = Estimated value.
M = Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) recovery outside acceptance limits.
Q = LCS outside acceptable limits.
U = Analyte concentration was not above the detection level.
Y = A Relative Percent Difference (RPD) exceedance between a Laboratory Control Sample (LCS)and a Laboratory Control Sample Duplicate (LCSD), between an MS and an MSD, or between a parent sample and a duplicate sample.
Z = continuing calibration verification (CCV) or initial calibration verification (ICV) failure for the associated analyte.

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

Sample ID			48MW2					48MW3					48TW3 (Field Duplicate of 48MW3)					49MW01					49MW02					50MW02				
Date Collected			1/30/20					1/30/20					1/30/20					1/30/20					1/29/20					1/30/20				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																															
1,1,1-Trichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
1,1-Dichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Acetone	µg/L	NA	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096
Bromoform	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096
Bromomethane	µg/L	NA	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096
Carbon tetrachloride	µg/L	5	**21**			0.19	0.096	**78**			0.19	0.096	**73**			0.19	0.096	2.5			0.19	0.096	0.6	U		0.19	0.096	1.1			0.19	0.096
Chloroform	µg/L	NA	3.5			0.19	0.096	13		U	0.19	0.096	13			0.19	0.096	0.38	J	U	0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
cis-1,2-Dichloroethene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Dibromochloromethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Ethylbenzene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
m & p-Xylene	µg/L	NA	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096
o-Xylene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Tetrachloroethene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Trichloroethene	µg/L	5	2.6			0.19	0.096	**15**			0.19	0.096	**14**			0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	1.3			0.19	0.096
Miscellaneous																															
Ethane	µg/L	NA	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096
Ethene	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096
Methane	µg/L	NA	1.3			0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.88			0.19	0.096	0.6	U		0.19	0.096
Chloride	mg/L	NA	1.9	J		0.19	0.096	1.7	J		0.19	0.096	2.6	J		0.19	0.096	5.4			0.19	0.096	1.7	J		0.19	0.096	9.5			0.19	0.096
Nitrate (as N)	mg/L	NA	0.75			0.19	0.096	0.71			0.19	0.096	6.2			0.19	0.096	0.37	J		0.19	0.096	0.29	J		0.19	0.096	2			0.19	0.096
Sulfate	mg/L	NA	4			0.19	0.096	3.7			0.19	0.096	28		J	0.19	0.096	0.88	J		0.19	0.096	17			0.19	0.096	68			0.19	0.096
Total Organic Carbon	mg/L	NA	1.5	U		0.19	0.096	1.5	U		0.19	0.096	1.5	U		0.19	0.096	1.5	U		0.19	0.096	1.5	U		0.19	0.096	1.5	U		0.19	0.096
MNA																															
Dissolved Fe^{2+}	mg/L	NA	0.34					0.04					0.03					0.30					0.00					0.17				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
[2] Groundwater well sampled annually in January.
Exceedances denoted by **bold font.**
µg/L = micrograms per liter (parts per billion)
Fe^{2+} = dissolved ferrous iron
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
MNA = monitored natural attenuation
NA = not applicable; remedial goal not established for analyte at SWMU 49
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
H = The sample or analyte was analyzed and reported past the hold time.
J = Estimated value.
M = Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) recovery outside acceptance limits.
Q = LCS outside acceptable limits.
U = Analyte concentration was not above the detection level.
Y = A Relative Percent Difference (RPD) exceedance between a Laboratory Control Sample (LCS)and a Laboratory Control Sample Duplicate (LCSD), between an MS and an MSD, or between a parent sample and a duplicate sample.
Z = continuing calibration verification (CCV) or initial calibration verification (ICV) failure for the associated analyte.

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

Sample ID			13MW2					13MW3					13TW3 (Field Duplicate of 13MW3)					13MW4					49MW04				
Date Collected			1/29/20					1/28/20					1/28/20					1/28/20					1/28/20				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																											
1,1,1-Trichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.6	U	0.6	U		1	0.29	0.6	U		1	0.29	0.6	U		1	0.29
1,1-Dichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.6	U	0.6	U		1	0.3	0.6	U		1	0.3	0.6	U		1	0.3
Acetone	µg/L	NA	10	U		0.19	0.096	10	U		10	U	10	U		20	4	10	U		20	4	10	U		20	4
Bromoform	µg/L	NA	1	U		0.19	0.096	1	U		1	U	1	U		2	0.4	1	U		2	0.4	1	U		2	0.4
Bromomethane	µg/L	NA	2	U	UJ	0.19	0.096	2	U		2	U	2	U	UJ	4	0.9	2	U	UJ	4	0.9	2	U		4	0.9
Carbon tetrachloride	µg/L	5	0.6	U		0.19	0.096	4.6			4.6		4.6			1	0.3	0.6	U		1	0.3	0.6	J		1	0.3
Chloroform	µg/L	NA	0.6	U		0.19	0.096	0.41	J		0.41	J	0.38	J		1	0.3	0.6	U		1	0.3	0.6	U		1	0.3
cis-1,2-Dichloroethene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.6	U	0.6	U		1	0.3	0.6	U		1	0.3	0.6	U		1	0.3
Dibromochloromethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.6	U	0.6	U		1	0.3	0.6	U		1	0.3	0.6	U		1	0.3
Ethylbenzene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.6	U	0.6	U		1	0.3	0.6	U		1	0.3	0.6	U		1	0.3
m & p-Xylene	µg/L	NA	1.2	U		0.19	0.096	1.2	U		1.2	U	1.2	U		2	0.7	1.2	U		2	0.7	1.2	U		2	0.7
o-Xylene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.6	U	0.6	U		1	0.26	0.6	U		1	0.26	0.6	U		1	0.26
Tetrachloroethene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.6	U	0.6	U		1	0.27	0.6	U		1	0.27	0.6	U		1	0.27
Trichloroethene	µg/L	5	0.6	U		0.19	0.096	0.79	J		0.79	J	0.72	J		1	0.3	0.83	J		1	0.3	0.6	U		1	0.3
Miscellaneous																											
Ethane	µg/L	NA	0.7	U		0.19	0.096	0.7	U		0.8	0.4	0.8	0.4		0.8	0.4	0.7	U		0.8	0.4	0.7	U		0.8	0.4
Ethene	µg/L	NA	1	U		0.19	0.096	1	U		1.1	0.5	1.1	0.5		1.1	0.5	1	U		1.1	0.5	1	U		1.1	0.5
Methane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.7	0.3	0.7	0.3		0.7	0.3	0.6	U		0.7	0.3	0.6	U		0.7	0.3
Chloride	mg/L	NA	3.5			0.19	0.096	4.7			3	1	3	1		3	1	5.5			3	1	6			3	1
Nitrate (as N)	mg/L	NA	0.65			0.19	0.096	1.9			0.4	0.12	0.4	0.12		0.4	0.12	0.78			0.4	0.12	0.46			0.4	0.12
Sulfate	mg/L	NA	54	M		0.19	0.096	110			15	4	15	4		15	4	29			3	0.8	55			3	0.8
Total Organic Carbon	mg/L	NA	1.5	U		0.19	0.096	1.5	U		3	0.5	3	0.5		3	0.5	1.5	U		3	0.5	1.5	U		3	0.5
MNA																											
Dissolved Fe^{2+}	mg/L	NA	0.00					0.00					0.00					0.05					0.00				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
[2] Groundwater well sampled annually in January.
Exceedances denoted by **bold font.**
µg/L = micrograms per liter (parts per billion)
Fe^{2+} = dissolved ferrous iron
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
MNA = monitored natural attenuation
NA = not applicable; remedial goal not established for analyte at SWMU 49
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
H = The sample or analyte was analyzed and reported past the hold time.
J = Estimated value.
M = Matrix Spike (MS) and/or Matrix Spike Duplicate (MSD) recovery outside acceptance limits.
Q = LCS outside acceptable limits.
U = Analyte concentration was not above the detection level.
Y = A Relative Percent Difference (RPD) exceedance between a Laboratory Control Sample (LCS)and a Laboratory Control Sample Duplicate (LCSD), between an MS and an MSD, or between a parent sample and a duplicate sample.
Z = continuing calibration verification (CCV) or initial calibration verification (ICV) failure for the associated analyte.

Table 5-5 SWMU 49 Summary of Detected Constituents in Nineteenth Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples[1]	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	µg/L	NA	NA	1	13	ND	0.84	48MW06
1,1-Dichloroethane	µg/L	NA	NA	3	13	0.35	5.2	48MW06
Acetone	µg/L	NA	NA	0	13	ND	ND	NA
Bromoform	µg/L	NA	NA	0	13	ND	ND	NA
Bromomethane	µg/L	NA	NA	0	13	ND	ND	NA
Carbon tetrachloride	µg/L	5	3	9	13	0.33	64.0	13MW2
Chloroform	µg/L	NA	NA	6	13	0.32	12.0	48MW3 (and field duplicate 48TM3)
cis-1,2-Dichloroethene	µg/L	NA	NA	3	13	0.5	8.3	48MW06
Dibromochloromethane	µg/L	NA	NA	0	13	ND	ND	NA
Ethylbenzene	µg/L	NA	NA	0	13	ND	ND	NA
m- & p-Xylene	µg/L	NA	NA	0	13	ND	ND	NA
o-Xylene	µg/L	NA	NA	0	13	ND	ND	NA
Tetrachloroethene	µg/L	NA	NA	1	13	ND	0.82	48MW06
Trichloroethene	µg/L	5	3	8	13	0.66	12.0	48MW3 (and field duplicate 48TM3)
Miscellaneous								
Chloride	mg/L	NA	NA	12	13	1.7	8.4	48MW06
Ethane	µg/L	NA	NA	0	13	ND	ND	NA
Ethene	µg/L	NA	NA	0	13	ND	ND	NA
Methane	µg/L	NA	NA	1	13	ND	2.6	50MW02
Nitrate (as N)	mg/L	NA	NA	12	13	0.13	5.1	48MW06
Sulfate	mg/L	NA	NA	12	1.1	4.4	190.0	48MW06
Total Organic Carbon	mg/L	NA	NA	9	13	0.59	6.3	49MW04

Notes:
[1] Includes one duplicate sample
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = not applicable
ND = non-detect
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

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

Sample ID			48MW06					48MW1					48MW2					48MW3					48TW3 (Field Duplicate of 48MW3)					49MW01				
Date Collected			4/29/2020					4/29/2020					4/29/2020					4/30/2020					4/20/2020					4/29/2020				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																																
1,1,1-Trichloroethane	µg/L	NA	0.84	J		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
1,1-Dichloroethane	µg/L	NA	5.2			0.19	0.096	0.79	J		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Acetone	µg/L	NA	10	U	UJ	0.19	0.096	10	U	UJ	0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096	10	U		0.19	0.096
Bromoform	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096
Bromomethane	µg/L	NA	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U		0.19	0.096	2	U		0.19	0.096	2	U		0.19	0.096	2	U		0.19	0.096
Carbon tetrachloride	µg/L	5	0.6	U		0.19	0.096	0.6	U		0.19	0.096	**33**			0.19	0.096	**64**			0.19	0.096	**63**			0.19	0.096	3.1			0.19	0.096
Chloroform	µg/L	NA	0.6	U		0.19	0.096	0.6	U	U	0.19	0.096	3.6			0.19	0.096	12			0.19	0.096	12			0.19	0.096	0.39	J		0.19	0.096
cis-1,2-Dichloroethene	µg/L	NA	8.3			0.19	0.096	0.58	J		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Dibromochloromethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Ethylbenzene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
m & p-Xylene	µg/L	NA	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096
o-Xylene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Tetrachloroethene	µg/L	NA	0.82	J		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Trichloroethene	µg/L	5	**5.4**			0.19	0.096	1.5			0.19	0.096	2.9			0.19	0.096	**12**			0.19	0.096	**12**			0.19	0.096	0.6	U		0.19	0.096
Miscellaneous																																
Ethane	µg/L	NA	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.8	0.4	0.7	U		0.8	0.4	0.7	U		0.8	0.4	0.7	U		0.8	0.4
Ethene	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		1.1	0.5	1	U		1.1	0.5	1	U		1.1	0.5	1	U		1.1	0.5
Methane	µg/L	NA	0.73			0.19	0.096	0.6	U		0.19	0.096	1.1			0.7	0.3	0.6	U		0.7	0.3	0.6	U		0.7	0.3	0.6	U		0.7	0.3
Chloride	mg/L	NA	8.4			0.19	0.096	3.5			0.19	0.096	2.3	J		3	1	2.7	J		3	1	2.6	J		3	1	5.5			3	1
Nitrate (as N)	mg/L	NA	5.1			0.19	0.096	1.7			0.19	0.096	0.93			0.4	0.12	6.2			0.4	0.12	6.2			0.4	0.12	0.38	J		0.4	0.12
Sulfate	mg/L	NA	190			0.19	0.096	47			0.19	0.096	6.1			3	0.8	29			3	0.8	28			3	0.8	1.1	J		3	0.8
Total Organic Carbon	mg/L	NA	1.3	J	U	0.19	0.096	1.5	U	U	0.19	0.096	0.62	J		3	0.5	1.5	U		3	0.5	1.5	U		3	0.5	1.5	U		3	0.5
MNA																																
Dissolved Fe^{2+}	mg/L	NA	0.19					0.00					0.28					0.00					0.00					0.18				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by **bold font**.
µg/L = micrograms per liter (parts per billion)
ID = identification
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
NA = not applicable; remedial goal not established for analyte at SWMU 49
ND = non-detect
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
U = Analyte concentration was not above the detection level.
Z = Calibration criteria exceeded.

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

Sample ID			49MW02					50MW02					13MW2					13MW3					13TW3 (Field Duplicate of 13MW3)					13MW4					49MW04				
Date Collected			4/30/2020					4/30/2020					4/27/2020					4/27/2020					4/27/2020					4/27/2020					4/27/2020				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																																				
1,1,1-Trichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
1,1-Dichloroethane	µg/L	NA	0.6	U		0.19	0.096	0.35	J		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Acetone	µg/L	NA	10	U	UJ	0.19	0.096	10	U	UJ	0.19	0.096	10	U	UJ	0.19	0.096	10	U	UJ	0.19	0.096	10	U	UJ	0.19	0.096	10	U	UJ	0.19	0.096	10	U		0.19	0.096
Bromoform	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096
Bromomethane	µg/L	NA	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U	UJ	0.19	0.096	2	U		0.19	0.096
Carbon tetrachloride	µg/L	5	0.6	U		0.19	0.096	0.68	J		0.19	0.096	0.33	J		0.19	0.096	3.5			0.19	0.096	4.4			0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Chloroform	µg/L	NA	0.6	U		0.19	0.096	0.6	U	U	0.19	0.096	0.6	U		0.19	0.096	0.37	J	U	0.19	0.096	0.43	J		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
cis-1,2-Dichloroethene	µg/L	NA	0.6	U		0.19	0.096	0.5	J		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Dibromochloromethane	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Ethylbenzene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
m & p-Xylene	µg/L	NA	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096	1.2	U		0.19	0.096
o-Xylene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Tetrachloroethene	µg/L	NA	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Trichloroethene	µg/L	5	0.6	U		0.19	0.096	1.4			0.19	0.096	0.6	U		0.19	0.096	0.66	J		0.19	0.096	0.85	J		0.19	0.096	0.72	J		0.19	0.096	0.6	U		0.19	0.096
Miscellaneous																																				
Ethane	µg/L	NA	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096	0.7	U		0.19	0.096
Ethene	µg/L	NA	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096	1	U		0.19	0.096
Methane	µg/L	NA	0.37	J		0.19	0.096	2.6			0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096	0.6	U		0.19	0.096
Chloride	mg/L	NA	1.7	J		0.19	0.096	7.9			0.19	0.096	4.4			0.19	0.096	3.6			0.19	0.096	4.5			0.19	0.096	3.6			0.19	0.096	6.2			0.19	0.096
Nitrate (as N)	mg/L	NA	0.31	J		0.19	0.096	2.4			0.19	0.096	0.26	J		0.19	0.096	1.6			0.19	0.096	1.6			0.19	0.096	0.15	J		0.19	0.096	0.44			0.19	0.096
Sulfate	mg/L	NA	17	M		0.19	0.096	68			0.19	0.096	39	M		0.19	0.096	99			0.19	0.096	82			0.19	0.096	63			0.19	0.096	54			0.19	0.096
Total Organic Carbon	mg/L	NA	1.5	U		0.19	0.096	0.59	J		0.19	0.096	0.71	J		0.19	0.096	1.5	U		0.19	0.096	2.6	J		0.19	0.096	1.5	U		0.19	0.096	6.3			0.19	0.096
MNA																																				
Dissolved Fe^{2+}	mg/L	NA	0.00					0.22					0.00					0.03					0.02					0.00					0.00				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by **bold font**.
µg/L = micrograms per liter (parts per billion)
ID = identification
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
NA = not applicable; remedial goal not established for analyte at SWMU 49
ND = non-detect
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
U = Analyte concentration was not above the detection level.
Z = Calibration criteria exceeded.

Table 5-7 SWMU 49 Summary of Detected Constituents in Twentieth Quarter Groundwater Samples

Analyte	Units	RG	# of RG Exceedances	# of Detections	# of Samples[(1)]	Minimum Concentration	Maximum Concentration	Location of Maximum
VOCs								
1,1,1-Trichloroethane	µg/L	NA	NA	2	13	0.33	0.8	48MW06
1,1-Dichloroethane	µg/L	NA	NA	3	13	0.41	4.4	48MW06
Acetone	µg/L	NA	NA	0	13	ND	ND	NA
Bromoform	µg/L	NA	NA	0	13	ND	ND	NA
Bromomethane	µg/L	NA	NA	0	13	ND	ND	NA
Carbon tetrachloride	µg/L	5	5	9	13	0.96	67	48TM3 (field duplicate of 48MW3)
Chloroform	µg/L	NA	NA	6	13	0.57	15	48MW3
cis-1,2-Dichloroethene	µg/L	NA	NA	3	13	0.36	8.4	48MW06
Dibromochloromethane	µg/L	NA	NA	0	13	ND	ND	NA
Ethylbenzene	µg/L	NA	NA	0	13	ND	ND	NA
m- & p-Xylene	µg/L	NA	NA	0	13	ND	ND	NA
o-Xylene	µg/L	NA	NA	0	13	ND	ND	NA
Tetrachloroethene	µg/L	NA	NA	1	13	ND	0.82	48MW06
Trichloroethene	µg/L	5	3	9	13	0.98	15	48MW3 and field duplicate of 48MW3
Miscellaneous								
Chloride	mg/L	NA	NA	13	13	4.2	17.0	48MW06
Ethane	µg/L	NA	NA	0	13	ND	ND	NA
Ethene	µg/L	NA	NA	0	13	ND	ND	NA
Methane	µg/L	NA	NA	3	13	0.3	0.77	49MW02
Nitrate (as N)	mg/L	NA	NA	13	13	0.18	5.4	48MW3
Sulfate	mg/L	NA	NA	12	13	ND	130	48MW06
Total Organic Carbon	mg/L	NA	NA	1	13	ND	0.91	13MW2

Notes:
(1) Includes one duplicate sample
µg/L = micrograms per liter
mg/L = milligrams per liter
NA = not applicable
ND = non-detect
RG = Remedial Goal
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

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

Sample ID			48MW06					48MW1					48MW2					48MW3					48TW3 (Field Duplicate of 48MW3)					49MW01				
Date Collected			7/23/2020					7/23/2020					7/22/2020					7/22/2020					7/22/2020					7/23/2020				
Analyte	**Units**	**Remedial Goals [1]**	**Result**	**Lab Q**	**Val Q**	**LOQ**	**LOD**	**Result**	**Lab Q**	**Val Q**	**LOQ**	**LOD**	**Result**	**Lab Q**	**Val Q**	**LOQ**	**LOD**	**Result**	**Lab Q**	**Val Q**	**LOQ**	**LOD**	**Result**	**Lab Q**	**Val Q**	**LOQ**	**LOD**	**Result**	**Lab Q**	**Val Q**	**LOQ**	**LOD**
VOCs																															
1,1,1-Trichloroethane	µg/L	NA	0.8	J		0.2	0.1	0.33	J		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.98	0.6	U		0.2	0.1
1,1-Dichloroethane	µg/L	NA	4.4			0.2	0.78	0.85	J		0.2	0.78	0.6	U		0.2	0.78	0.6	U		0.2	0.78	0.6	U		0.2	0.98	0.6	U		0.2	0.78
Acetone	µg/L	NA	10	U		0.2	0.98	10	U		0.2	0.98	10	U		0.2	0.98	10	U		0.2	0.98	10	U		0.2	0.98	10	U		0.2	0.98
Bromoform	µg/L	NA	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98
Bromomethane	µg/L	NA	2	U		0.2	0.98	2	U		0.2	0.98	2	U		0.2	0.98	2	U		0.2	0.98	2	U		0.2	0.98	2	U		0.2	0.98
Carbon tetrachloride	µg/L	5	0.6	U		0.2	0.98	0.6	U		0.2	0.98	**24**			0.2	0.98	**65**			0.2	0.98	**67**			0.2	0.98	2.8			0.2	0.98
Chloroform	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	3.3			0.2	0.98	15			0.2	0.98	14			0.2	0.98	0.42	J		0.2	0.98
cis-1,2-Dichloroethene	µg/L	NA	8.4			0.2	0.98	0.93	J		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Dibromochloromethane	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Ethylbenzene	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
m & p-Xylene	µg/L	NA	1.2	U		0.2	0.98	0.29	J		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98
o-Xylene	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Tetrachloroethene	µg/L	NA	0.82	J		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Trichloroethene	µg/L	5	**5.6**			0.2	0.98	1.6			0.2	0.98	2.8			0.2	0.98	**15**			0.2	0.98	**15**			0.2	0.98	0.6	U		0.2	0.98
Miscellaneous																																
Ethane	µg/L	NA	0.7	U		0.2	0.98	0.7	U		0.2	0.98	0.7	U		0.2	0.98	0.7	U		0.2	0.98	0.7	U		0.2	0.98	0.7	U		0.2	0.98
Ethene	µg/L	NA	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98
Methane	µg/L	NA	0.7			0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Chloride	mg/L	NA	17			0.2	0.98	9.3			0.2	0.98	2.4	J		0.2	0.98	2.5	J		0.2	0.98	3		J	0.2	0.98	5.9			0.2	0.98
Nitrate (as N)	mg/L	NA	3.2	M		0.2	0.98	2.1			0.2	0.98	0.73			0.2	0.98	5.3			0.2	0.98	5.4			0.2	0.98	0.26	J		0.2	0.98
Sulfate	mg/L	NA	130			0.2	0.98	65			0.2	0.98	5.8			0.2	0.98	25			0.2	0.98	25		J	0.2	0.98	1.5	U		0.2	0.98
Total Organic Carbon	mg/L	NA	1.5	U		0.2	0.98	1.5	U		0.2	0.98	1.5	U		0.2	0.98	1.5	U		0.2	0.98	1.5	U		0.2	0.98	1.5	U		0.2	0.98
MNA																																
Dissolved Fe^{2+}	mg/L	NA	0.22					0.06					0.31					0.08					0.07					0.18				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by **bold font**.
µg/L = micrograms per liter (parts per billion)
Fe^{2+} = dissolved ferrous iron
ID = identification
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
MNA = monitored natural attenuation
NA = not applicable; remedial goal not established for analyte at SWMU 49
ND = non-detect
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
U = Analyte concentration was not above the detection level.
Z = Calibration criteria exceeded.

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

Sample ID			49MW02					50MW02					13MW2					13MW3					13TW3 (Field Duplicate of 13MW3)					13MW4					49MW04				
Date Collected			7/22/2020					7/22/2020					7/20/2020					7/20/2020					7/20/2020					7/20/2020					7/20/2020				
Analyte	Units	Remedial Goals [1]	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD	Result	Lab Q	Val Q	LOQ	LOD
VOCs																																				
1,1,1-Trichloroethane	µg/L	NA	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1	0.6	U		0.2	0.1
1,1-Dichloroethane	µg/L	NA	0.6	U		0.2	0.78	0.41	J		0.2	0.78	0.6	U		0.2	0.78	0.6	U		0.2	0.78	0.6	U		0.2	0.78	0.6	U		0.2	0.78	0.6	U		0.2	0.78
Acetone	µg/L	NA	10	U	UJ	0.2	0.98	10	U	UJ	0.2	0.98	10	U	UJ	0.2	0.98	10	U	UJ	0.2	0.98	10	U	UJ	0.2	0.98	10	U	UJ	0.2	0.98	10	U		0.2	0.98
Bromoform	µg/L	NA	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98
Bromomethane	µg/L	NA	2	U	UJ	0.2	0.98	2	U	UJ	0.2	0.98	2	U	UJ	0.2	0.98	2	U	UJ	0.2	0.98	2	U	UJ	0.2	0.98	2	U	UJ	0.2	0.98	2	U		0.2	0.98
Carbon tetrachloride	µg/L	5	0.6	U		0.2	0.98	1.8	J		0.2	0.98	0.33	J		0.2	0.98	**5.4**			0.2	0.98	**5.2**			0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Chloroform	µg/L	NA	0.6	U		0.2	0.98	0.6	U	U	0.2	0.98	0.6	U		0.2	0.98	0.61	J	U	0.2	0.98	0.57	J		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
cis-1,2-Dichloroethene	µg/L	NA	0.6	U		0.2	0.98	0.46	J		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Dibromochloromethane	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Ethylbenzene	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
m & p-Xylene	µg/L	NA	1.2	U		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98	1.2	U		0.2	0.98
o-Xylene	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Tetrachloroethene	µg/L	NA	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Trichloroethene	µg/L	5	0.6	U		0.2	0.98	1.8			0.2	0.98	0.6	U		0.2	0.98	1.2			0.2	0.98	1.1	J		0.2	0.98	0.98	J		0.2	0.98	0.6	U		0.2	0.98
Miscellaneous																																				
Ethane	µg/L	NA	0.7	U		0.2	0.98	0.7	U		0.2	0.98	0.7	U		0.2	0.98	0.7	U		0.8	0.4	0.7	U		0.2	0.98	0.7	U		0.2	0.98	0.7	U		0.2	0.98
Ethene	µg/L	NA	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98	1	U		1.1	0.5	1	U		0.2	0.98	1	U		0.2	0.98	1	U		0.2	0.98
Methane	µg/L	NA	0.77			0.2	0.98	0.3	J		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.7	0.3	0.6	U		0.2	0.98	0.6	U		0.2	0.98	0.6	U		0.2	0.98
Chloride	mg/L	NA	2.3	J		0.2	0.98	7.6			0.2	0.98	5.9			0.2	0.98	4.1			3	1	4.1			0.2	0.98	3.5			0.2	0.98	5.7			0.2	0.98
Nitrate (as N)	mg/L	NA	0.18	J		0.2	0.98	2.2			0.2	0.98	0.32	J		0.2	0.98	1.5			0.4	0.12	1.4			0.2	0.98	0.72			0.2	0.98	0.4	J		0.2	0.98
Sulfate	mg/L	NA	16	M		0.2	0.98	62			0.2	0.98	51	M		0.2	0.98	15			15	4	93			0.2	0.98	28			0.2	0.98	54			0.2	0.98
Total Organic Carbon	mg/L	NA	1.5	U		0.2	0.98	1.5	U		0.2	0.98	0.91	J		0.2	0.98	1.5	U		3	0.5	1.5	U		0.2	0.98	1.5	U		0.2	0.98	1.5	U		0.2	0.98
MNA																																				
Dissolved Fe^{2+}	mg/L	NA	0.00					0.23					0.00					0.05					0.02					0.03					0.00				

Notes:
[1] Remedial Goals developed in Draft SWMU 48/49 RFI Report (CB&I, 2014a).
Exceedances denoted by **bold font**.
µg/L = micrograms per liter (parts per billion)
Fe^{2+} = dissolved ferrous iron
ID = identification
MDL = Method Detection Limit
mg/L = milligrams per liter (parts per million)
MNA = monitored natural attenuation
NA = not applicable; remedial goal not established for analyte at SWMU 49
ND = non-detect
RL = Reporting Limit
SWMU = Solid Waste Management Unit
VOC = volatile organic compound

Lab Q = Lab Data Qualifiers
Val Q = Validation Data Qualifiers
J = Estimated value.
M = Matrix Spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
U = Analyte concentration was not above the detection level.
Z = Calibration criteria exceeded.

Table 5-9 Summary of Sample and Analyses

Sampling Event	Data Packages	Matrix	TCL VOCs	Methane Ethane Ethene	Chloride Nitrate Sulfate	Metals [1]	TOC	COD pH
October 2019	148990	GW	X	X	X	X	X	X
January 2020	151102	GW	X	X	X	X	X	X
January 2020	151051 151081	GW	X	X	X		X	
April 2020	152873 152962	GW	X	X	X	X	X	X
April 2020	152924	GW	X	X	X		X	
July 2020	155089	GW	X	X	X	X	X	X
July 2020	155037 155089	GW	X	X	X		X	

Notes:
[1] Ferrous iron was analyzed for groundwater samples while total metals were only analyzed for IDW samples.
COD = chemical oxygen demand
GW = groundwater
ID = identification
IDW = investigation-derived waste
pH = corrosivity/hydrogen ion concentration
TCL = target compound list
TOC = total organic carbon
VOC = volatile organic compound

Table 5-10 Analytical Methods

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

Notes:
TOC = total organic carbon
USEPA = U.S. Environmental Protection Agency
VOC = volatile organic compound

Table 5-11 Data Qualifiers

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

Table 5-12 Holding Time Exceedances

Sampling Event	Analysis	Analytes	Result	Samples	Qualifiers
October 2019	Dissolved Gasses	All compounds	Technical holding time (1)	48MW06, 13MW2, 49MW04, 13MW3, 13TW3, 13MW4, 49EQB-48MW2, 48MW3, 48TW3, 49MW02 and 48MW1	UJ J
October 2019	Anions	Nitrate	Technical holding time (1)	All samples except 49MW01, 50MW02 and 48MW2.	UJ
January 2020	pH	All compounds	Technical holding time (1)	49MW02 and 48MW2	UJ J
January 2020	Dissolved Gasses	All compounds	Technical holding time (1)	13MW3, 13MW4, 13MW5, 13TW3, 48MW06, 48MW07, 49MW02, 49MW03, 49MW04 and 49MW05	UJ J
April 2020	No exceedances				
July 2020	No exceedances				

Notes:
(1) The holding time for pH analysis is only minutes, therefore, this is expected. The data are still usable for their intended purpose.
ID = identification
J = estimated
UJ = non-detected estimated

Table 5-13 Field Duplicate Precision Exceedances

Sampling Event	Analyte	Flag	RPD
(October 2019)	No exceedances		
(January 2020)	No exceedances		
(April 2020)	1,1-Dichloroethene	J/UJ	≥20
(July 2020)	No exceedances		

Notes:
≥ = greater than or equal to
ID = identification
J = estimated
RPD = relative percent difference
UJ = non-detected estimated

Table 5-14 MS/MSD RPD Exceedances

Sampling Event/ Sample ID	Analyte	Flag	RPD
(October 2019) 13MW2	Chloride	J	≥10
(January 2020) 49IDW	No exceedances		
(April 2020) 13MW2	Bromomethane 1,2-Dibromo-3-chloropropane 2-Butanone 4-Methyl-2-pentanone	UJ	≥20
(July 2020) 13MW2	Sulfate Nitrate	J	≥70

Notes:
≥ = greater than or equal to
ID = identification
J = estimated
MS/MSD = matrix spike/matrix spike duplicate
RPD = relative percent difference
UJ = non-detected estimated

Table 5-15 LCS Recovery Exceedances

Sampling Event	Analyte	Flag	Recovery
(October 2019)	No exceedances		
(January 2020)	No exceedances		
(April 2020)	1,4-Dioxane Bromomethane	UJ	≥50
(July 2020)	1,4-Dioxane	UJ	>20

Notes:
> = greater than
≥ = greater than or equal to
ID = identification
LCS = laboratory control sample
UJ = non-detected estimated

Table 5-16 MS/MSD Recovery Exceedances

Sample ID	Analyte	Recovery	Parent Flag
(October 2019)	No exceedances		
(January 2020) 49IDW	Aluminum Iron	High	J
(January 2020) 49IDW	COD	High	J
(April 2020) 49IDW	Barium Cadmium Copper Lead Magnesium Manganese Thallium vanadium	Low	UJ J
(July 2020) IDW-48/49	Aluminum Iron	high	J

Notes:
COD = chemical oxygen demand
ID = identification
J = estimated
UJ = non-detected estimated

Table 5-17 Serial Dilution

Sample ID	Analyte	Recovery	Parent Flag
(October/November 2019)	No exceedances		
(January 2020) 49IDW	Iron	High	J
(April 2020) 49IDW	Aluminum Calcium Iron Magnesium Manganese	High	J
(July 2020) IDW-48/49	Aluminum Iron	High	J

Notes:
ID = identification
J = estimated

Table 5-18 Calibration Exceedances

Sampling Event	Analysis	Analytes	Result	Samples	Qualifiers
October 2019	No exceedances				
January 2020	VOCs	Bromomethane	CCV low	48MW07, 13MW5, 13MW4, 13MW3, 13TW3, 49MW04, 48MW06, 49MW05, 13MW2, 49MW03 and 49MW02	UJ
April 2020	No exceedances				
July 2020	VOCs	dichlorodifluoromethane	ICV Low	13MW2	UJ
July 2020	VOCs	bromomethane	ICV High	13MW2	UJ

Notes:
CCV = continuing calibration verification
ICV = initial calibration verification
UJ = non-detected estimated
VOC = volatile organic compound

Table 5-19 Blank Flags

Sampling Event	Type of Blank	Method	Analyte	Samples Qualified	Flag
October 2019	No exceedances				
January 2020	Rinsate/ Equipment	VOCs	Chloroform	49EQB-49MW03 13MW3 13TW3 49MW01	U
April 2020	No exceedances				
July 2020	Trip	VOCs	Bromodichloromethane Chloroform	13MW3 13TW3	U

Notes:
U = non-detected
VOC = volatile organic compound

Legend

- Well
- SWMU 49 Boundary

Carbon Tetrachloride Isopleths (ug/L)

- 1
- 5
- 50
- 80

Aerial Source:
Near Map Imagery, February 2020

N

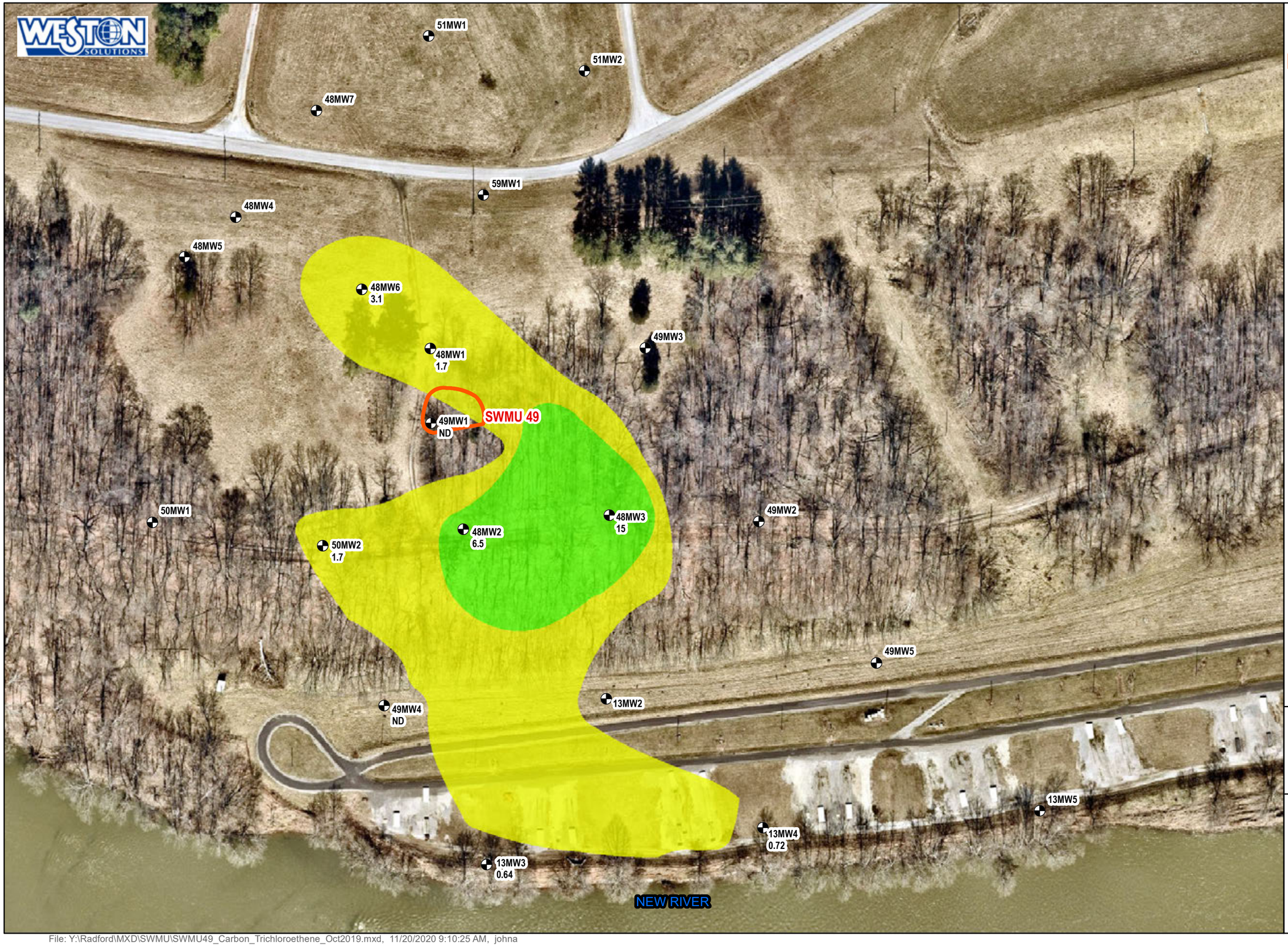
0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-1
SWMU 49 OCTOBER 2019
CARBON TETRACHLORIDE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Tetrachloride_Oct2019.mxd, 11/20/2020 9:09:24 AM, johna



Legend

- Well
- SWMU 49 Boundary

Trichloroethene Isopleths (ug/L)

- 1
- 5

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-2
SWMU 49 OCTOBER 2019
TRICHLOROETHENE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Trichloroethene_Oct2019.mxd, 11/20/2020 9:10:25 AM, johna

Legend

- Well
- SWMU 49 Boundary

Carbon Tetrachloride Isopleths (ug/L)

- 1
- 5
- 20
- 50

Aerial Source:
Near Map Imagery, February 2020

N

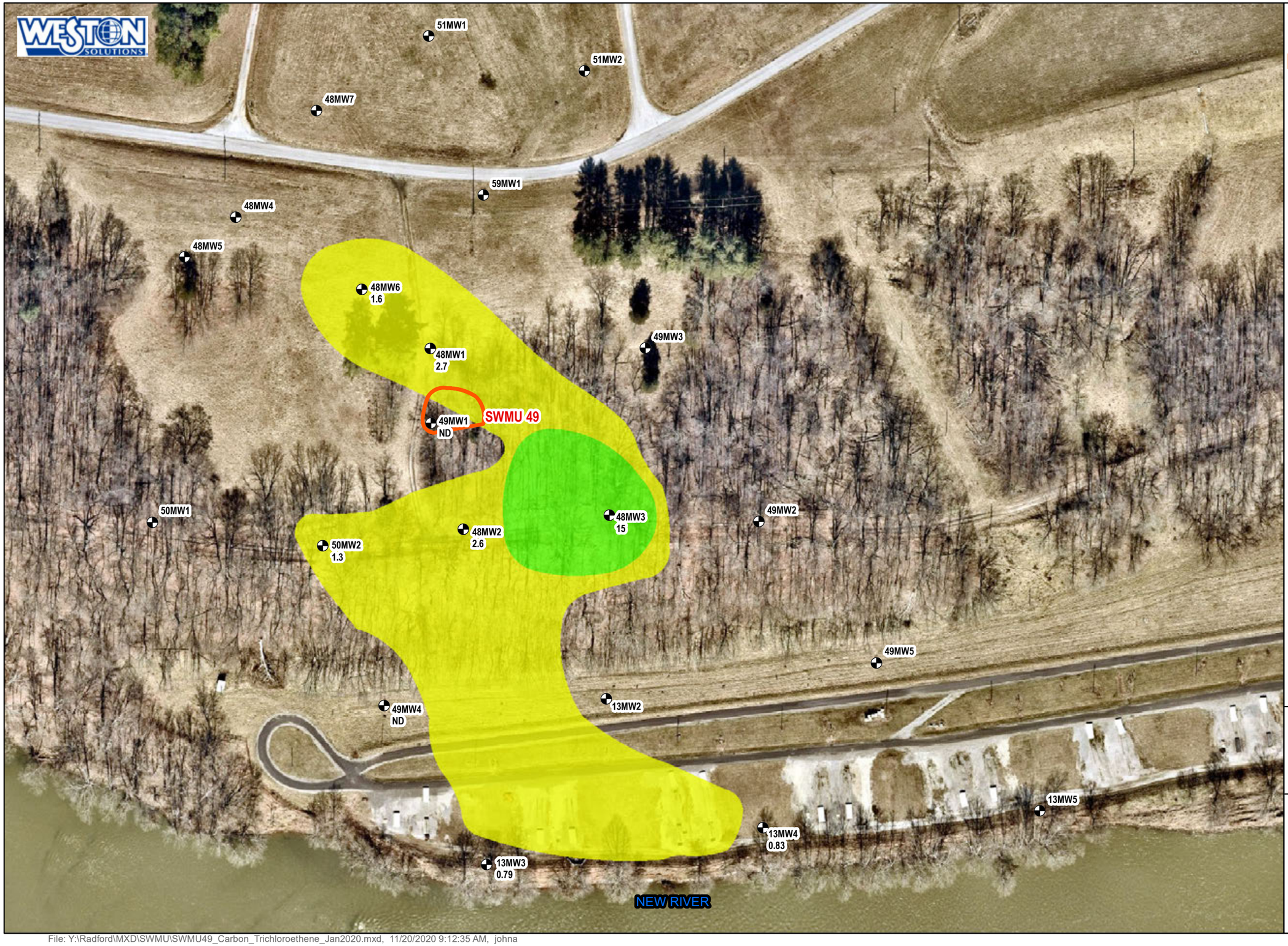
0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-3
SWMU 49 JANUARY 2020
CARBON TETRACHLORIDE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Tetrachloride_Jan2020.mxd, 11/20/2020 9:23:04 AM, johna



Legend

- Well
- SWMU 49 Boundary

Trichloroethene Isopleths (ug/L)

- 1
- 5

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-4
SWMU 49 JANUARY 2020
TRICHLOROETHENE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Trichloroethene_Jan2020.mxd, 11/20/2020 9:12:35 AM, johna

Legend

- Well
- SWMU 49 Boundary

Carbon Tetrachloride Isopleths (ug/L)

- 1
- 5
- 20
- 50

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-5
SWMU 49 APRIL 2020
CARBON TETRACHLORIDE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Tetrachloride_Apr2020.mxd, 11/20/2020 9:22:08 AM, johna

Legend

- Well
- SWMU 49 Boundary

Trichloroethene Isopleths (ug/L)

- 1
- 5

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-6
SWMU 49 APRIL 2020
TRICHLOROETHENE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Trichloroethene_Apr2020.mxd, 11/20/2020 9:11:52 AM, johna

Legend

- Well
- SWMU 49 Boundary

Carbon Tetrachloride Isopleths (ug/L)

- 1
- 5
- 20
- 50

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-7
SWMU 49 JULY 2020
CARBON TETRACHLORIDE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Tetrachloride_July2020.mxd, 11/20/2020 9:13:17 AM, johna

Legend

- Well
- SWMU 49 Boundary

Trichloroethene Isopleths (ug/L)

- 1
- 5

Aerial Source:
Near Map Imagery, February 2020

N

0 45 90 180 Feet

Prepared By:

Baltimore District

FIGURE 5-8
SWMU 49 JULY 2020
TRICHLOROETHENE ISOPLETHS
RADFORD, VIRGINIA

File: Y:\Radford\MXD\SWMU\SWMU49_Carbon_Trichloroethene_July2020.mxd, 11/20/2020 9:11:14 AM, johna

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

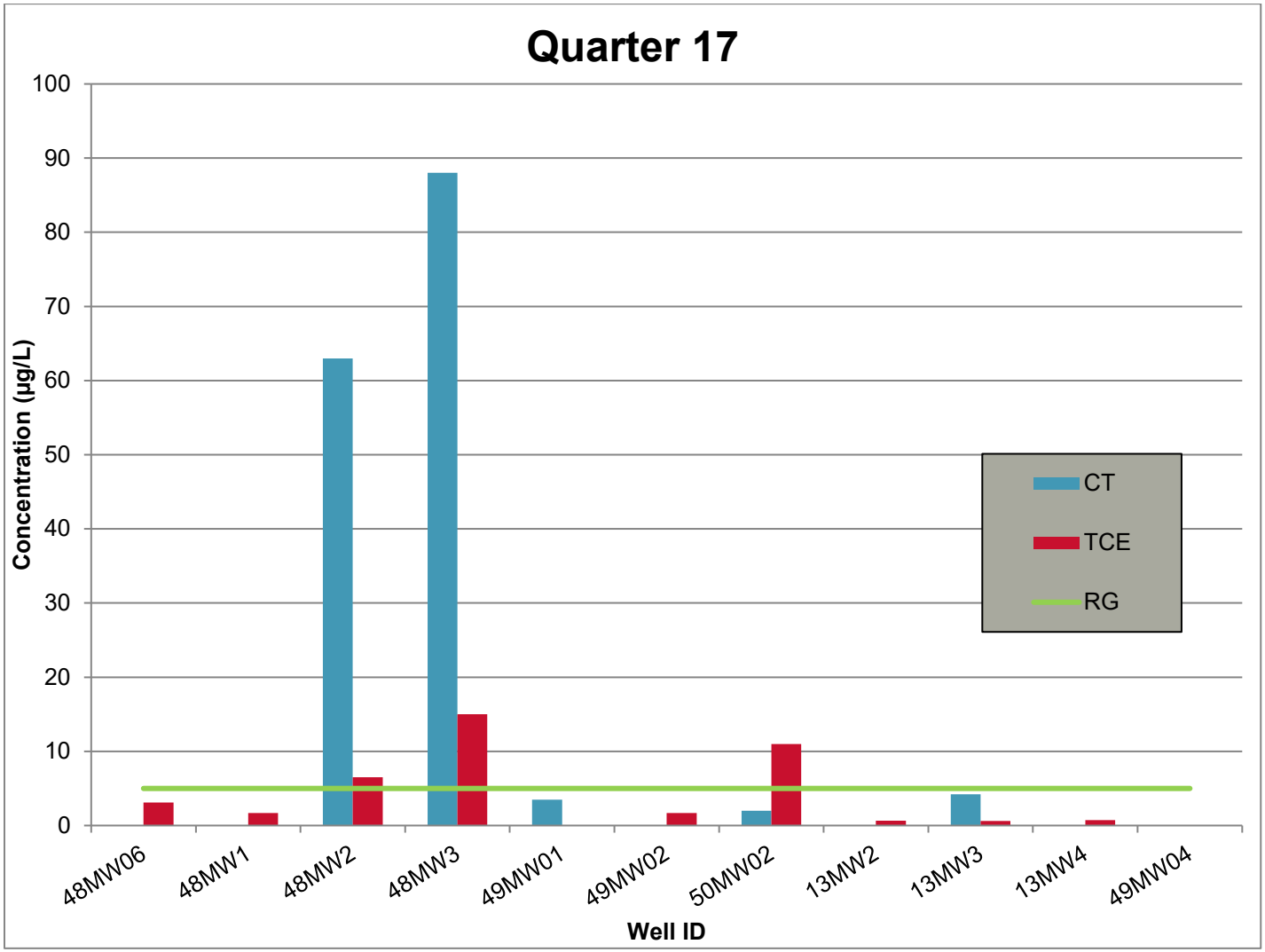


Figure 5-10 SWMU 49 Eighteenth Quarter CT and TCE Concentrations

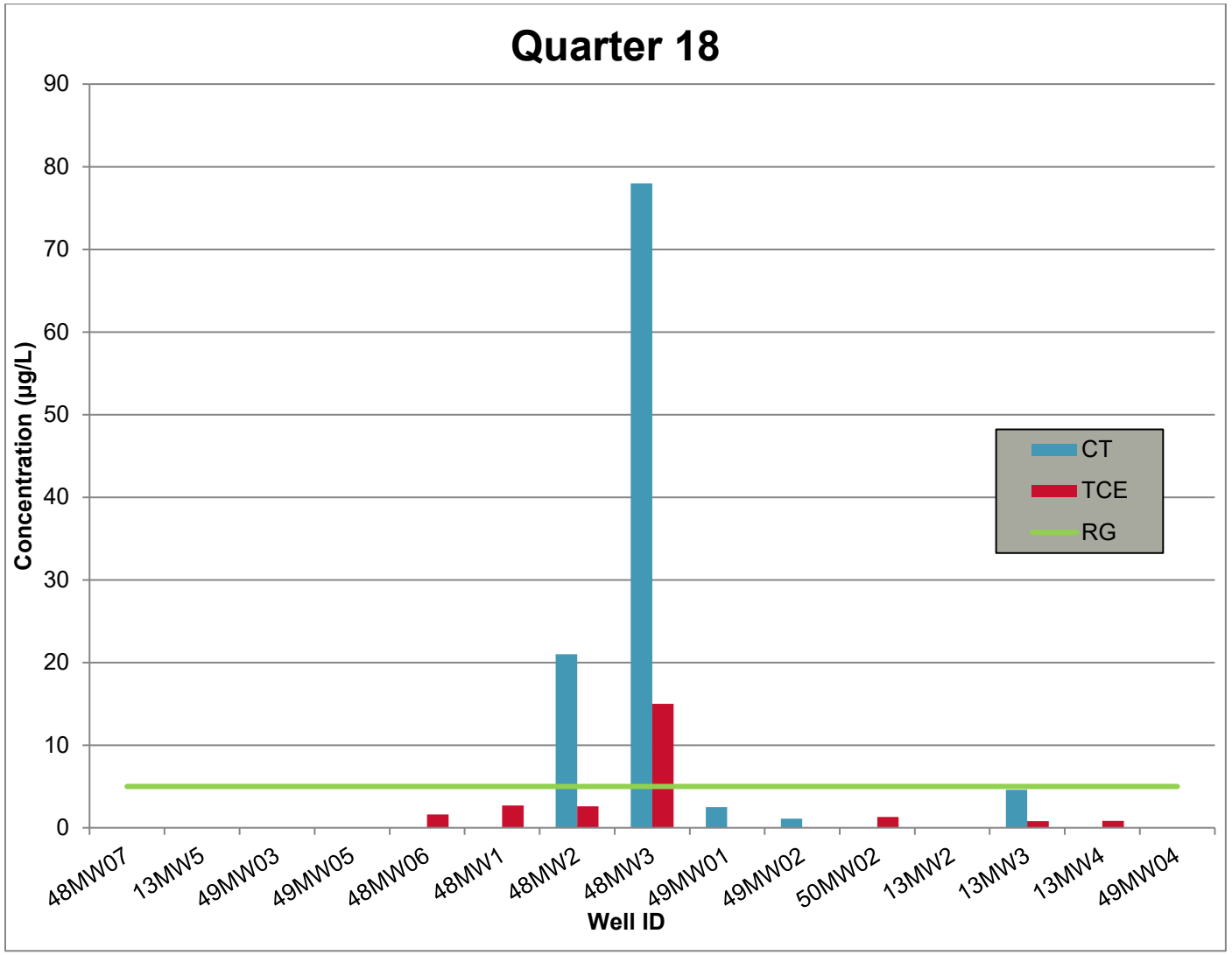


Figure 5-11 SWMU 49 Nineteenth Quarter CT and TCE Concentrations

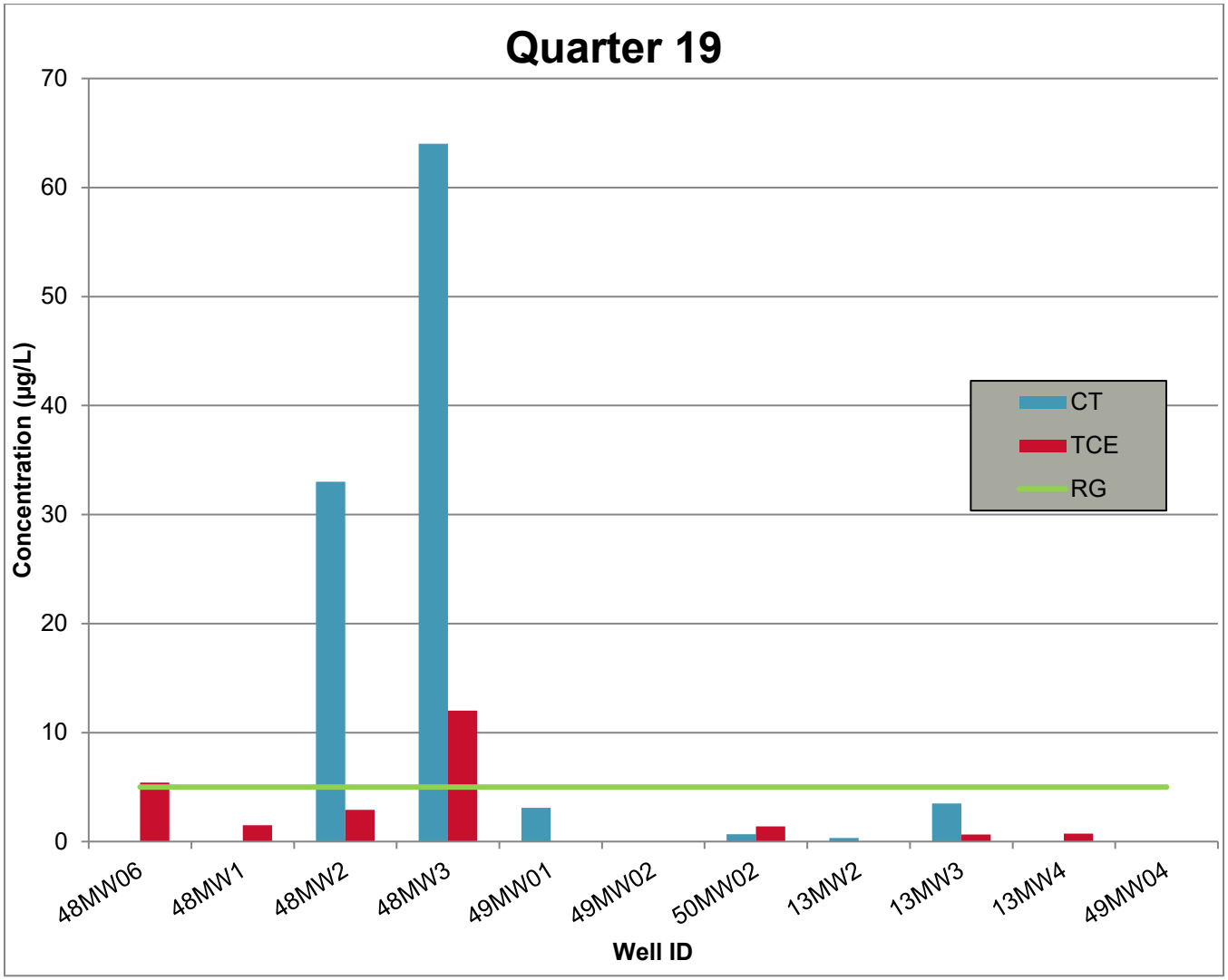


Figure 5-12 SWMU 49 Twentieth Quarter CT and TCE Concentrations

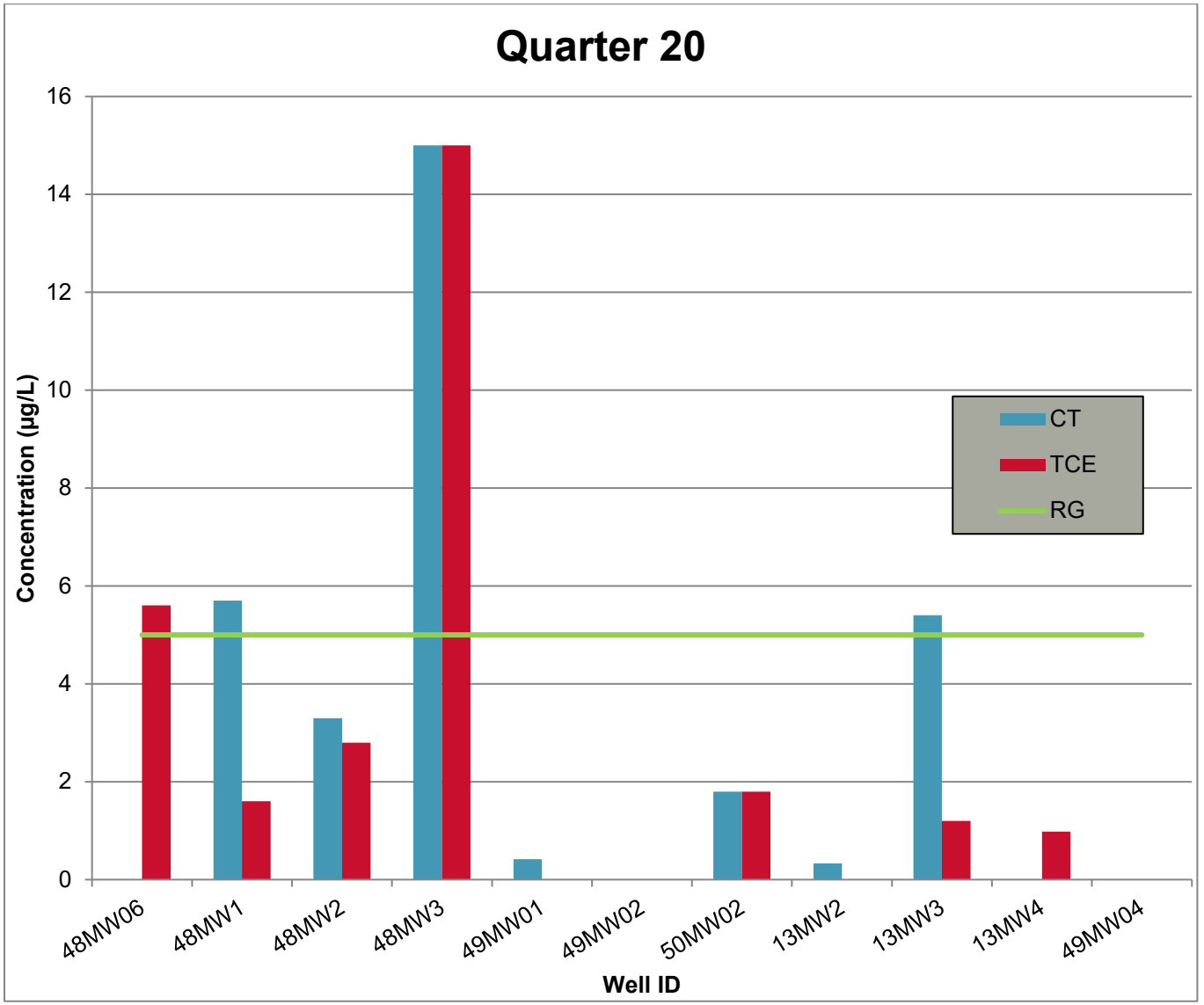
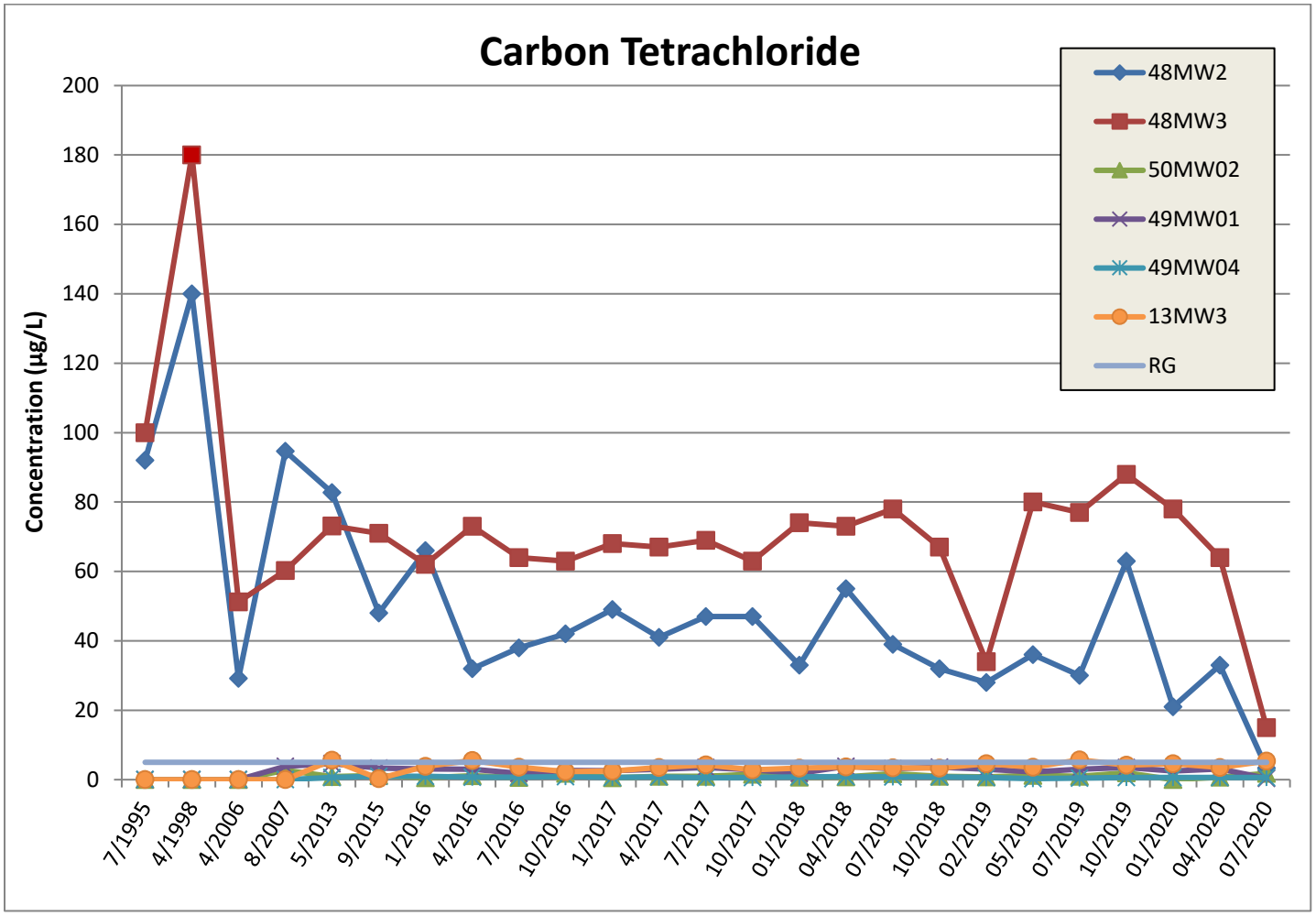
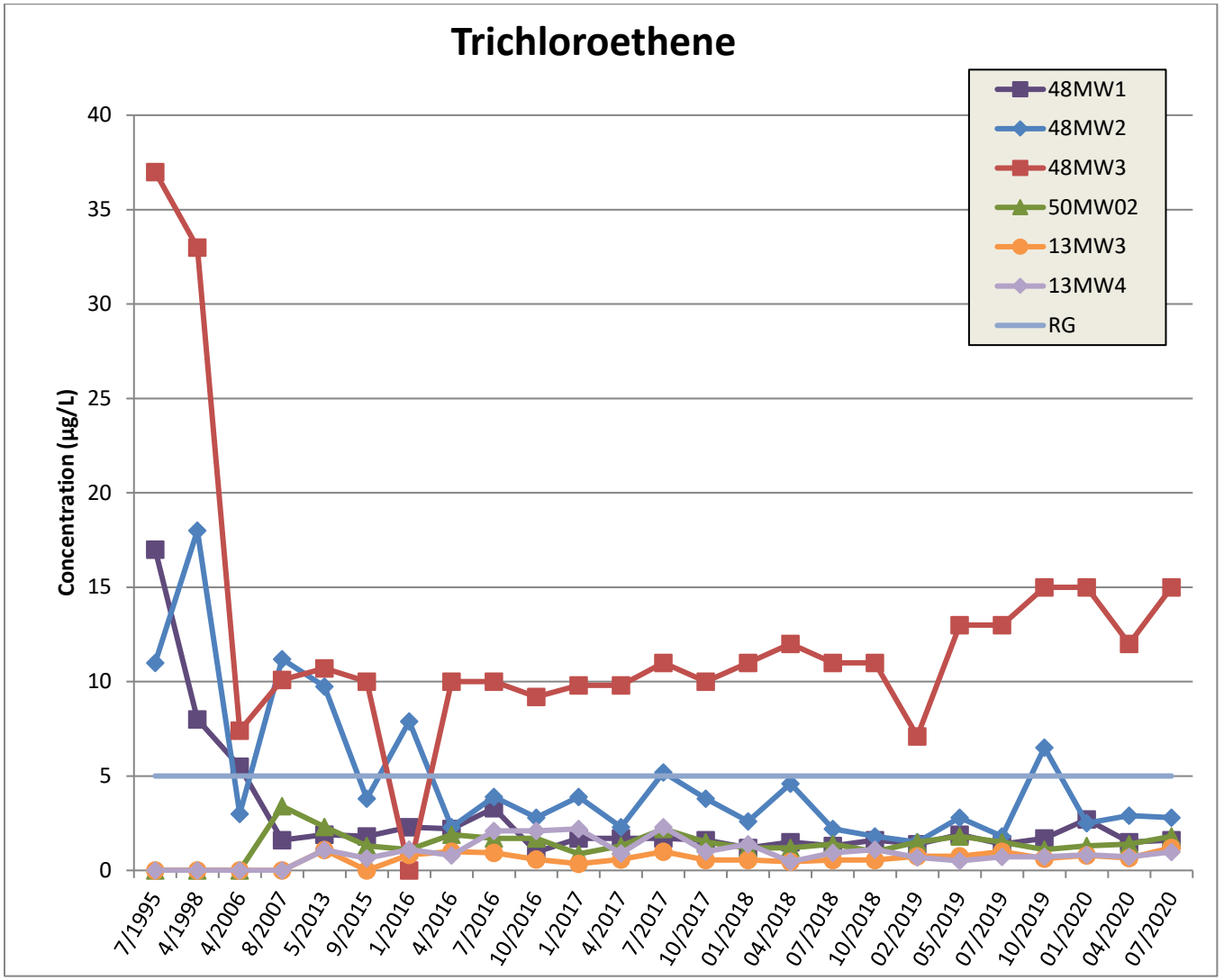


Figure 5-13 SWMU 49 CT Concentration Trends



Note: In order to fit all data on one page, x-axis time intervals do not reflect actual period of time between events.

Figure 5-14 SWMU 49 TCE Concentration Trends



Note: In order to fit all data on one page, x-axis time intervals do not reflect actual period of time between events.

6. MNA EVALUATION OF SWMU 49

This section presents and summarizes the results for the Year Five MNA sampling. Eleven monitoring wells were sampled in the SWMU 49 study area for four quarters, whereas four wells were sampled on an annual basis during the Year Five MNA monitoring. Sample results were evaluated to determine whether MNA is continuing to occur at the site. Consistent with the TCL VOC results from the sampling event in May 2013 and the baseline sampling conducted in January 2015, the highest concentrations of CT were observed in wells 48MW2 and 48MW3, where the center of the plume is located. TCE concentrations detected at 48MW2, where historically high concentrations had been detected, were below the RG of 5 µg/L in three of the four quarters, except for the seventeenth quarter. During the Year Four sampling year, all concentrations of TCE at 48MW2 were below the RG of 5 µg/L. Conversely, TCE concentrations in 48MW3 were above the RG in all four quarters of Year Five. Further, well 48MW06 contained a TCE concentration during the nineteenth quarter of MNA sampling slightly above the RG, and the remaining quarters were well below the RG. This detection pattern was also noted in Year Four during the fifteenth quarter. Monitoring well 48MW06 is located up gradient from 48MW2 and 48MW3.

Based on the Year Five MNA results, the CT and TCE plumes changed only slightly from quarter to quarter (seasonally) (**Figures 5-1** through **5-8**). There were modest changes in all four quarters. In general, the CT and TCE plumes were centered on monitoring wells 48MW3/48MW2 and 48MW06/48MW3, respectively. These trends continued throughout the year. TCE continued the trend since Year Two and generally remained undetected at monitoring well 13MW2, except for nineteenth quarter (0.33 µg/L). In all quarterly events during the Year Five MNA monitoring, detections of CT were found down gradient at well 13MW3 (ranging from 3.5 µg/L to 5.4 µg/L), which is next to the New River. As has been the recent trend, TCE was detected down gradient at monitoring wells 13MW3 and 13MW4 (well below the RG).

6.1 FIRST LINE OF EVIDENCE: OCCURRENCE OF CONTAMINANTS

The first line of evidence consists of evaluating contaminant and daughter product concentrations in monitoring wells over time. The VOC CT reduces to form chloroform, and TCE will be reduced to form cis-1,2-DCE, among other by-products. Both CT and TCE attenuate more favorably under

anaerobic conditions. Fifteen monitoring wells were included in the MNA monitoring at SWMU 49, which targeted areas with CT and TCE contamination. Historical trends and the results of the Year Five MNA quarterly groundwater sampling are discussed below, and the CT and TCE data are provided in **Table 6-1**.

Carbon Tetrachloride

There is good correlation of chloroform to CT concentrations for Year Five monitoring periods. Based on the data, wells with detected concentrations of CT also contained measurable levels of chloroform, with the exception of 49MW04; chloroform went undetected in this monitoring well for all quarterly monitoring events, just as it did in Years Three and Four. There were scattered quarters at monitoring wells 48MW2, 48MW3, 50MW02, and 13MW3 where chloroform went undetected, although there were detections of CT. Further, at monitoring well 48MW2, the concentrations of chloroform were 10 to 15 percent of the CT concentrations and approximately 15 to 20 percent at 48MW3. Based on available data, the presence of chloroform suggests the degradation of CT is occurring at SWMU 49. **Figures 6-1** through **6-8** provide correlation data from the Year Five MNA sampling.

Trichloroethene

The correlation of cis-1,2-DCE to TCE appears to have improved some over the four quarters of Year Five from that of the Years Three and Four MNA results. There is evidence that some correlation exists; however, in wells that contained the highest observed concentrations of TCE (48MW2 and 48MW3), cis-1,2-DCE went undetected during quarter twenty. For all four quarters of Year Five, MNA cis-1,2-DCE concentrations were above TCE concentrations in well 48MW06. Based on the available data, a strong correlation of TCE degradation to cis-1,2-DCE cannot yet be determined. **Figures 6-1** through **6-8** provide correlation data from the Year Five MNA sampling.

Statistical Trends

Mann-Kendall tests were run using the USEPA software package ProUCL (USEPA, 2020). The Mann-Kendall graphs are included as **Appendix C**. Monitoring wells 48MW2 and 48MW3 both displayed high and low outliers for the CT and TCE concentration trends over the past 5 years. Time series plots were created with and without those initial and/or final sampling data point to compare how the concentration trends would be affect by the varying results.

At 48MW2, both CT and TCE experienced decreasing trends, regardless of outlying results or concentration variability. This trend is comparable to all other wells sampling during Year Five, which also display decreasing trends for CT and TCE concentrations.

At 48MW3, CT does have a slight decreasing trend when the first quarter sampling event result is included in the Mann-Kendall test. When removed, however, no apparent trend is observed. For TCE, the first quarterly sampling event is an outlier, which causes a slight decreasing trend in the graph. With outlier result removed, concentrations for TCE are increasing.

At 13MW3, time series plots show a large degree of variability in concentrations of TCE and no significant trend for TCE. CT concentrations at 13MW3 depicted an increasing trend.

6.2 SECOND LINE OF EVIDENCE: GEOCHEMICAL CONDITIONS

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

The degradation of CT primarily occurs under anaerobic conditions, either through denitrification, iron reduction, sulfate reduction or methanogenesis. The environmental degradation of TCE primarily occurs under anaerobic conditions that facilitate reductive chlorination, whereas natural degradation under aerobic oxidizing conditions has been documented, but is much less likely to occur. Historical trends and the results of the Year Five MNA quarterly groundwater sampling are discussed below and the data are provided in **Table 6-2.**

Much of the discussion that follows uses the comparison values provided by the USEPA in its *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water* (USEPA, 1998).

Dissolved Oxygen (DO)

The preferred terminal electron acceptor during aerobic microbial respiration is oxygen and DO is measured to determine whether the groundwater is under aerobic or anaerobic conditions. Average DO values less than 1 mg/L are tolerable of anaerobic microbial activities. Further, DO values higher than 8 mg/L were considered biased high given their relative magnitude to oxygen solubility at field temperatures which primarily included DO measurements from the October 2019 event.

DO levels during the four quarterly monitoring events (October 2019 to July 2020) of Year Five ranged between 0.18 and 71.4 mg/L indicating both anaerobic and aerobic conditions were present at the site. In wells where CT degradation products were observed (48MW2, 49MW01, 50MW02, 13MW2, 13MW3, and 49MW04), DO levels (between 2.26 and 71.4 mg/L) indicate aerobic conditions (**Table 6-2**) are present. In wells where TCE degradation products were observed (48MW06, 48MW1, and 50MW02), DO levels ranged between 0.18 and 8.41 mg/L indicating aerobic conditions are in place. Historically, anaerobic and aerobic conditions have been in flux with aerobic conditions most prevalent.

Oxidation-Reduction Potential (ORP)

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

ORP levels recorded during the Year Five MNA sampling ranged from 37.5 to 186.0 mV indicating both anaerobic and aerobic conditions were present at the site. Seventeenth quarter values ranged from 37.5 to 76.8 mV; eighteenth quarter values ranged up slightly higher from 39.5 to 126.5 mV; nineteenth quarter values ranged even higher from 85.2 to 112.8 mV; and the twentieth quarter values ranged from 47.8 to 186.0 mV. Aerobic conditions remain most prevalent (**Table 6-2**). Further, with a few minor exceptions, the ORP values and DO readings for quarters seventeenth through twentieth showed a clear correlation whereby ORP values demonstrating aerobic conditions were confirmed with DO readings.

pH

The pH for optimum microbial activity ranges from 5 to 9 SU. Microbial activity may decrease at lower pH values. The pH measured in well 49MW04 measured an outlier of 9.2 SUs during the twentieth quarter; however, this is an outlier. All other pH measurements during Year Five ranged between 6.68 and 7.87 SUs, within this optimal pH range (**Table 6-2**). In general, the pH environment at SWMU 49 is suitable for microbial activity.

Nitrate

Following oxygen, microorganisms preferentially use nitrate (NO3-) as a terminal electron acceptor. Depressed nitrate concentrations may indicate nitrate-reducing conditions which promote the degradation of CT forming breakdown by-products. Nitrate levels during Year Five of MNA sampling were generally low (a calculated average of all measurements is <1 mg/L) with concentrations ranging from 0.15 to 6.2 mg/L; very similar to the Years One through Four of MNA sampling. The highest levels of nitrate were observed at 48MW3 during all four quarters ranging from 5.4 mg/L to 6.2 mg/L.

Ferrous Iron

Ferric iron is reduced to soluble ferrous iron in the groundwater where iron- reducing bacteria facilitate activity. An increase in ferrous iron concentrations is indicative of iron-reducing conditions and can be used to determine the potential for contaminant precipitation or coprecipitation and for geochemical modeling. Biological reduction of CT is favored in iron-reducing conditions and therefore, elevated levels of ferrous iron are an indicator of favorable groundwater conditions. Ferrous iron concentrations for all wells during Year Four of MNA monitoring ranged between 0.0 mg/L (non-detect) and 2.43 mg/L, indicating that iron-reducing conditions are improving slightly from the first (concentrations ranged from 0.0 [non-detect] and 1.06 mg/L) and second (concentrations ranged from 0.0 [non-detect] and 2.31 mg/L) years of MNA monitoring. Year Three ferrous iron concentrations were very similar to those of Year Four. Year Five iron levels ranged from 0.00 (non-detect) to 0.34 mg/L.

Sulfate

After DO and nitrate have been depleted in the microbiological treatment zone, sulfate may be used as an electron acceptor for anaerobic biodegradation. This process is termed "sulfate reduction" and results in the production of sulfide. At higher concentrations sulfate (and nitrate) may compete with the reductive pathway. Relative amounts of sulfate provide additional lines of evidence of reducing conditions in the aquifer and provide data on changing aquifer conditions. However, reductive dechlorination still occurs in plumes with high concentrations of sulfate (USEPA, 1998). Sulfate concentrations were measured in the groundwater during each of the Year Five MNA sampling events and were found to range between 0.88 mg/L and 190 mg/L. Sulfate levels at monitoring wells where CT and chloroform were detected (13MW3, 48MW2, 48MW3, 49MW01, and 50MW02) had concentrations ranging between 0.88 mg/L and 110 mg/L, very similar to the MNA sampling results from Year Two through Four.

Total Organic Carbon (TOC)

TOC concentrations greater than 20 mg/L are considered adequate to support microbial activity. For the Year Five MNA monitoring, TOC levels ranged from 0.00 mg/L (non-detect) to 6.3 mg/L, suggesting a still unfavorable environment. TOC levels during the Year One MNA sampling ranged from 0.0 (non-detect) to 34 mg/L. TOC levels during the Year Two MNA sampling ranged from 0.0 (non-detect) to 6.0 mg/L, a notable decrease in TOC concentrations from Year One. TOC levels recorded during Year Three monitoring, however, increased from the Year Two high of 6.0 to 13 mg/L. TOC levels during Year Four ranged from 0.00 mg/L (non-detect) to 3.7 mg/L.

Specific Conductivity

Specific conductivity is the indirect measure of the presence of dissolved solids such as chloride, nitrate, sulfate, and Fe, all degradation by-products. **Figure 6-9** provides a time series plot of CT and chloroform concentrations relative to specific conductivity readings for 48MW2 and 48MW3 for monitoring Years One through Five. **Figure 6-10** provides a time series plot of TCE and cis-1,2-DCE concentrations relative to specific conductivity readings for 48MW2 and 48MW3 for monitoring Years One through Five. As with MNA Year Two, Three, and Four results, data suggest that TCE and CT contaminants are biodegrading and more dissolved inorganic ions (such as chlorides, nitrates, sulfates, and Fe) are creating the electrical current witnessed in the specific conductivity readings. Data also suggest that organic compounds do not carry current and therefore

have almost no conductivity (USACE, 1999). No direct trend in specific conductivity from Years One through Five are evident.

Figures 6-11 and **6-12** provide time series plots of MNA indicators sulfate, nitrate, chloride, TOC, ethene, and methane in source wells 48MW2 and 48MW3 for monitoring Years One through Five. Sulfate concentrations are trending lower in monitoring well 48MW2 and relatively stable in monitoring well 48MW3. Nitrate concentrations remain relatively stable in both monitoring wells 48MW2 and 48MW3. Chloride concentrations in both monitoring wells are trending slightly lower and appear to be leveling off, while TOC concentrations continue to fluctuate. Neither methane nor ethene were detected during Year Five in either well.

Figure 6-13 provides a time series plot of water quality parameters DO, Fe, and ORP in 48MW2 and 48MW3 for monitoring Years One through Five. The time series plot shows that the individual trends for DO, Fe, and ORP are relatively consistent in monitoring wells 48MW2 and 48MW3. Year Five observed a shift in the trend in that DO in monitoring well 48MW3 reversed the course observed in monitoring well 48MW2 with a spike in DO levels above those in 48MW2 in the fourteenth quarter. The DO measurements at all wells including 48MW2 and 48MW3 during the October 2019 event indicate DO levels that appear to be inaccurate.

Once again, monitoring wells 13MW2 and 48MW3 appear to carry more of the dissolved solids with high conductivity readings ranging from 623 to 850 µS/cm, and 586 to 737 µS/cm, respectively. In addition, monitoring well 48MW06 also appears to carry more of the dissolved solids due to the highest conductivity readings ranging from 671 to 1017 µS/cm. Biodegradation consumes sulfate and nitrate and produces alkalinity. The sulfate and nitrate concentrations at 48MW06 fluctuate slightly with a declining trend. While the sulfate and nitrate concentrations at 13MW2 and 48MW3 fluctuate slightly, there is no obvious declining trend. Chloride is the ion that is formed during dechlorination that takes place in an anaerobic reduction zone; chloride concentrations are fluctuating among all wells; however, there appears to be a slight decreasing trend at 13MW2, 13MW4, and 48MW06. While anaerobic conditions prevailed at 48MW3 with steady DO readings below 1 mg/L during Year Two monitoring, aerobic conditions prevailed during Year Five monitoring with DO readings ranging from 3.13 to 11.97 mg/L.

Monitoring well 48MW2 maintained aerobic conditions during all four quarters of Year Five monitoring. Sulfide is a waste product created when sulfate-reducing bacteria generate usable energy under anaerobic conditions; historical data show that the sulfate concentrations are on the decline, though the concentrations increased slightly in Year Four when conditions were more aerobic. The mineralization of chlorinated solvents under aerobic conditions will ultimately yield carbon dioxide, water, and chloride. Therefore, chloride concentrations are also impacted by more aerobic conditions and would be increasing; however, chloride concentrations are on a declining trend but also increased slightly in the final three quarters of Year Four. Nitrate concentrations appear to be trending up slightly at 48MW2. Methane, ethane, and ethene went undetected in all four quarters at 48MW2.

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

Parameter	Units	Remediation Goal (RG)	October 2019 (Q17)	January 2020 (Q18)	April 2020 (Q19)	July 2020 (Q20)
13MW2						
Carbon tetrachloride	µg/L	5	ND	ND	0.33	ND
Trichloroethene	µg/L	5	ND	ND	ND	ND
13MW3						
Carbon tetrachloride	µg/L	5	4.2	4.6	3.5	**5.4**
Trichloroethene	µg/L	5	0.64	0.79	0.66	1.2
13MW4						
Carbon tetrachloride	µg/L	5	ND	ND	ND	ND
Trichloroethene	µg/L	5	0.72	0.83	0.56	0.98
13MW5						
Carbon tetrachloride	µg/L	5	A	ND	A	A
Trichloroethene	µg/L	5	A	ND	A	A
48MW06						
Carbon tetrachloride	µg/L	5	ND	ND	ND	ND
Trichloroethene	µg/L	5	3.1	1.6	**5.4**	5.6
48MW07						
Carbon tetrachloride	µg/L	5	A	ND	A	A
Trichloroethene	µg/L	5	A	ND	A	A
48MW1						
Carbon tetrachloride	µg/L	5	ND	ND	ND	ND
Trichloroethene	µg/L	5	1.7	2.7	1.5	1.6
48MW2						
Carbon tetrachloride	µg/L	5	**63**	**21**	**33**	**24**
Trichloroethene	µg/L	5	**6.5**	2.6	2.9	2.8
48MW3						
Carbon tetrachloride	µg/L	5	**88**	**78**	**64**	**65**
Trichloroethene	µg/L	5	**15**	**15**	**12**	**15**
49MW01						
Carbon tetrachloride	µg/L	5	3.5	2.5	3.1	2.8
Trichloroethene	µg/L	5	ND	ND	ND	ND
49MW02						
Carbon tetrachloride	µg/L	5	ND	ND	ND	ND
Trichloroethene	µg/L	5	ND	ND	ND	ND
49MW03						
Carbon tetrachloride	µg/L	5	A	ND	A	A
Trichloroethene	µg/L	5	A	ND	A	A
49MW04						
Carbon tetrachloride	µg/L	5	ND	0.6	0.4	1.1
Trichloroethene	µg/L	5	ND	ND	ND	ND
49MW05						
Carbon tetrachloride	µg/L	5	A	ND	A	A
Trichloroethene	µg/L	5	A	ND	A	A
50MW02						
Carbon tetrachloride	µg/L	5	2	1.1	0.68	1.8
Trichloroethene	µg/L	5	1.7	1.3	1.4	1.8

Notes:
RG exceedances denoted by **bold** font.
µg/L = micrograms per liter
A = sampled annually
ND = non-detect
SWMU = Solid Waste Management Unit
TCE = trichloroethene

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

Well ID	48MW07	13MW5	49MW03	49MW05	48MW06	48MW1	48MW2	48MW3	49MW01	49MW02	50MW02	13MW2	13MW3	13MW4	49MW04
SWMU 49 Seventeenth Quarter (October 2019) Water Quality Parameters															
Temperature (°C)	---	---	---	---	14.73	13.33	13.39	12.87	12.75	13.42	13.22	16.22	17.28	17.41	16.58
Specific Conductivity (mS/cm)	---	---	---	---	799	432	463	662	437	517	630	676	647	533	592
pH	---	---	---	---	7.13	7.61	7.33	7.15	7.49	7.34	6.94	6.98	7.02	7.22	7.65
Dissolved Oxygen (mg/L)	---	---	---	---	45.7	26.8	63.2	29.5	44.6	71.4	61.2	52.9	22.4	6.6	36.3
ORP (mV)	---	---	---	---	56.9	42.9	64.1	43.5	43.5	47.8	61.2	69.3	37.5	38.4	76.8
Turbidity (NTU)	---	---	---	---	79.1	5.63	118	12.2	113	290	44.7	2.69	2.27	1.27	0.32
Dissolved Ferrous Iron (mg/L)	---	---	---	---	0.22	0.00	0.11	0.00	0.15	0.00	0.25	0.00	0.08	0.00	0.00
Nitrate (mg/L)	---	---	---	---	0.2	1.3	0.78	5.8	0.34	0.26	1.9	0.2	1.6	0.15	0.65
Sulfate (mg/L)	---	---	---	---	46	45	6.2	27	0.99	32	61	46	99	63	51
TOC (mg/L)	---	---	---	---	ND	ND	0.93	ND	0.6	ND	ND	ND	ND	ND	ND
SWMU 49 Eighteenth Quarter (January 2020) Water Quality Parameters															
Temperature (°C)	11.15	11.75	11.58	11.97	6.72	10.74	11.59	11.58	11.06	11.59	10.97	14.51	12.73	13.08	13.19
Specific Conductivity (mS/cm)	190	491	357	764	521	537	454	357	464	454	670	679	597	319	645
pH	7.87	6.74	7.37	6.93	7.07	7.32	7.21	7.37	7.6	7.21	7.09	6.93	7.01	6.76	7.49
Dissolved Oxygen (mg/L)	10.88	7.6	6.74	3.82	3.57	4.14	6.94	6.74	6.52	6.94	5.5	5.38	5.62	9.25	2.26
ORP (mV)	39.5	65.9	79.4	88.7	126.5	107.9	88.7	79.4	73	88.7	54.6	84.7	79.4	74.5	93.1
Turbidity (NTU)	31.2	6.86	62.4	30.5	353	37.2	NA	62.4	NA	NA	463	8.95	3.42	7.26	1.79
Dissolved Ferrous Iron (mg/L)	0.07	0.02	0.25	0.16	0.08	0.00	0.34	0.04	0.30	0.00	0.17	0.00	0.00	0.05	0.00
Nitrate (mg/L)	1.1	0.6	1	0.29	1.1	1.8	0.75	0.75	0.71	0.37	0.29	0.65	1.9	0.78	0.46
Sulfate (mg/L)	1.5	52	2.6	92	76	56	4	3.7	3.7	0.88	17	54	110	29	55
TOC (mg/L)	ND	ND	ND	ND	0.88	ND	ND	ND	ND	ND	ND	ND	ND	ND	ND
SWMU 49 Nineteenth Quarter (April 2020) Water Quality Parameters															
Temperature (°C)	---	---	---	---	13.6	14.3	15.8	12.1	14.6	13.3	12.3	14.2	12.9	13.2	14.4
Specific Conductivity (mS/cm)	---	---	---	---	796	386.2	387.2	678	358	531	615	550	418	252.9	485.3
pH	---	---	---	---	6.85	7.68	7.35	7.12	7.59	7.32	6.99	7.05	6.91	6.79	7.38
Dissolved Oxygen (mg/L)	---	---	---	---	0.18	5.81	7.52	5.93	5.46	2.63	8.41	12.87	6.93	7.4	6.09
ORP (mV)	---	---	---	---	85.2	92.8	111.9	96.8	100.7	97.8	95.1	110.8	109.3	88.9	112.8
Turbidity (NTU)	---	---	---	---	39.36	0.37	435.6	0.83	180.7	153.2	210	7.51	1.25	41.93	-0.62
Dissolved Ferrous Iron (mg/L)	---	---	---	---	0.19	0.00	0.28	0.00	0.18	0.00	0.22	0.00	0.03	0.00	0.00
Nitrate (mg/L)	---	---	---	---	5.1	1.7	0.93	6.2	0.38	0.31	2.4	0.26	1.6	0.15	0.44
Sulfate (mg/L)	---	---	---	---	190	47	6.1	29	1.1	17	68	39	99	63	54
TOC (mg/L)	---	---	---	---	1.3	ND	0.62	ND	ND	ND	0.59	0.71	ND	ND	6.3
SWMU 49 Twentieth Quarter (July 2020) Water Quality Parameters															
Temperature (°C)	---	---	---	---	14.5	17.7	14.8	14.7	15.3	13.42	14.4	17.6	18.4	15.4	18.9
Specific Conductivity (mS/cm)	---	---	---	---	864	579	492.4	682	458	517	630	775	619	429.5	647
pH	---	---	---	---	7.58	7.79	7.28	7.01	7.75	7.34	7.01	6.97	6.83	6.68	9.2
Dissolved Oxygen (mg/L)	---	---	---	---	0.72	3.59	7.75	3.02	5.19	7.14	4.97	7.15	4.12	2.49	4.31
ORP (mV)	---	---	---	---	118.5	142	159.1	169.2	170.4	47.8	124	186	163.1	133.2	171.3
Turbidity (NTU)	---	---	---	---	37.76	48.35	90.23	4	175.2	290	70.23	69.32	2.9	16.45	1.54
Dissolved Ferrous Iron (mg/L)	---	---	---	---	0.22	0.06	0.31	0.08	0.18	0.00	0.23	0.00	0.05	0.03	0.00
Nitrate (mg/L)	---	---	---	---	3.2	2.1	0.73	5.3	0.26	0.18	2.2	0.32	1.5	0.72	0.4
Sulfate (mg/L)	---	---	---	---	130	65	5.8	25	1.5	16	62	51	15	28	54
TOC (mg/L)	---	---	---	---	ND	ND	ND	ND	ND	ND	ND	0.91	ND	ND	ND

Notes:
ºC = degrees Celsius
mg/L = milligrams per liter
mS/cm = millisiemens per centimeter
mV = millivolt
NA = not applicable
ND = non-detect
NTU = Nephelometric Turbidity Unit
SWMU = Solid Waste Management Unit

Aerobic/Anaerobic Indicators:
DO = anaerobic < 1 mg/L > aerobic
ORP = highly reducing, anaerobic conditions < -200 mV ≤ mildly reducing anaerobic +50 mV ≥ aerobic

Figure 6-1 SWMU 49 Seventeenth Quarter CT to Chloroform Correlation

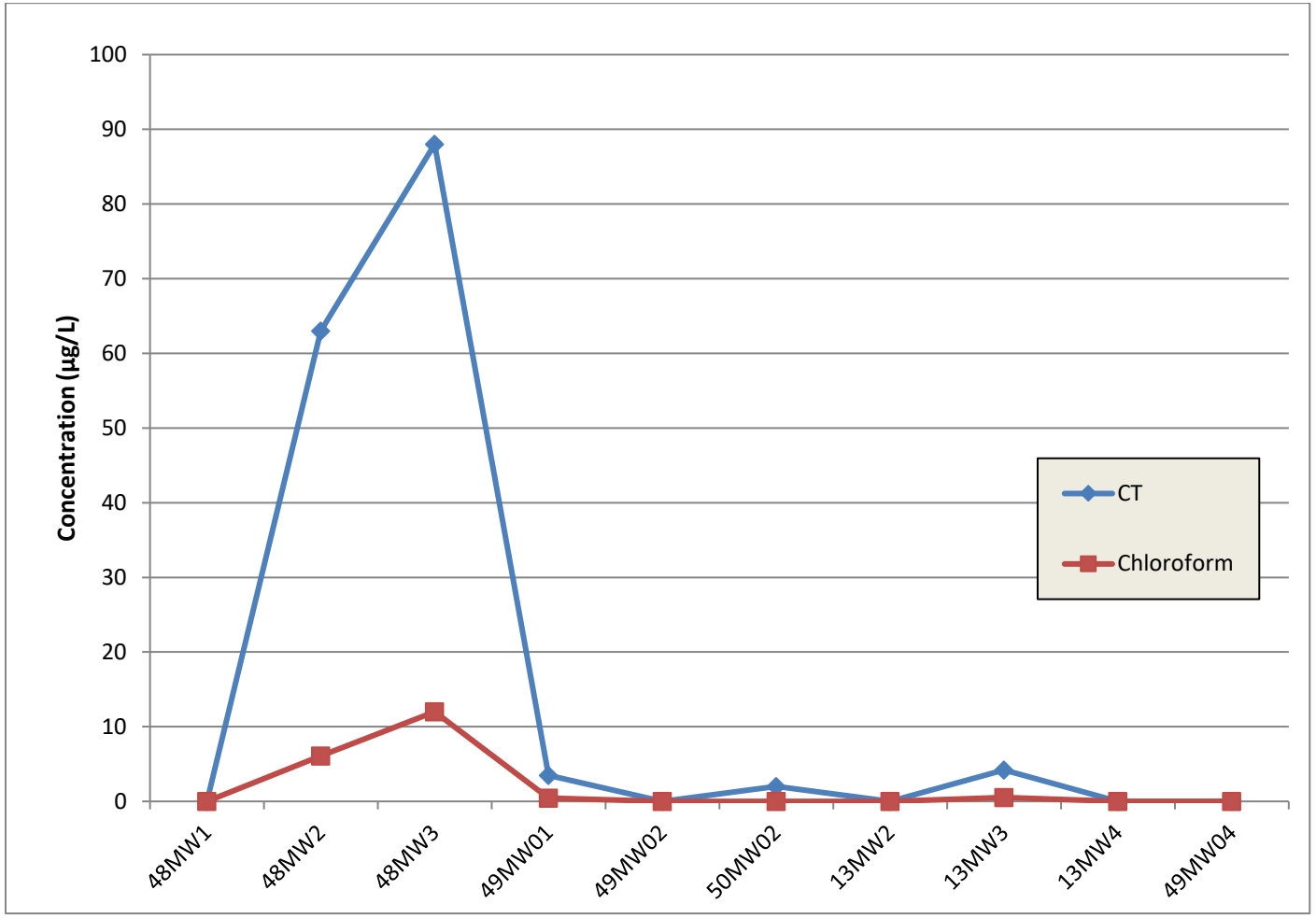


Figure 6-2 SWMU 49 Seventeenth Quarter TCE to cis-1,2-DCE Correlation

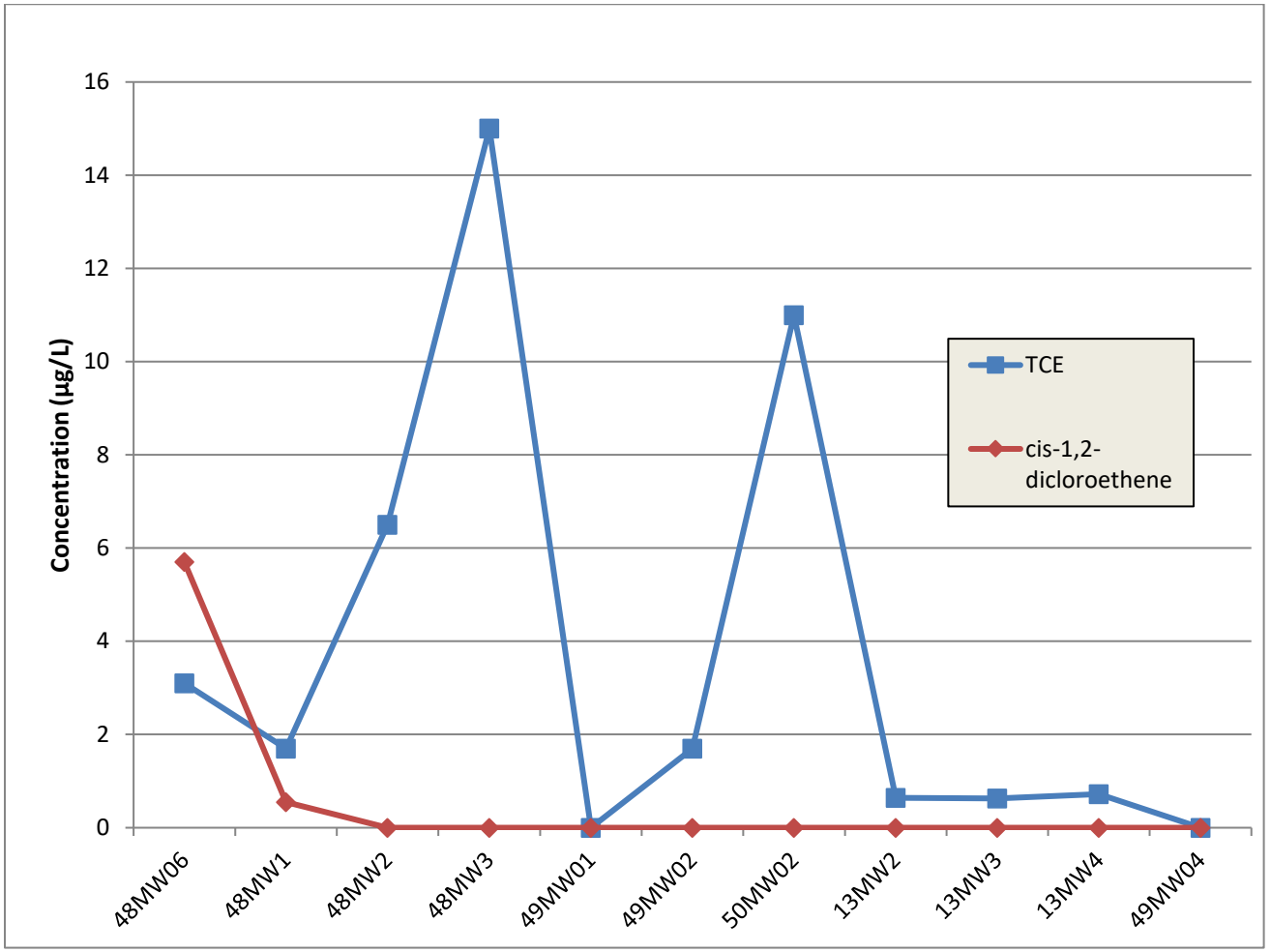


Figure 6-3 SWMU 49 Eighteenth Quarter CT to Chloroform Correlation

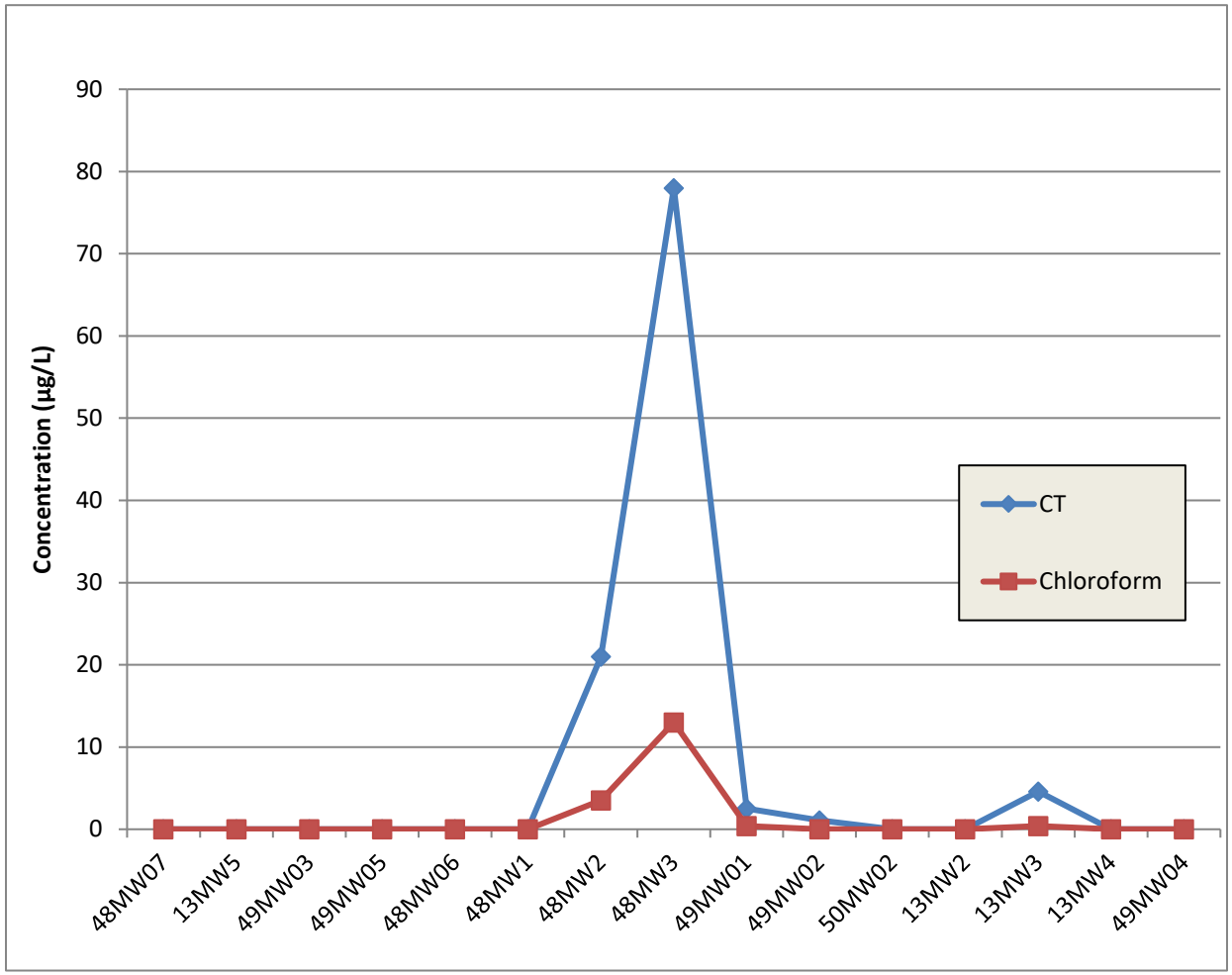


Figure 6-4 SWMU 49 Eighteenth Quarter TCE to cis-1,2-DCE Correlation

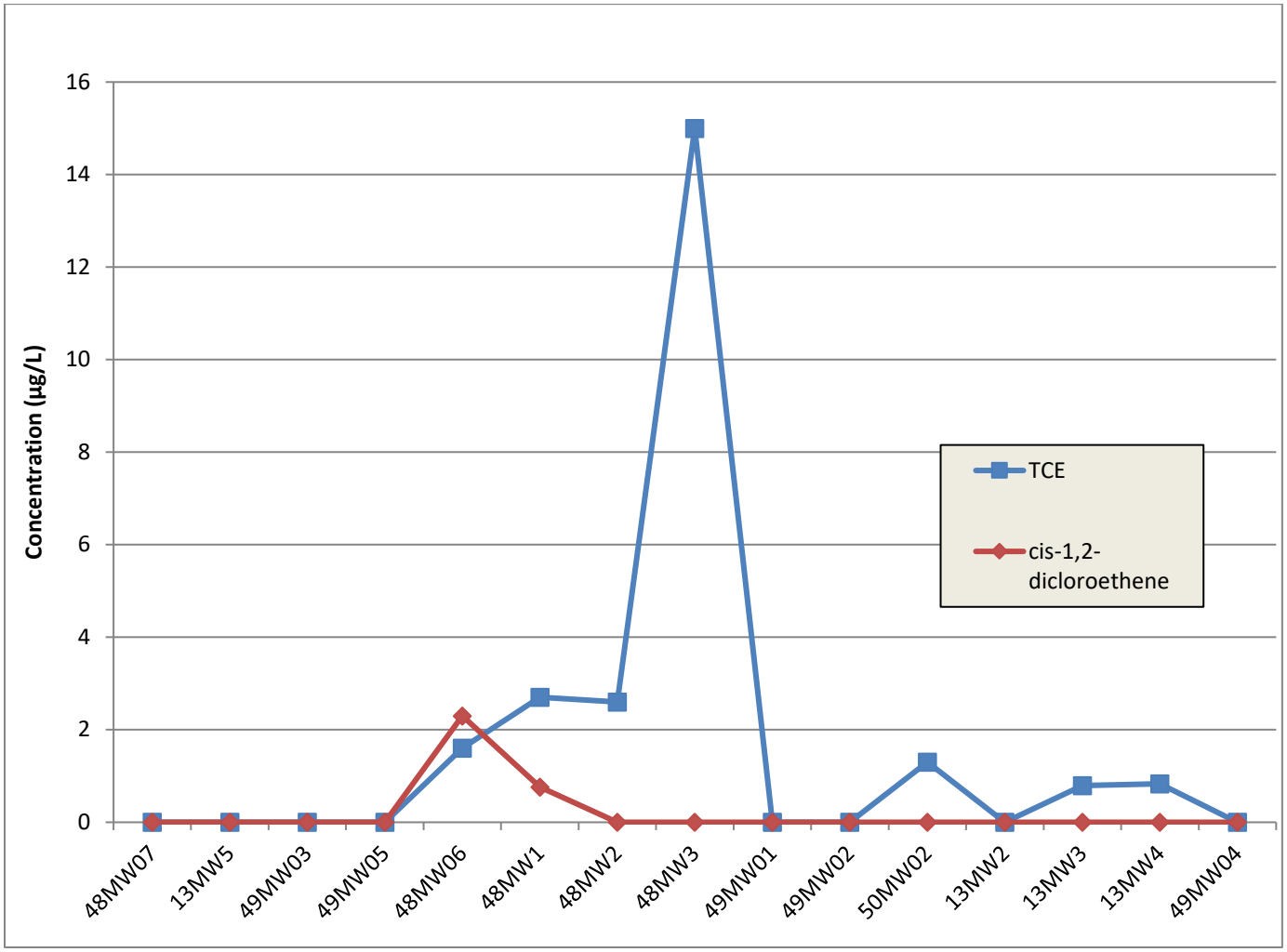


Figure 6-5 SWMU 49 Nineteenth Quarter CT to Chloroform Correlation

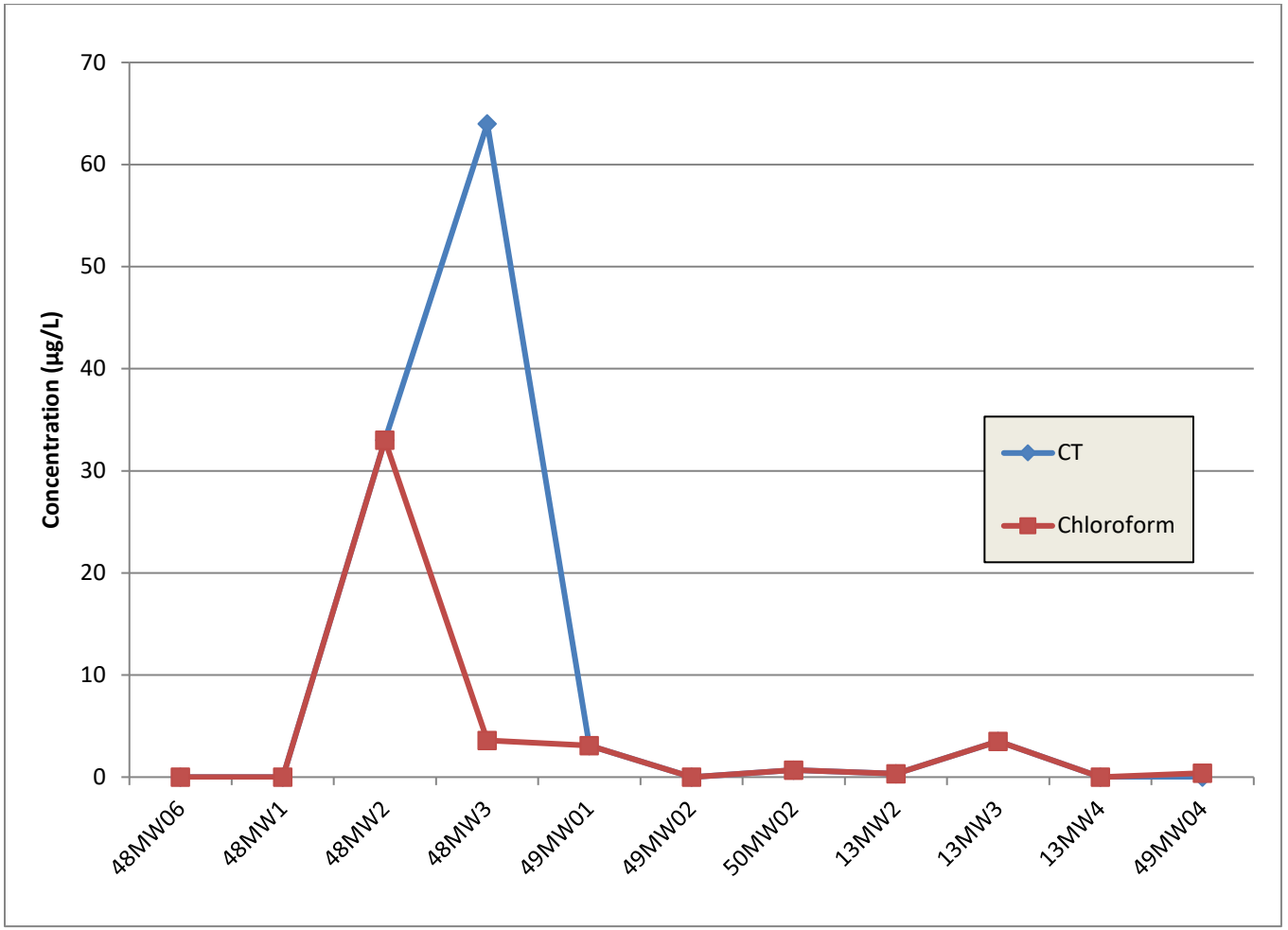


Figure 6-6 SWMU 49 Nineteenth Quarter TCE to cis-1,2-DCE Correlation

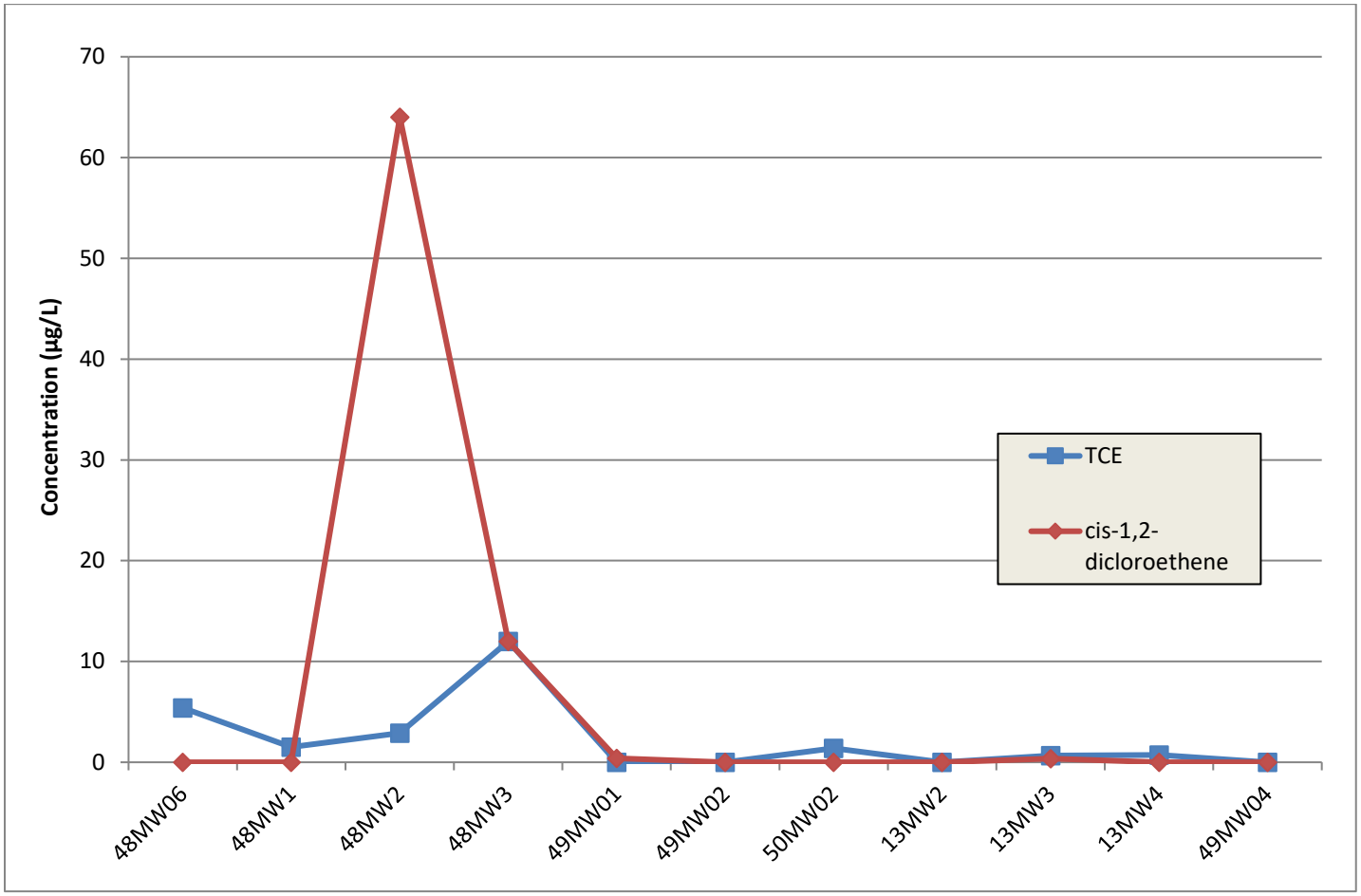


Figure 6-7 SWMU 49 Twentieth Quarter CT to Chloroform Correlation

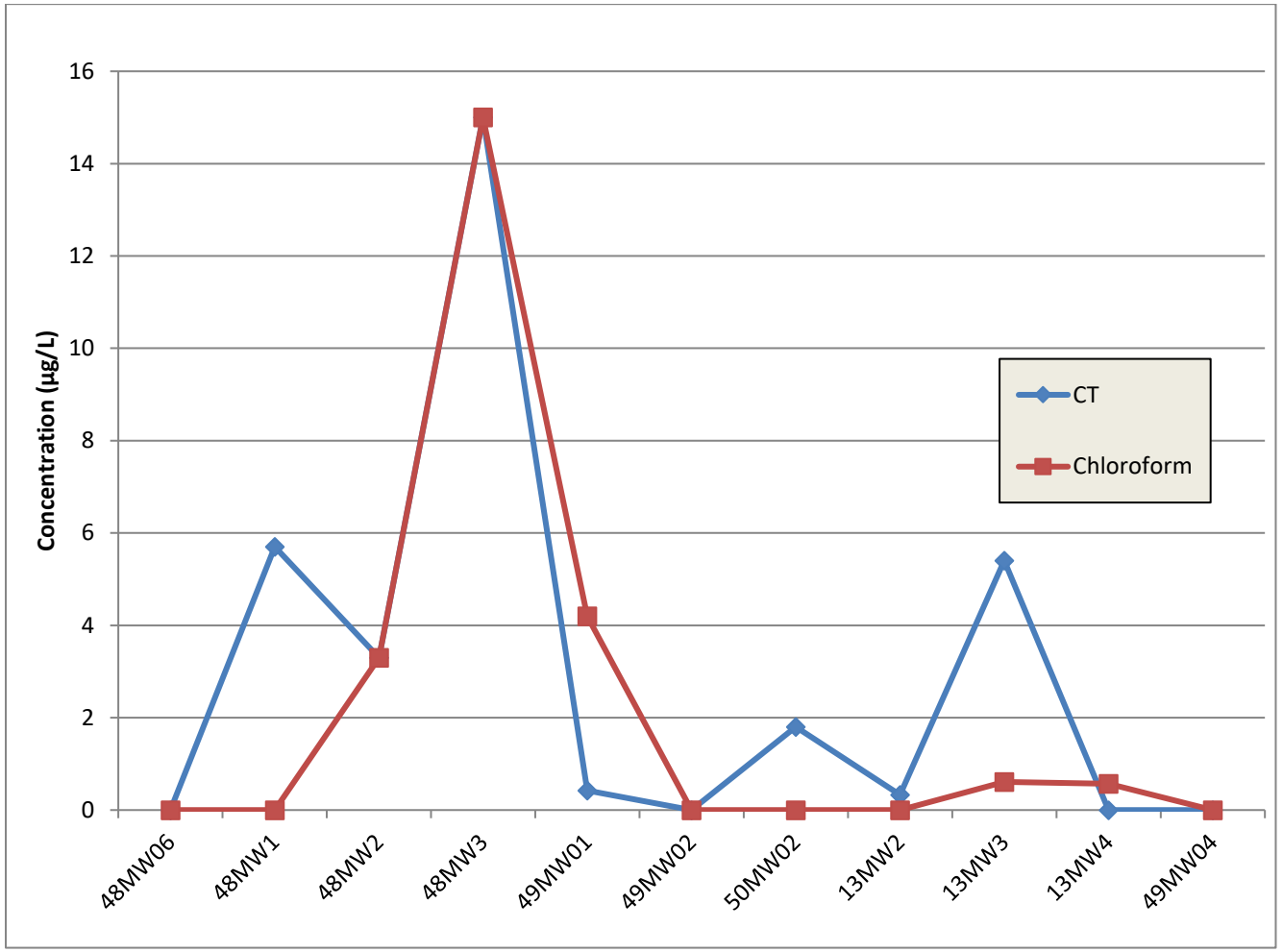


Figure 6-8 SWMU 49 Twentieth Quarter TCE to cis-1,2-DCE Correlation

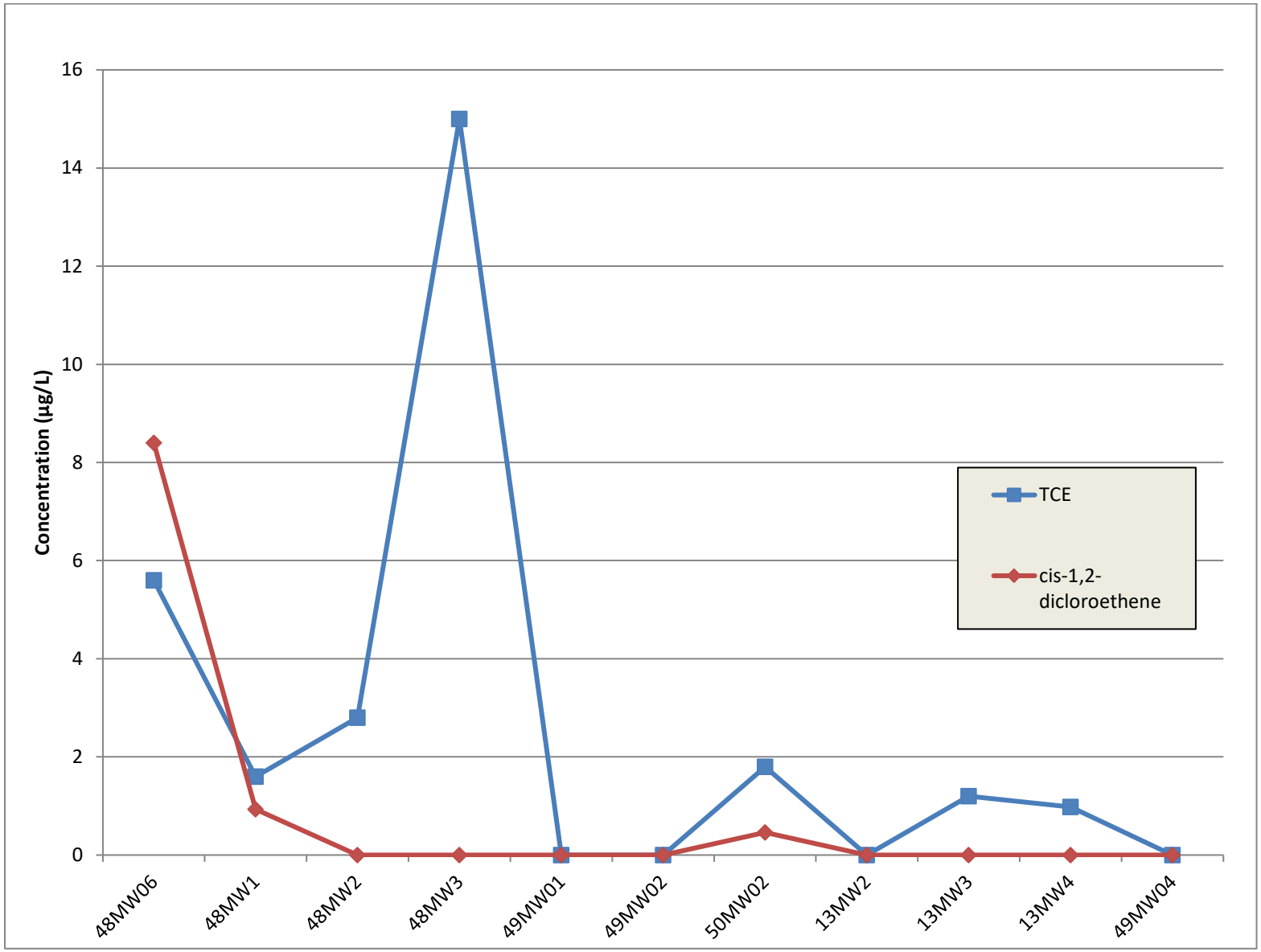


Figure 6-9 CT and Chloroform Concentration Trends Relative to Specific Conductivity 48MW2 and 48MW3

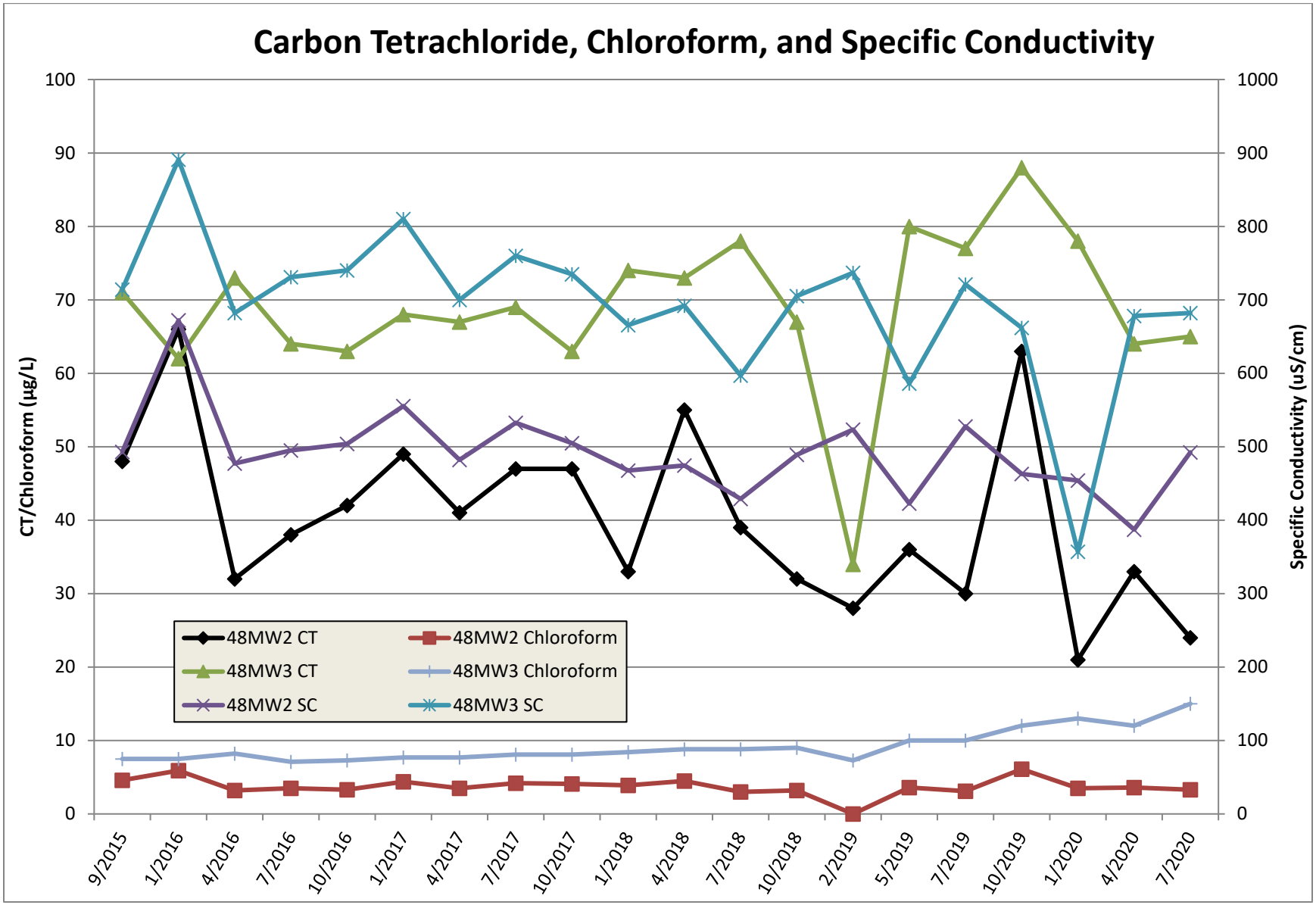


Figure 6-10 TCE and cis-1, 2-DCE Concentration Trends Relative to Specific Conductivity 48MW2 and 48MW3

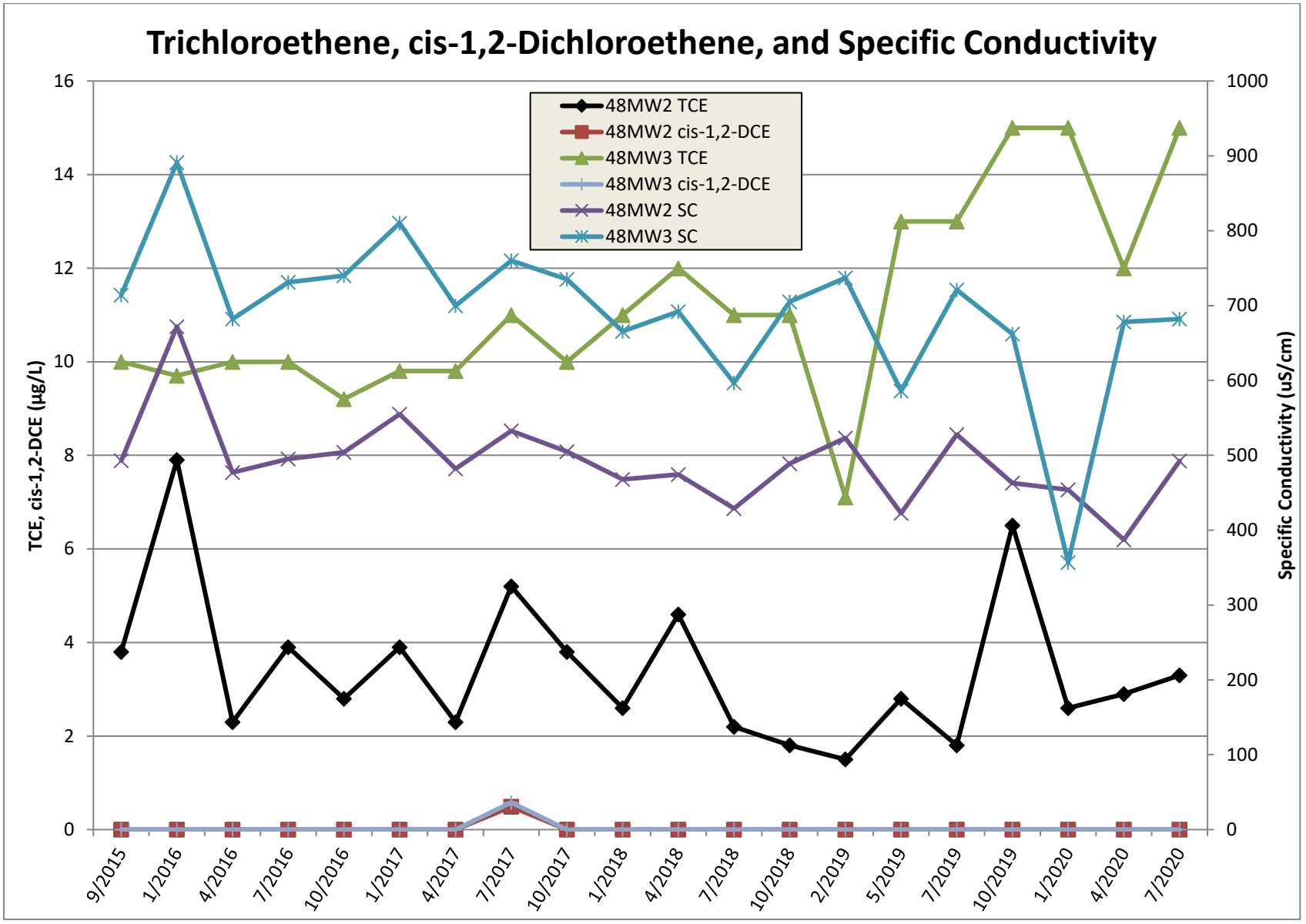


Figure 6-11 48MW2 MNA Indicators Years One, Two, Three, Four, and Five

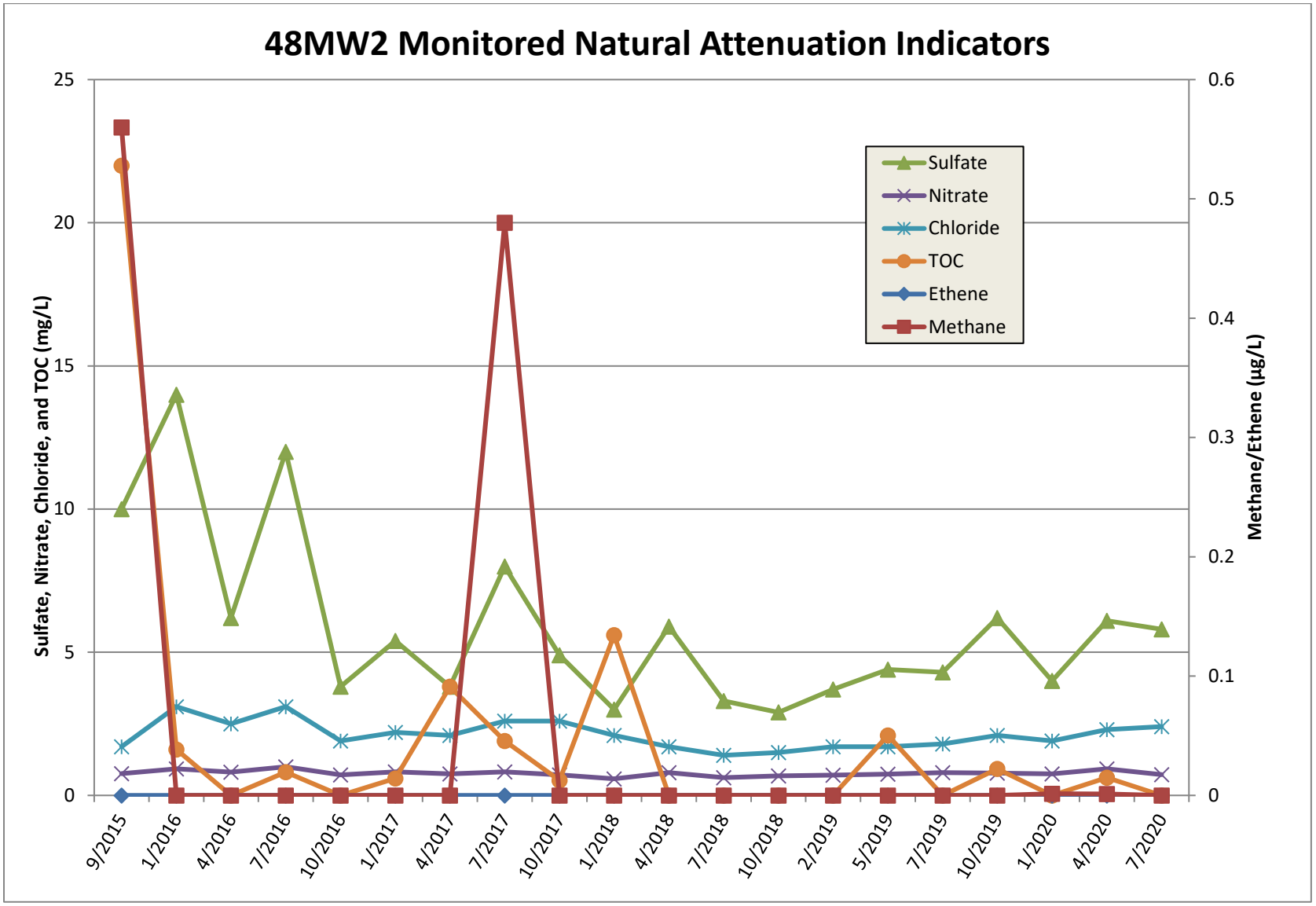


Figure 6-12 48MW3 MNA Indicators Years One, Two, Three, Four, and Five

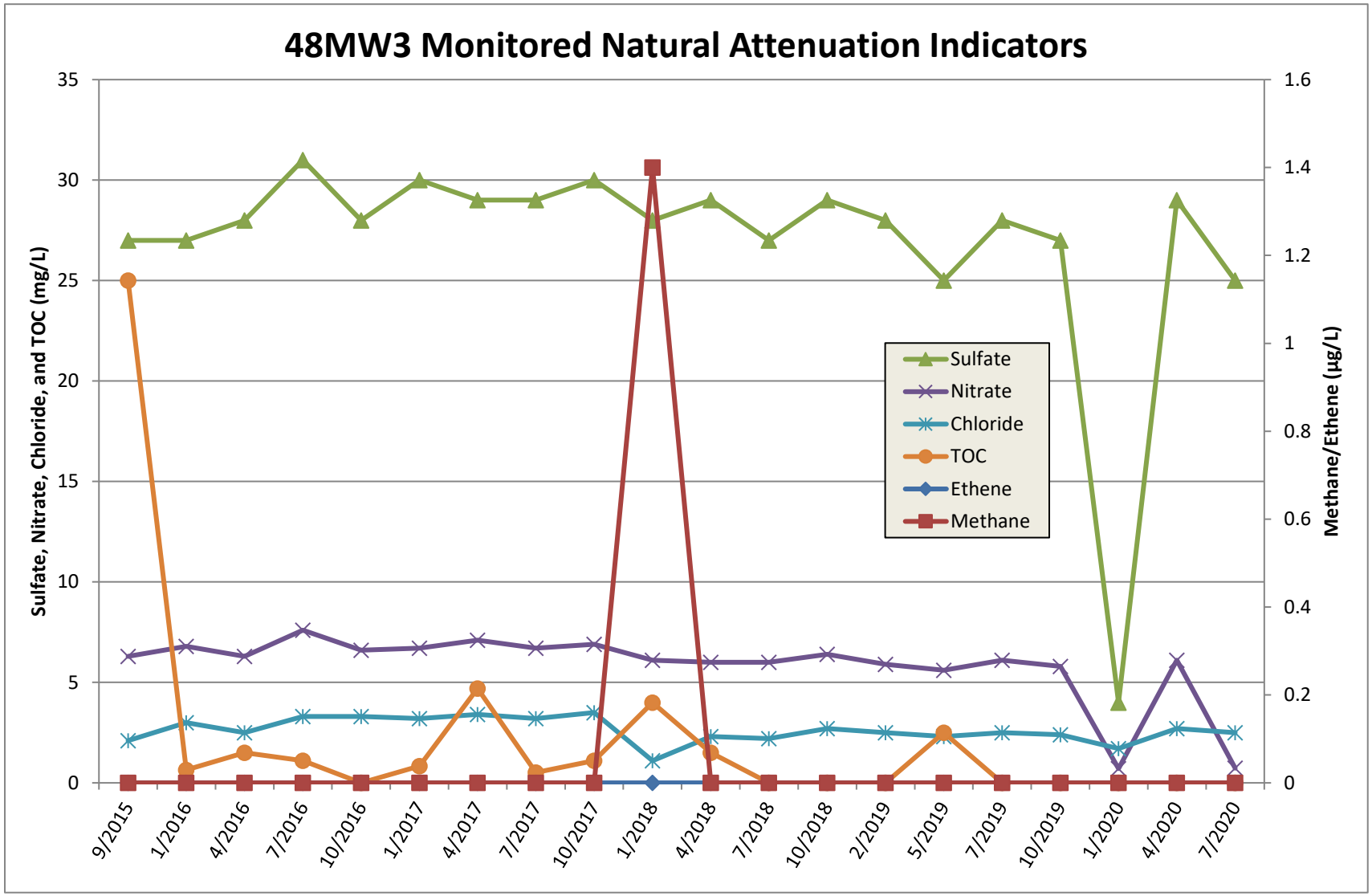
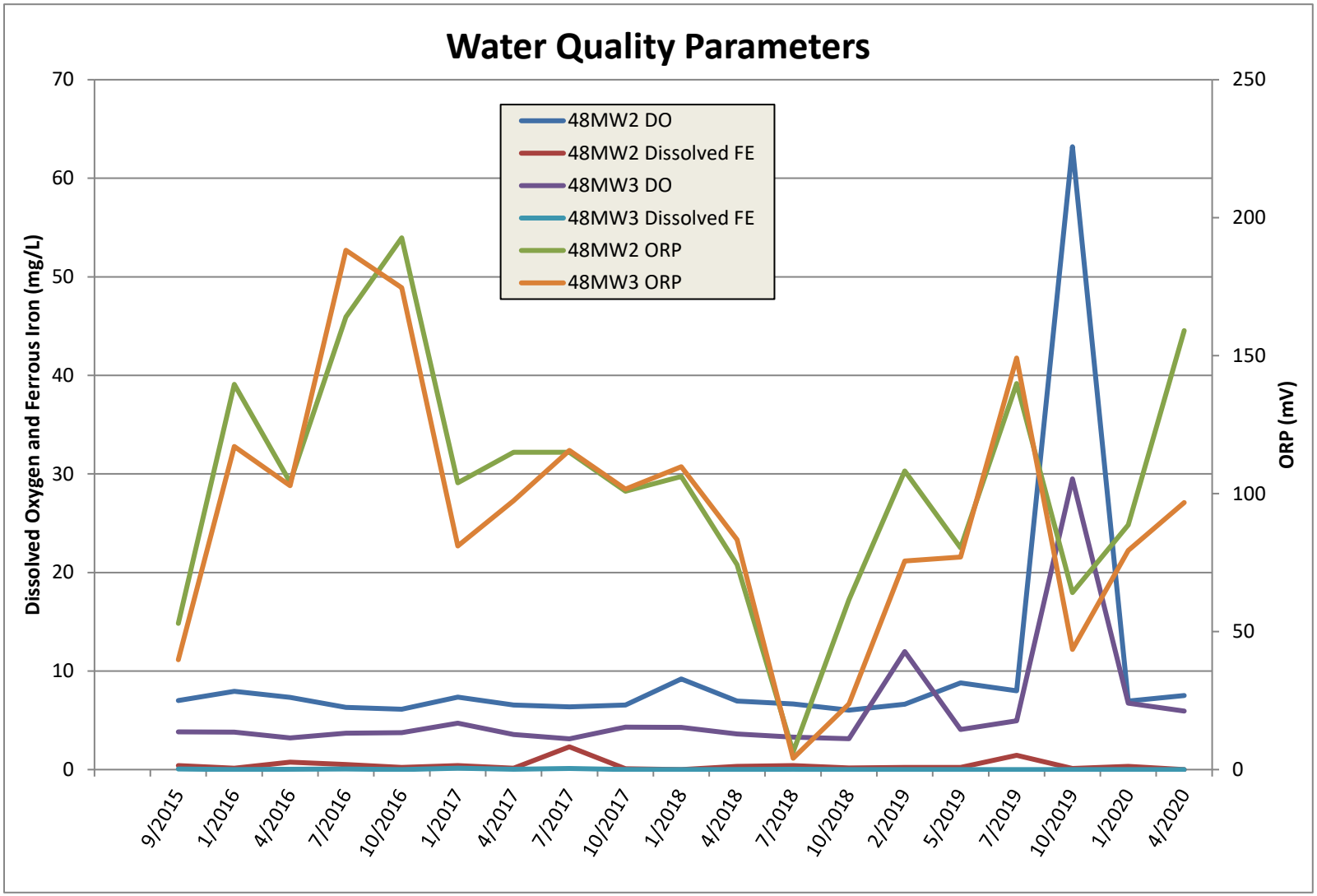


Figure 6-13 Water Quality Parameters 48MW2 and 48MW3 Years One, Two, Three, Four, and Five



7. SUMMARY AND CONCLUSIONS

Eleven groundwater monitoring wells were sampled on a quarterly basis during the Year Five MNA monitoring at SWMU 49, and four more were sampled on an annual basis at the beginning of the year. The four quarters of sample data suggest that CT and TCE concentrations are fairly stable at SWMU 49 with relatively mild fluctuations, however, CT and TCE remain in exceedance of the remedial goals. The CT contaminant plume remains centered around monitoring wells 48MW2 and 48MW3, although detections were observed downgradient along the New River at 13MW3 during all four quarters. TCE was detected in all four quarters at monitoring wells 48MW06, 48MW1 (located adjacent to 48MW06), and 50MW02 all well below the RG, however, at 48MW3 detections of TCE were above the RG during all four quarters in Year Five. Further, TCE was detected in all four quarters at monitoring wells 13MW3 and 13MW4, which are located down gradient and adjacent to the New River.

Based on the presence of chloroform in wells where CT was observed, it appears that the VOC is continuing to degrade. Chloroform was not detected in any wells where CT went undetected. Chloroform went undetected in 49MW04 where CT was detected all four quarters (0.26 µg/L to 0.78 µg/L). The data suggests that MNA processes may still be decreasing mass; as such, the CT plume does not appear to be expanding. The CT plume does fluctuate between 3.5 in quarters seventeen and twenty to 3.0 acres in quarters eighteen and nineteen, however, as demonstrated in the quarterly shifts in the size of the area still exceeding the RG. The data suggest that the correlation of cis-1,2-DCE to TCE is not as prevalent as an indicator of degradation. However, TCE levels remained consistent at all wells with observed concentrations suggesting that the plume is not expanding. As with the CT plume, the TCE plume decreased from 1.0 acres in quarters seventeen and eighteen to 0.6 acres in quarters nineteen and twenty, however, as demonstrated by the size of the area, still exceeds the RG. A notable trend at monitoring wells 48MW2 and 48MW3 where the TCE and CT concentrations mirror each other and are trending in consistent patterns at each well (refer to **Figures 6-9** and **6-10**).

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

- Presence of chloroform suggests that degradation is occurring, which may be aiding in removing CT mass in the groundwater.

- The breakdown product, cis-1,2-DCE, is present at the site, although no substantive correlation continues to exist with TCE. TCE concentrations remain relatively stable across the site, although there were slight fluctuations at 48MW3 and 48MW06, suggesting that TCE continues to remain present on site, while there is some breakdown.

- Geochemical parameters also indicate that groundwater conditions are primarily aerobic (based on DO and ORP levels) and that pH and TOC levels are adequate to promote microbial degradation. Overall ferrous iron, nitrate, and sulfate concentrations do not appear to favor conditions to support degradation. However, conditions still appear to be trending toward a favorable environment for microbial degradation.

- Based on the MNA results presented in the SWMU 49 MNA Sampling Baseline Report (CB&I, 2015), other MNA processes including sorption, dilution, dispersion, and chemical stabilization are occurring in groundwater at the SWMU 49 study area. Conditions appear favorable that these processes will not significantly change or diminish and will continue to contribute to attenuation of the contaminants at SWMU 49.

- Because the groundwater flow pattern is consistent with the historical pattern, the monitoring well network appears adequate to monitor MNA at SWMU 49.

- The following constituents were approved to be removed from the sampling program per the March 10, 2020, Department of Environmental Quality approval letter of the Final SWMU 49 Monitored Natural Attenuation Sampling Year Four Report, February 2020 due to the absence of detections for two consecutive years (July 2017 through July 2019). However, they were inadvertently carried over into the Year Five Report field effort. They went undetected again for another year, confirming the earlier recommendation and approval to remove them. Consistent with the March 10, 2020, approval, note that the following constituents will be not monitored in future efforts.

  a. Acetone
  b. Bromoform
  c. Bromomethane
  d. Dibromochloromethane
  e. Ethylbenzene
  f. m- & p-Xylene
  g. o-Xylene

- Based on the consistency of the data and the fact that quarterly monitoring has been conducted for a full 5 years, it is our recommendation that groundwater monitoring be reduced to a semiannual basis (October and April) at the fifteen monitoring well locations. Semiannual monitoring would provide sufficient data for continued assessment of contaminant concentrations and MNA performance. It is also recommended that the analytical suite of TCL VOCs, dissolved gases, and MNA indicator parameters continue to be tested.

8. REFERENCES

BSEn (Bering Sea Environmental, LLC). 2020. *SWMU 49 Monitored Natural Attenuation Sampling Year Four Report*. Radford Army Ammunition Plant, Virginia. Final Report. February.

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

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

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

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

DoD (U.S. Department of Defense). 2013. *Quality Systems Manual (QSM) for Environmental Laboratories, DoD Quality Systems Manual Version 5.0*. July.

ITRC (Interstate Technology and Regulatory Council) (In Situ Bioremediation Work Team). 1999. *Natural Attenuation of Chlorinated Solvents in Groundwater: Principles and Practices*. Interstate Technology and Regulatory Council, Washington, DC. September.

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

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

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

USATHAMA (U.S. Army Toxic and Hazardous Materials Agency). 1987. *RCRA Facility Assessment of Radford Army Ammunition Plant.*

USACE (U.S. Army Corps of Engineers). 1999. *Monitored Natural Attenuation of Explosives in Groundwater – Environmental Security Technology Certification Program Completion Report.* Technical Report EL-99-7. By Judith C. Pennington, Mansour Zakikhani, Danny W. Harrelson. March.

USEPA (U.S. Environmental Protection Agency). 1998. *Technical Protocol for Evaluating Natural Attenuation of Chlorinated Solvents in Ground Water.* September.

USEPA. 2000. *Permit for Corrective Action and Waste Minimization*: Pursuant to the Resource Conservation and Recovery Act as Amended by the Hazardous and Solid Waste Amendment of 1984, Radford Army Ammunition Plant, Radford, Virginia. VA1210020730.

USEPA. 2018. *2018 Edition of the Drinking Water Standards and Health Advisory Tables.* March.

USEPA. 2019. *Regional Screening Level (RSL) Summary Table (TR=1E-06, HQ=1).* November.

VDEQ (Virginia Department of Environmental Quality). 2020. *Re: Final SWMU 49 Monitored Natural Attenuation Sampling Year Four Report*. Radford Army Ammunitions Plan. Letter. March.

APPENDIX A-1
FIELD SAMPLING FORMS

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 13MW2
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 15-Oct-19 | SAMPLE TIME: 1305

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 22.06 (FT) | WELL DEPTH 30 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1245	23.56	300	0	15.85	686	7.4	88.3	103.2	14.6	
1255	23.56	300	2	16.17	677	6.98	78.5	56.2	2.58	
1305	23.56	300	4	16.22	676	6.98	69.3	52.9	2.69	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 16.22 (°C) | ORP: 69.3 (MV) | COMMENTS: 0.0 PID reading
SPECIFIC CONDUCTANCE: 676 (uS/cm) | DO: 52.9 (mg/L) | MS/MSD
pH: 6.98 (S.U.) | TURBIDITIY: 2.69 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL: 30

WEATHER CONDITIONS: 60s, Partly Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP PROJECT # 03886.552.500.2110 WELL ID 13MW2
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor DATE: 29-Jan-20 SAMPLE TIME: 1200

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing PURGING DEVICE Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 25.31 (FT) WELL DEPTH 30.5 (FT) Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1135	26.05	150	0	13.65	675	7.12	81.4	7.41	17.9	
1145	26.05	150	2	14.47	679	6.89	82.4	5.47	10.2	
1155	26.05	150	5	14.49	679	6.91	84.3	5.39	9.04	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.51 (°C) ORP: 84.7 (MV) COMMENTS:
SPECIFIC CONDUCTANCE: 679 (uS/cm) DO: 5.38 (mg/L)
pH: 6.93 (S.U.) TURBIDITIY: 8.95 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME: Radford AAP | PROJECT #: 03886.552.500 | WELL ID: 13MW2
LOCATION: Radford VA
SAMPLING CREW: Bounds/Taylor | DATE: 27-Apr-20 | SAMPLE TIME: 1325

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing — PURGING DEVICE: Peristaltic Pump
TIC / TOC
WELL COMPLETION (CIRCLE): Flush / Stick-up

INITIAL DEPTH TO WATER: 20.14 (FT) | WELL DEPTH: 30.05 (FT) | Well Diameter: 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1255	20.28	180	0	14.3	555	7.25	107.4	11.99	3.73	
1305	20.28	180	2	14.3	552	7.07	106.7	12.01	4.9	
1315	20.28	180	4	14.3	551	7.08	108.3	11.83	6.15	
1325	20.28	180	6	14.2	550	7.05	110.8	12.87	7.51	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE:	14.2	(°C)	ORP:	110.8	(MV)	COMMENTS:	0.0 PID reading
SPECIFIC CONDUCTANCE:	550	(uS/cm)	DO:	12.87	(mg/L)	MS/MSD	
pH:	7.05	(S.U.)	TURBIDITIY:	7.51	(NTU)		

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s, Partly Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 13MW2

LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 20-Jul-20 | SAMPLE TIME: 1415

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE Peristaltic Pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 20.8 (FT) | WELL DEPTH 30.5 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1345	20.87	200	0	16.1	776	8.69	114.8	7.41	24.12	
1355	21.1	200	2	16.1	771	9.23	175.8	8.11	19.72	
1405	21.35	200	4	16.2	774	9.01	181.4	7.52	40.65	
1415	21.62	200	6	17.6	775	6.97	186	7.15	69.32	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 17.6 (°C) | ORP: 186 (MV) | COMMENTS: 0.0 PID reading

SPECIFIC CONDUCTANCE: 775 (uS/cm) | DO: 7.15 (mg/L) | MS/MSD

pH: 6.97 (S.U.) | TURBIDITIY: 69.32 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL: 30.5

WEATHER CONDITIONS: Sunny, low 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 13MW3
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 15-Oct-19 | SAMPLE TIME: 1440

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 15.58 (FT) | WELL DEPTH 15.7 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1410	15.63	300	0	17.43	663	7.42	46.3	85.1	7.86	
1420	15.63	300	2	17.17	661	7.05	22.3	16	3.96	
1430	15.63	300	4	17.25	645	7.05	29.4	14.7	3.06	
1440	15.63	300	6	17.28	647	7.02	37.5	22.4	2.07	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 17.28 (°C) | ORP: 37.5 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 647 (uS/cm) | DO: 22.4 (mg/L) | Duplicate (13TW3)
pH: 7.02 (S.U.) | TURBIDITIY: 2.27 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 15.7

WEATHER CONDITIONS: 60s Partly Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 13MW3
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 28-Jan-20 | SAMPLE TIME: 1440

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 14.29 (FT) | WELL DEPTH 22.35 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1415	14.42	120	0	12.19	588	6.78	91.7	15.33	8.06	
1425	14.42	120	2	12.55	597	6.97	81.1	6.27	5.25	
1435	14.42	120	4	12.78	597	6.99	79.9	5.68	3.57	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 12.73 (°C) | ORP: 79.4 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 597 (uS/cm) | DO: 5.62 (mg/L)
pH: 7.01 (S.U.) | TURBIDITIY: 3.42 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 13MW3
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 27-Apr-20 | SAMPLE TIME: 1125

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 13.42 (FT) | WELL DEPTH 15.7 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1055	13.62	180	0	12.9	418.6	6.94	106.8	6.89	0.84	
1105	13.64	180	2	12.9	418.2	6.91	107.3	7.11	0.68	
1115	13.64	180	4	12.9	418	6.91	108.1	7.01	0.63	
1125	13.64	180	6	12.9	418.4	6.91	109.3	6.93	1.25	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 12.9 (°C) | ORP: 109.3 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 418.4 (uS/cm) | DO: 6.93 (mg/L) | Duplicate (13TW3)
pH: 6.91 (S.U.) | TURBIDITIY: 1.25 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s Partly Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP PROJECT # 03886.552.500 WELL ID 13MW3
LOCATION Radford VA

SAMPLING CREW Bounds/Ewald DATE: 20-Jul-20 SAMPLE TIME: 1230

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 15.05 (FT) WELL DEPTH 22.5 (FT) Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1200	15.05	200	0	17.7	621	7.04	159.3	3.75	36.7	
1210	15.05	200	2	17.9	620	6.83	162	4.21	16.38	
1220	15.05	200	4	18.4	620	6.83	163.1	4.2	4.4	
1230	15.05	200	6	18.4	619	6.83	163.1	4.12	2.9	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 18.4 (°C) ORP: 163.1 (MV) COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 619 (uS/cm) DO: 4.12 (mg/L) Duplicate (13TW3)
pH: 6.83 (S.U.) TURBIDITIY: 2.9 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor TOTAL DEPTH OF WELL: 22.5

WEATHER CONDITIONS: Sunny, low 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 13MW4

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 15-Oct-19 | SAMPLE TIME: 1520

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 17.67 (FT) | WELL DEPTH 25.35 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1500	17.83	300	0	17.14	566	7.2	46	72.8	3.12	
1510	17.83	300	2	17.3	554	7.15	48.4	8.8	1.28	
1520	17.83	300	4	17.41	533	7.22	38.4	6.6	1.27	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 17.41 (°C) | ORP: 38.4 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 533 (uS/cm) | DO: 6.6 (mg/L)

pH: 7.22 (S.U.) | TURBIDITIY: 1.27 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 25.35

WEATHER CONDITIONS: 60s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP PROJECT # 03886.552.500.2110 WELL ID 13MW4
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor DATE: 28-Jan-20 SAMPLE TIME: 1400

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 14.74 (FT) WELL DEPTH 24.5 (FT) Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1335	14.82	150	0	12.34	345	6.8	81.4	17.93	12.4	
1345	14.82	150	2	13.19	330	6.82	69.8	8.51	11.3	
1355	14.82	150	4	13.11	324	6.76	73.3	9.06	7.97	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.08 (°C) ORP: 74.5 (MV) COMMENTS:
SPECIFIC CONDUCTANCE: 319 (uS/cm) DO: 9.25 (mg/L)
pH: 6.76 (S.U.) TURBIDITIY: 7.26 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME: Radford AAP | PROJECT #: 03886.552.500 | WELL ID: 13MW4
LOCATION: Radford VA
SAMPLING CREW: Bounds/Taylor | DATE: 28-Jan-20 | SAMPLE TIME: 1015

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing — PURGING DEVICE: GeoTech Peristaltic Pump
TIC / TOC
WELL COMPLETION (CIRCLE): Flush / Stick-up

INITIAL DEPTH TO WATER: 15.09 (FT) | WELL DEPTH: 25.35 (FT) | Well Diameter: 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
945		140	0	13.1	256.3	7.24	87	7.3	48.18	
955		140	2	13.2	254.3	6.86	79.2	7.56	44.2	
1005		140	4	13.3	254.3	6.81	84.1	7.51	43.74	
1015		140	6	13.2	252.9	6.79	88.9	7.4	41.93	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.2 (°C) | ORP: 88.9 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 252.9 (uS/cm) | DO: 7.4 (mg/L)
pH: 6.79 (S.U.) | TURBIDITIY: 41.93 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 13MW4

LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 20-Jul-20 | SAMPLE TIME: 1140

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 16.41 (FT) | WELL DEPTH 25.3 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1100	16.43	200	0	15.3	486.4	7.03	127.5	1.36	25.58	
1110	16.43	200	2	15.2	482.7	6.83	124.1	1.08	39.2	
1120	16.43	200	4	15.4	473.1	6.8	122.9	1.76	20.9	
1130	16.43	200	6	15.2	414.5	6.8	126.9	1.37	26.55	
1140	16.43	200	8	15.4	429.5	6.68	133.2	2.49	16.45	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 15.4 (°C) | ORP: 133.2 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 429.5 (uS/cm) | DO: 2.49 (mg/L)

pH: 6.68 (S.U.) | TURBIDITIY: 16.45 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 25.3

WEATHER CONDITIONS: Sunnt, low 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 13MW5
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 28-Jan-20 | SAMPLE TIME: 1310

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 14.76 (FT) | WELL DEPTH 25.4 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1245	14.74	150	0	11.67	463	6.92	81.7	28.17	13	
1255	14.71	150	2	12.05	474	6.8	61.2	8.11	9.9	
1305	14.71	150	4	11.76	489	6.75	64.1	7.22	8.26	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.75 (°C) | ORP: 65.9 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 491 (uS/cm) | DO: 7.6 (mg/L)
pH: 6.74 (S.U.) | TURBIDITIY: 6.86 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW1

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 16-Oct-19 | SAMPLE TIME: 1625

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 108.52 (FT) | WELL DEPTH 147.3 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1555	108.58	150	0	13.83	432	7.75	91.5	202.8	42.8	
1605	108.58	150	2	13.45	444	7.58	73.9	47.7	12.8	
1615	108.58	150	4	13.32	450	7.57	51.5	28.1	7.35	
1625	108.58	150	6	13.33	432	7.61	42.9	26.8	5.63	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.33 (°C) | ORP: 42.9 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 432 (uS/cm) | DO: 26.8 (mg/L)

pH: 7.61 (S.U.) | TURBIDITIY: 5.63 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL: 147

WEATHER CONDITIONS: 50s, M Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 48MW1

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 30-Jan-20 | SAMPLE TIME: 915

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 108.21 (FT) | WELL DEPTH 145 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
830	108.29	100	0	9.29	482	6.46	263.3	7.04	94.8	
840	108.29	100	2	10.27	545	7.13	174.5	4.32	64.9	
850	108.29	100	4	10.67	545	7.27	127.9	4.28	37.5	
900	108.29	100	6	10.75	539	7.3	112.9	4.1	34.2	
910	108.29	100	8	10.74	537	7.32	107.9	4.14	37.2	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 10.74 (°C) | ORP: 107.9 (MV) | COMMENTS:

SPECIFIC CONDUCTANCE: 537 (uS/cm) | DO: 4.14 (mg/L)

pH: 7.32 (S.U.) | TURBIDITIY: 37.2 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW1
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 29-Apr-20 | SAMPLE TIME: 1110

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing — PURGING DEVICE: QED Bladder pump
TIC / TOC
WELL COMPLETION (CIRCLE): Flush / Stick-up

INITIAL DEPTH TO WATER 98.71 (FT) | WELL DEPTH 147.3 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1040	98.83	180	0	16.3	391.1	7.74	109.6	7.84	20.07	
1050	98.87	180	2	14.3	367.9	7.65	91.5	5.85	0.07	
1100	98.87	180	4	14.4	367.8	7.68	93	6.01	0.09	
1110	98.87	180	6	14.3	367.2	7.68	92.8	5.81	0.37	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.3 (°C) | ORP: 92.8 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 386.2 (uS/cm) | DO: 5.81 (mg/L)
pH: 7.68 (S.U.) | TURBIDITIY: 0.37 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s, Sunny, breezy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW1
LOCATION Radford VA

SAMPLING CREW Bounds.Ewald | DATE: 23-Jul-20 | SAMPLE TIME: 1015

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 98.45 (FT) | WELL DEPTH 144 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
945	98.45	150	0	18.3	534	8.8	129.5	6.48	85.7	
955	98.58	150	2	17.2	551	8.09	138.8	4.81	63.05	
1005	98.65	150	4	17.8	572	7.84	140.8	3.85	48.14	
1015	98.8	150	6	17.7	579	7.79	142	3.54	48.35	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 17.7 (°C) | ORP: 142 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 579 (uS/cm) | DO: 3.59 (mg/L)
pH: 7.79 (S.U.) | TURBIDITIY: 48.35 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL: 144

WEATHER CONDITIONS: Cloudy, 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW2

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 17-Oct-19 | SAMPLE TIME: 1450

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 124.04 (FT) | WELL DEPTH 138.3 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1400	124.42	150	0	13.97	479	7.41	53.8	201.5	ADL	
1410	124.42	150	2	13.47	478	7.24	61.9	69.1	654	
1420	124.42	150	4	13.4	475	7.29	101.5	63	292	
1430	124.42	150	6	13.38	470	7.31	62.3	63.5	170	
1440	124.42	150	8	13.42	466	7.32	62.9	62.2	129	
1450	124.42	150	10	13.39	4623	7.33	64.1	63.2	118	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.39 (°C) | ORP: 64.1 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 463 (uS/cm) | DO: 63.2 (mg/L)

pH: 7.33 (S.U.) | TURBIDITIY: 118 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: minor cloudy, no odor | TOTAL DEPTH OF WELL: 138

WEATHER CONDITIONS: 50s. M Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 48MW2
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 30-Jan-20 | SAMPLE TIME: 1505

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 124.35 (FT) | WELL DEPTH 134 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1430	124.61	100	0	11	497	7.58	56.6	9.68	ADL	
1440	124.61	100	2	11.39	492	7.86	54.9	8.58	ADL	
1450	124.61	100	4	11.41	491	7.79	58.9	8.12	ADL	
1500	124.61	100	6	11.29	491	7.82	60.1	7.9	ADL	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.18 (°C) | ORP: 65.7 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 491 (uS/cm) | DO: 7.9 (mg/L)
pH: 7.91 (S.U.) | TURBIDITIY: ADL (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Vary cloudy, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW2
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 29-Apr-20 | SAMPLE TIME: 1410

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 121.69 (FT) | WELL DEPTH 138.3 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1330	121.73	125	0	15.5	415.6	7.63	117.3	8.4	2515	
1340	121.76	125	2	15.4	410.6	7.34	108.3	7.77	572.63	
1350	121.76	125	4	15.6	407.3	7.33	109.7	7.18	456.17	
140	121.76	125	6	15.8	391.2	7.35	110.7	7.33	443.2	
1410	121.76	125	8	15.8	387.2	7.35	111.9	7.52	435.6	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 15.8 (°C) | ORP: 111.9 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 387.2 (uS/cm) | DO: 7.52 (mg/L)
pH: 7.35 (S.U.) | TURBIDITIY: 435.6 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: minor cloudy, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s, Sunny & Breezy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW2

LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 22-Jul-20 | SAMPLE TIME: 1110

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 120.58 (FT) | WELL DEPTH 137.2 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1030	120.73	150	0	17.1	523	7.84	132.1	8.17	1550.1	
1040	120.95	150	2	15.5	517	7.35	142.1	7.75	376.4	
1050	121	150	4	14.9	507	7.28	149.6	7.66	166.2	
1100	121.15	150	6	14.9	497.3	7.28	155.4	7.75	126.1	
1110	121.15	150	8	14.8	492.4	7.28	159.1	7.75	90.23	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.8 (°C) | ORP: 159.1 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 492.4 (uS/cm) | DO: 7.75 (mg/L)

pH: 7.28 (S.U.) | TURBIDITIY: 90.23 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 137.2

WEATHER CONDITIONS: Sunny, 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW3
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 16-Oct-19 | SAMPLE TIME: 1220

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing
WELL COMPLETION (CIRCLE): TIC / TOC; Flush / Stick-up

PURGING DEVICE QED Bladder pump

INITIAL DEPTH TO WATER 96.5 (FT) | WELL DEPTH 126.5 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1150	96.71	150	0	12.94	658	7.43	36.8	94.6	21.5	
1200	96.71	150	2	12.92	660	7.28	36.5	50.7	28.3	
1210	96.71	150	4	12.88	663	7.19	39.1	34.5	20.8	
1220	96.71	150	6	12.87	662	7.15	43.5	29.5	12.2	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 12.87 (°C) | ORP: 43.5 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 662 (uS/cm) | DO: 29.5 (mg/L) | Duplicate 48TW3
pH: 7.15 (S.U.) | TURBIDITIY: 12.2 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL: 126

WEATHER CONDITIONS: 50s, M Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 48MW3
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 30-Jan-20 | SAMPLE TIME: 1555

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 97.04 (FT) | WELL DEPTH (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1530	97.11	100	0	10.85	687	7.21	70.9	7.57	73.2	
1540	97.11	100	2	11.15	699	7.48	64.9	4.49	31	
1550	97.11	100	4	11.21	702	7.16	65.2	5.16	20.9	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.18 (°C) | ORP: 65.7 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 405 (uS/cm) | DO: 5.21 (mg/L)
pH: 7.18 (S.U.) | TURBIDITIY: 19.8 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME: Radford AAP | PROJECT #: 03886.552.500 | WELL ID: 48MW3
LOCATION: Radford VA
SAMPLING CREW: Bounds/Taylor | DATE: 30-Apr-20 | SAMPLE TIME: 1100

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing — PURGING DEVICE: QED Bladder pump
TIC / TOC
WELL COMPLETION (CIRCLE): Flush / Stick-up

INITIAL DEPTH TO WATER: 96.86 (FT) | WELL DEPTH: 126.5 (FT) | Well Diameter: 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1030	96.88	125	0	12.7	679	7.57	109.3	7.04	19.37	
1040	96.88	125	2	12.3	679	7.15	95.6	5.95	1.39	
1050	96.88	125	4	12.1	678	7.13	94.8	5.52	0.43	
1100	96.88	125	6	12.1	678	7.12	96.8	5.93	0.83	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 12.1 (°C) | ORP: 96.8 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 678 (uS/cm) | DO: 5.93 (mg/L) | Duplicate 48TW3
pH: 7.12 (S.U.) | TURBIDITIY: 0.83 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s, overcast rain

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW3
LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 22-Jul-20 | SAMPLE TIME: 1205

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 92.2 (FT) | WELL DEPTH 124 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1135	92.3	150	0	16.7	683	7.44	163.5	4.43	24.72	
1145	92.5	150	2	14.9	684	7.12	167	3.36	6.06	
1155	92.78	150	4	14.6	684	7.03	168.5	3.1	3.97	
1205	92.95	150	6	14.7	682	7.01	169.2	3.02	4	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.7 (°C) | ORP: 169.2 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 682 (uS/cm) | DO: 3.02 (mg/L) | Duplicate 48TW3
pH: 7.01 (S.U.) | TURBIDITIY: 4 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL: 124

WEATHER CONDITIONS: Sunny, 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW06
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 15-Oct-19 | SAMPLE TIME: 1025

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Bladder Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 66.09 (FT) | WELL DEPTH 80 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
945	66.79	100	0	13.6	516	7.66	50.6	144.5	327	
955	66.79	100	2	13.68	766	7.37	43.9	76.9	127	
1005	66.79	100	4	13.72	779	7.16	49.7	55.8	99.5	
1015	66.79	100	6	14.29	785	7.15	54.9	45.3	84.8	
1025	66.79	100	8	14.73	799	7.13	56.9	45.7	79.1	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.73 (°C) | ORP: 56.9 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 799 (uS/cm) | DO: 45.7 (mg/L)
pH: 7.13 (S.U.) | TURBIDITIY: 79.1 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 80

WEATHER CONDITIONS: P Cloudy, 60s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 48MW06
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 29-Jan-20 | SAMPLE TIME: 910

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Bladder Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 66.54 (FT) | WELL DEPTH 80.4 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
835	66.63	100	2	9.1	464	6.9	188.2	18.81	687	
845	66.63	100	4	9.33	477	7.06	164.2	4.08	492	
855	66.63	100	6	9.4	491	7.08	143.2	3.88	400	
905	66.63	100	8	9.66	514	7.07	127.3	3.63	355	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 6.72 (°C) | ORP: 126.5 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 521 (uS/cm) | DO: 3.57 (mg/L)
pH: 7.07 (S.U.) | TURBIDITIY: 353 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Milky, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW06
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 29-Apr-20 | SAMPLE TIME: 940

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Bladder Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 62.3 (FT) | WELL DEPTH 80 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
910	62.48	175	0	13.7	637	7.69	138.9	2.28	4007	
920	62.48	175	2	13.3	741	6.85	95.4	0.41	141	
930	62.48	175	4	13.5	792	6.83	88.3	0.2	50.67	
940	62.48	175	6	13.6	796	6.85	85.2	0.18	39.36	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.6 (°C) | ORP: 85.2 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 796 (uS/cm) | DO: 0.18 (mg/L)
pH: 6.85 (S.U.) | TURBIDITIY: 39.36 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s sunny windy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 48MW06

LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 23-Jul-20 | SAMPLE TIME: 920

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing — PURGING DEVICE: GeoTech Bladder Pump

TIC / TOC

WELL COMPLETION (CIRCLE): Flush / Stick-up

INITIAL DEPTH TO WATER 64.4 (FT) | WELL DEPTH 79.8 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
850	64.5	200	0	15.4	710	8.85	110.2	1.79	849.1	
900	65.15	200	2	14.5	757	7.89	116.8	1.02	108.3	
910	65.15	200	4	14.5	849	7.68	118.1	0.8	53.12	
920	65.15	200	6	14.5	864	7.58	118.5	0.72	37.76	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.5 (°C) | ORP: 118.5 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 864 (uS/cm) | DO: 0.72 (mg/L)

pH: 7.58 (S.U.) | TURBIDITIY: 37.76 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 79.8

WEATHER CONDITIONS: Cloudy, 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 48MW07
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 28-Jan-20 | SAMPLE TIME: 910

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Bladder Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 43.05 (FT) | WELL DEPTH 84.5 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
850	43.37	100	0	9.35	184	7.51	85.6	22.18	45.1	
855	43.37	100	2	10.93	188	7.95	33.6	11.34	33.6	
900	43.37	100	4	10.96	190	7.93	35.5	11.29	31.4	
905	43.37	100	6	11.13	190	7.9	40.3	10.96	31.4	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.15 (°C) | ORP: 39.5 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 190 (uS/cm) | DO: 10.88 (mg/L)
pH: 7.87 (S.U.) | TURBIDITIY: 31.2 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW01

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 17-Oct-19 | SAMPLE TIME: 1200

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 115.39 (FT) | WELL DEPTH 132 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1120	116.03	150	0	12.95	435	7.96	26.2	302.9	94.3	
1130	116.03	150	2	12.79	438	7.58	29.7	56.2	97.4	
1140	116.03	150	4	12.72	438	7.53	35.3	47.6	336	
1150	116.03	150	6	12.79	437	7.5	40.2	46	168	
1200	116.03	150	8	12.75	437	7.49	43.5	44.6	113	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 12.75 (°C) | ORP: 43.5 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 437 (uS/cm) | DO: 44.6 (mg/L)

pH: 7.49 (S.U.) | TURBIDITIY: 113 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: nimor cloudy, no odor | TOTAL DEPTH OF WELL: 132

WEATHER CONDITIONS: 50s, cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 49MW01
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 30-Jan-20 | SAMPLE TIME: 1045

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 115.49 (FT) | WELL DEPTH 128.4 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1000	115.62	100	0	10.5	464	7.69	75.6	12.13	ADL	
1015	115.62	100	3	10.92	464	7.64	70.6	6.84	ADL	
1030	115.62	100	6	10.94	464	7.61	71.8	6.65	ADL	
1045	115.62	100	8	11.06	464	7.6	73	6.52	ADL	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.06 (°C) | ORP: 73 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 464 (uS/cm) | DO: 6.52 (mg/L)
pH: 7.6 (S.U.) | TURBIDITIY: ADL (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Cloudy, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW01

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 29-Apr-20 | SAMPLE TIME: 1245

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 113.36 (FT) | WELL DEPTH 132 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1200	113.42	125	0	18.4	447.9	7.75	113.9	8.35	1852	
1210	113.43	125	2	15.3	363.2	7.62	97.4	6.69	1665	
1220	113.42	125	4	14.9	359.7	7.59	98	3.66	685	
1230	113.42	125	6	14.8	358.6	7.59	99.3	5.52	302	
1240	113.43	125	8	14.6	358.1	7.59	100.9	5.46	180.7	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.6 (°C) | ORP: 100.7 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 358 (uS/cm) | DO: 5.46 (mg/L)

pH: 7.59 (S.U.) | TURBIDITIY: 180.7 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: nimor cloudy, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s sunny windy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW01

LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 23-Jul-20 | SAMPLE TIME: 1135

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 108.95 (FT) | WELL DEPTH 124 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1045	108.95	150	0	18.4	226.6	8.64	146.1	7.76	4700	
1055	109.15	150	2	15.8	485.7	7.93	158	5.43	1820.1	
1105	109.2	150	4	15.5	485.1	7.83	162.4	5.21	758.1	
1115	109.3	150	6	15.4	485.7	7.86	167.3	5.47	240.8	
1125	109.3	150	8	15.6	485.3	7.77	168.7	5.2	220.5	
1135	109.3	150	10	15.3	485	7.75	170.4	5.19	175.2	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 15.3 (°C) | ORP: 170.4 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 458 (uS/cm) | DO: 5.19 (mg/L)

pH: 7.75 (S.U.) | TURBIDITIY: 175.2 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: nimor cloudy, no odor | TOTAL DEPTH OF WELL: 124

WEATHER CONDITIONS: Cloudy, 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW02
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 16-Oct-19 | SAMPLE TIME: 1350

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 92.95 (FT) | WELL DEPTH 131.1 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1320	93.69	150	0	13.43	520	7.52	55.2	145.4	324	
1330	93.69	150	2	13.39	519	7.39	49.2	29.4	296	
1340	93.69	150	4	13.39	518	7.35	48.3	48.3	292	
1350	93.69	150	6	13.42	517	7.34	47.8	47.8	290	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.42 (°C) | ORP: 47.8 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 517 (uS/cm) | DO: 71.4 (mg/L)
pH: 7.34 (S.U.) | TURBIDITIY: 290 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: hazy, no odor | TOTAL DEPTH OF WELL: 130

WEATHER CONDITIONS: 50s, M Cloudy light rain

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME: Radford AAP | PROJECT #: 03886.552.500.2110 | WELL ID: 49MW02
LOCATION: Radford VA
SAMPLING CREW: Bounds/Taylor | DATE: 29-Jan-20 | SAMPLE TIME: 1540

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing — PURGING DEVICE: QED Bladder pump
TIC / TOC
WELL COMPLETION (CIRCLE): Flush / Stick-up

INITIAL DEPTH TO WATER: 96.34 (FT) | WELL DEPTH: 122.8 (FT) | Well Diameter: 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1515	96.71	100	2	11.38	543	7.32	96.2	10.88	537	
1525	96.71	100	4	11.63	545	7.28	89.6	7.18	ADL	
1535	96.71	100	6	11.59	545	7.21	88.7	6.94	ADL	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.59 (°C) | ORP: 88.7 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 454 (uS/cm) | DO: 6.94 (mg/L)
pH: 7.21 (S.U.) | TURBIDITIY: ADL (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Cloudy, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW02
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 30-Apr-20 | SAMPLE TIME: 1250

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 91.96 (FT) | WELL DEPTH 131.1 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1150	92.03	125	0	13.6	532	7.62	101.9	5.29	360.5	
1200	92.03	125	2	13	532	7.39	97.9	4.56	593.6	
1210	92.03	125	4	13	531	7.34	96.7	2.28	572.3	
1220	92.03	125	6	13.1	530	7.33	96.4	2.02	435	
1230	92.03	125	8	13	530	7.32	95.6	1.89	279.3	
1240	92.03	125	10	13.1	530	7.32	97.1	2.62	154.3	
1250	92.03	125	12	13.3	531	7.32	97.8	2.63	153.2	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.3 (°C) | ORP: 97.8 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 531 (uS/cm) | DO: 2.63 (mg/L)
pH: 7.32 (S.U.) | TURBIDITIY: 153.2 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s overcast rain

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW02
LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 22-Jul-20 | SAMPLE TIME: 1335

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 88.3 (FT) | WELL DEPTH 137 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1235	89.4	150	0	19.7	557	8.1	163.1	5.39	605	
1245	90.35	150	2	16.1	550	7.45	167.5	2.93	672	
1255	91.5	150	4	16.8	547	7.32	167.5	2.26	783	
1305	92.15	150	6	16	546	7.27	165.4	2.08	830	
1315	92.88	150	8	16.7	542	7.23	163.1	2	630	
1325	94	150	10	16.2	544	7.23	161	1.93	493	
1335	94.55	150	12	16.2	545	7.21	160.6	1.91	323	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 16.2 (°C) | ORP: 160.6 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 545 (uS/cm) | DO: 1.91 (mg/L)
pH: 7.21 (S.U.) | TURBIDITIY: 323 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear no odor | TOTAL DEPTH OF WELL: 137

WEATHER CONDITIONS: Sunny, 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 49MW03
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 29-Jan-20 | SAMPLE TIME: 1420

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 105.04 (FT) | WELL DEPTH 122.83 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1345	105.32	100	0	11.37	253	7.31	101.6	8.42	ADL	
1355	105.32	100	2	11.55	354	7.3	92.1	7.44	ADL	
1405	105.32	100	4	11.31	356	7.32	83.7	7.02	446	
1415	105.32	100	6	11.42	357	7.36	80.6	6.83	129	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.58 (°C) | ORP: 79.4 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 357 (uS/cm) | DO: 6.74 (mg/L)
pH: 7.37 (S.U.) | TURBIDITIY: 62.4 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW04

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 15-Oct-19 | SAMPLE TIME: 1350

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump

TIC TOC

WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 21.29 (FT) | WELL DEPTH 73 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1330	21.31	300	0	16.04	594	7.71	75.9	95.6	10.1	
1340	21.31	300	2	17.12	588	7.71	80.7	60.1	9.61	
1350	21.31	300	4	16.58	592	7.65	76.8	36.3	0.32	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 16.58 (°C) | ORP: 76.8 (MV) | COMMENTS: 0.0. PID Reading

SPECIFIC CONDUCTANCE: 592 (uS/cm) | DO: 36.3 (mg/L)

pH: 7.65 (S.U.) | TURBIDITIY: 0.32 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 73

WEATHER CONDITIONS: 60s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 49MW04
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 28-Jan-20 | SAMPLE TIME: 1530

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 20.1 (FT) | WELL DEPTH 72.84 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1500	20.23	150	0	12.8	629	7.42	86.3	15.13	2.46	
1510	20.23	150	2	13.26	641	7.37	83	2.13	1.91	
1520	20.23	150	4	13.2	645	7.5	83.1	2.28	1.85	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.19 (°C) | ORP: 83.1 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 645 (uS/cm) | DO: 2.26 (mg/L)
pH: 7.49 (S.U.) | TURBIDITIY: 1.79 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW04
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 27-Apr-20 | SAMPLE TIME: 1230

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 19.37 (FT) | WELL DEPTH 73.65 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1150	21.36	180	0	14	482.1	7.4	113.4	6.78	0.34	
1200	21.36	180	2	15.1	495.2	7.7	114.2	7.09	0.65	
1210	21.36	180	4	14.4	486	7.56	114.3	6.36	-1.29	
1220	21.36	180	6	14.7	489.6	7.57	113.6	5.85	-1.17	
1230	21.36	180	8	14.4	485.3	7.58	112.8	6.09	-0.62	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.4 (°C) | ORP: 112.8 (MV) | COMMENTS: 0.0. PID Reading
SPECIFIC CONDUCTANCE: 485.3 (uS/cm) | DO: 6.09 (mg/L)
pH: 7.38 (S.U.) | TURBIDITIY: -0.62 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 49MW04
LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 20-Jul-20 | SAMPLE TIME: 1325

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE GeoTech Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 19.85 (FT) | WELL DEPTH 73.8 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1255	20.9	200	0	17.1	648	7.86	166.7	4.69	4.6	
1305	22.4	200	2	17.3	642	9.38	170	4.48	3.71	
1315	23.05	200	4	18.6	640	9.31	170.6	4.37	2,7	
1325	23.04	200	6	18.9	647	9.2	171.3	4.31	1.54	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 18.9 (°C) | ORP: 171.3 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 647 (uS/cm) | DO: 4.31 (mg/L)
pH: 9.2 (S.U.) | TURBIDITIY: 1.54 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 73.8

WEATHER CONDITIONS: Sunny, low 90s

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 49MW05
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 29-Jan-20 | SAMPLE TIME: 1120

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE Peristaltic Pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 19.08 (FT) | WELL DEPTH 38.8 (FT) | Well Diameter 4"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1045	19.85	150	0	12.17	704	7.16	114.4	13.41	58.4	
1055	19.85	150	2	12.35	737	7.08	96.5	4.25	37.1	
1105	19.85	150	4	12.74	760	7.02	91.5	3.93	23.9	
115	19.85	150	6	12.13	764	6.97	89.8	3.85	32.1	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 11.97 (°C) | ORP: 88.7 (MV) | COMMENTS:
SPECIFIC CONDUCTANCE: 764 (uS/cm) | DO: 3.82 (mg/L)
pH: 6.93 (S.U.) | TURBIDITIY: 30.5 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: Clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 50MW02

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 17-Oct-19 | SAMPLE TIME: 1315

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / Steel Casing — PURGING DEVICE: QED Bladder pump

WELL COMPLETION (CIRCLE): TIC / TOC — Flush / Stick-up

INITIAL DEPTH TO WATER 115.27 (FT) | WELL DEPTH 122.8 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1235	115.46	150	0	14.61	616	7.15	62.8	261	ADL	
1245	115.46	150	2	13.83	618	6.93	65.2	74.4	414	
1255	115.46	150	4	13.53	627	6.85	64.8	35	197	
1305	115.46	150	6	13.32	629	6.89	62.8	32.1	100	
1315	115.46	150	8	13.22	630	6.94	61.2	32.2	44.7	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 13.22 (°C) | ORP: 61.2 (MV) | COMMENTS: 0.0 PID Reading

SPECIFIC CONDUCTANCE: 630 (uS/cm) | DO: 32.2 (mg/L)

pH: 6.94 (S.U.) | TURBIDITIY: 44.7 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL: 122

WEATHER CONDITIONS: 50s, M Cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500.2110 | WELL ID 50MW02

LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 30-Jan-20 | SAMPLE TIME: 1355

PURGING DATA

REFERENCE POINT (CIRCLE): PVC / TIC — Steel Casing / TOC

WELL COMPLETION (CIRCLE): Flush / Stick-up

PURGING DEVICE QED Bladder pump

INITIAL DEPTH TO WATER 115.59 (FT) | WELL DEPTH 120.55 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
1320	115.63	150	0	8.56	578	7.25	74.3	8.67	ADL	
1330	115.64	150	2	9.92	667	7.14	54.4	6.2	ADL	
1340	115.64	150	4	10.61	669	7.11	51	5.97	482	
1350	115.64	150	6	10.97	670	7.07	54.7	5.5	467	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 10.97 (°C) | ORP: 54.6 (MV) | COMMENTS:

SPECIFIC CONDUCTANCE: 670 (uS/cm) | DO: 5.5 (mg/L)

pH: 7.09 (S.U.) | TURBIDITIY: 463 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: cloudy, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 40s, partly cloudy

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 50MW02
LOCATION Radford VA

SAMPLING CREW Bounds/Taylor | DATE: 30-Apr-30 | SAMPLE TIME: 955

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 112.52 (FT) | WELL DEPTH 122.8 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
915	112.64	100	0	12.4	632	7.5	137.5	8.33	2206	
925	112.64	100	1	12.4	620	6.98	94	8.17	696	
935	112.64	100	2	12.3	618	6.97	92.2	8.15	319	
945	112.64	100	3	12.3	617	6.98	93.4	8.3	221	
955	112.64	100	4	12.3	615	6.99	95.1	8.41	210	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 12.3 (°C) | ORP: 95.1 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 615 (uS/cm) | DO: 8.41 (mg/L)
pH: 6.99 (S.U.) | TURBIDITIY: 210 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: minor cloudy, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: 60s overcast rain

WESTON LOW FLOW GROUNDWATER SAMPLING RECORD

PROJECT NAME Radford AAP | PROJECT # 03886.552.500 | WELL ID 50MW02
LOCATION Radford VA

SAMPLING CREW Bounds/Ewald | DATE: 22-Jul-20 | SAMPLE TIME: 1000

PURGING DATA

REFERENCE POINT (CIRCLE): PVC Steel Casing | PURGING DEVICE QED Bladder pump
TIC TOC
WELL COMPLETION (CIRCLE): Flush Stick-up

INITIAL DEPTH TO WATER 111.55 (FT) | WELL DEPTH 120.7 (FT) | Well Diameter 2"

CLOCK TIME (24 HR)	Water Depth Below MP (ft)	PURGE RATE (mL/min)	CUM. VOLUME PURGED (L)	TEMP (°C) **(3%)**	SP COND (uS/cm[c])[1] **(3%)**	pH (s.u) **(+/-0.1)**	ORP/Eh[2] (MV) **(+/-10)**	DO (mg/L) **(10%)**	Turb (NTU) **(10%)**	COMMENTS
920	111.58	150	0	16.3	648	7.85	115.7	5.32	423.2	
930	111.55	150	2	14.8	634	7.22	111.1	5.27	149.2	
940	111.55	150	4	14.4	631	7.14	112.4	5.01	102.3	
950	111.55	150	6	14.5	629	7.1	117.1	4.99	88.7	
1000	111.58	150	8	14.4	630	7.01	124	4.97	70.23	

1. uSiemens per cm (same as umhos/cm) at 25C
2. Oxidation reduction potential (stand in for Eh)

FINAL FIELD DATA

TEMPERATURE: 14.4 (°C) | ORP: 124 (MV) | COMMENTS: 0.0 PID Reading
SPECIFIC CONDUCTANCE: 630 (uS/cm) | DO: 4.97 (mg/L)
pH: 7.01 (S.U.) | TURBIDITIY: 70.23 (NTU)

ODOR AND PHYSICAL APPEARANCE OF SAMPLE: clear, no odor | TOTAL DEPTH OF WELL:

WEATHER CONDITIONS: Sunny, 90s

APPENDIX A-2
CALIBRATION FORMS

Bump Check/Cal Log 10/14

	10/14	15	15	17
PID				
O2	18.3 %	18.1	17.9	18.0
CO	49.7 ppm	49.3	49.8	49.8
LEL	50.1 %	49.8	50.1	49.9
H2S	10.1 ppm	9.97	10.03	10.03
VOC	101 ppm	99.63	99.74	99.83
YSI				
pH (4)	4.21	4.01	3.98	4.03
pH(7)	7.10	7.08	6.82	7.01
pH (10)	9.98	10.04	9.97	9.87
Cond	1007	998	1004	1003
Redox	207.6	208.3	211.2	209.6

Bump Check/Cal Log 1/26

	1/27	1/28	1/29	1/30
PID				
O2	17.4%	18.2	18.1	17.9
CO	50.7 ppm	50.3	50.6	50.4
LEL	48.9%	49.3	48.7	49.6
H2S	9.73 ppm	10.02	9.87	9.64
VOC	96.3 ppm	100.1	99.7	100.2
YSI				
pH (4)	3.87	3.94	4.12	3.88
pH(7)	6.92	6.82	6.94	6.97
pH (10)	9.73	9.82	9.91	9.14
Cond	1002	1006	999	998
Redox	219.2	222.4	220.6	219.4

Bump Check/Cal Log

	4/20	4/26	4/27	4/30
PID	4/27			
O2	17.9 %	18.1	18.0	18.0
CO	49.3 ppm	49.7	50.11	50.03
LEL	49.7 %	49.8	49.8	49.9
H2S	10.3 ppm	9.97	10.02	10.11
VOC	101 ppm	99.5	99.8	102
YSI				
pH (4)	3.96	3.97	3.89	3.92
pH(7)	7.01	6.98	6.98	7.03
pH (10)	10.03	10.00	9.82	9.93
Cond	993	997	1003	1001
Redox	209.7	205.6	202.3	205.7

Bump Check/Cal Log

	7/20	7/21	7/22	7/23
PID				
O2	17.9 %	18.1	17.9	18
CO	49.8 ppm	49.6	49.4	49.9
LEL	50.2 %	50.1	50.2	49.7
H2S	10.01 ppm	10.03	9.99	10.07
VOC	101 ppm	99.6	102	101
YSI				
pH (4)	4.01	4.07	4.03	4.14
pH(7)	7.06	7.06	7.12	7.09
pH (10)	10.13	10.00	10.11	9.97
Cond	99.8	100.1	100.1	100.7
Redox	182.6	183.4	182.6	184.9

APPENDIX A-3
FIELD NOTES

Radford Army Ammuntion Mon. Oct. 14, 2019

- B. Bounds and P. Taylor check in at facility RAAP Visitors center.
P. Taylor acquires a visitor pass.
B. Bounds acquires a vehicle pass.
- Meet up with Jody Hawks and Melissa Lincoln with BAE to receive permits and coordinate efforts. Area Access and Hot Work Permits received.

0920 Arrive at Area 54.

0942 P. Taylor calibrates the Hanna HI 98703 Turbidimeter (REW22192).

Standard (NTU)	Reading (NTU)
0.1	0.15
15	15.0
100	100
750	752

0955 Begin purge of 54MW13.

1025 Collect groundwater sample 54MW13 and duplicate sample 54TW13.

1155 Begin purge of 54MW10.

Contacted Security to access 54MW10 through Perimeter Gate 19E. Security Dispatch 540-639-7289. Gate Key #11.

1215 Collect groundwater sample 54MW10.

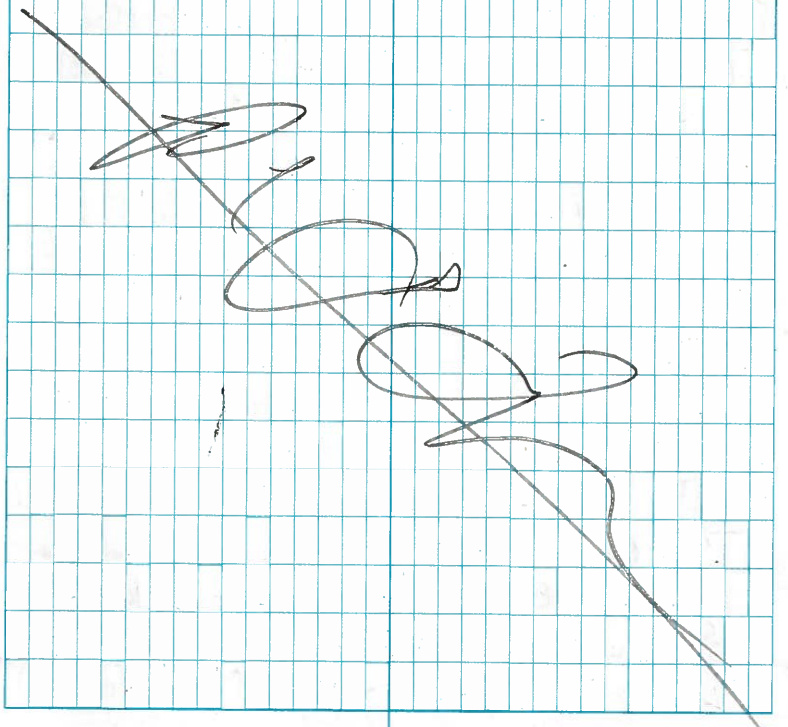
1255 Begin purge of 54MW12.

1325 Collect groundwater sample 54MW12 with MS/MSD.

1440 Begin purge of 54MW1.

1510 Collect groundwater sample 54MW1.

1600 Collect IDW water sample from purge water (consolidated). Sample ID: 54 IDW.



Rite in the Rain

Radford AAP Tues. Oct. 15, 2019

0739 B. Bounds and P. Taylor arrive at Radford AAP Burning Grounds. — Meet with Calvin regarding burn schedule and access to lower wells for Area 49. Burn scheduled for 0900, should be complete around 1100, will check back with burn at 1100.

0800 Begin gauging water levels for Area 49 wells.

0909 P. Taylor calibrates the Hanna HI 98703 Turbidimeter (RFW 22192).

Standard (NTU)	Reading (NTU)
0.1	0.20
15	15.1
100	99.8
750	751

0945 Begin purge of 48MW06 using a QED Micropurge Bladder Pump.

1025 Collect groundwater sample 48MW06.

1115 Begin water level gauging on lower side of site but break key in lock at first well (13MW5).

1155 Acquired spare key from M. Lincoln.

Radford AAP Tues. Oct. 15, 2019

Water Level Gauging

Well ID	Depth to Water (ft TOC)
48 MW06	66.09
48 MW1	108.52
48 MW2	124.04
48 MW3	96.50
49 MW01	115.39
49 MW02	92.95
50 MW02	115.27
13 MW2	22.06
13 MW3	15.58
13 MW4	17.67
49 MW04	21.29
48 MW07	Dry TD = 86.80
13 MW5	17.99
49 MW03	104.24
49 MW05	~~Dry 104.24~~ 20.42

1232 Complete water level gauging for SWMU 49.

1245 Start purge of 13MW2.

1305 Collect groundwater sample 13MW2 with MS/MSD.

1330 Start purge of 49MW04.

1350 Collect groundwater sample 49MW04.

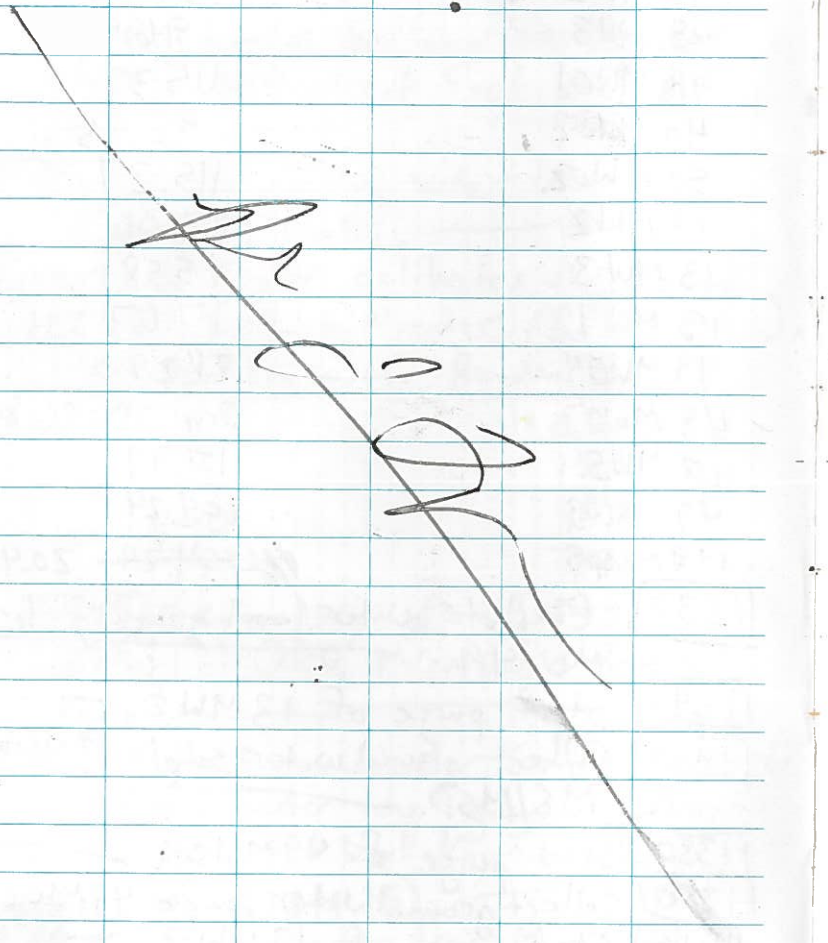
1410 Start purge of 13MW3.

Radford AAP Tues. Oct. 15, 2019

1440 Collect groundwater sample 13MW3 and duplicate groundwater sample 13TW3.

1500 Start purge of 13MW4.

1520 Collect groundwater sample 13MW4.



0753 P. Taylor calibrates the Hanna HI 98703 Turbidimeter (RFW22192).

Standard (NTU)	Reading (NTU)
0.1	0.18
15	14.7
100	98.3
750	747

0805 Attempted purge of 48MW2. No flow achieved with QED Bladder Pump. Troubleshooting. Swapped tubing. Managed to get water to the YSI flow cell but no further progress.

0950 ordered bailers (6) and twine to complete sampling of 48MW2.

1020 Collect equipment rinsate blank 149EQB-48MW2 from the freshly decontaminated QED bladder pump following decontamination. Sampled with distilled water decanted from bladder housing.

1150 Begin purge (after several adjustments) of 48MW3.

Radford AAP Wed. Oct. 16, 2019

1220 Collect groundwater sample 48MW3 and duplicate groundwater sample 48TW3.

1320 Begin purge of 49MW02.

1350 Collect ground water sample 49MW02.

- Attempted to purge 50MW02 without success 2-inch well with approx. 6 ft. water column. 115.27 DTW; ~121 ft. DTB.

1555 Begin purge of 48MW1.

Out of tubing.

1625 Collect groundwater sample 48MW1.

~~0943~~ ~~0830~~ DTC

0830 B. Bounds and P. Taylor depart hotel for Walmart. Purchase ice and pack samples from SWMU 59 for shipment.

0943 Return ship the PID to Western's Westchester, PA RES. Fedex Tracking #: 802793713710 Standard Overnight.

0947 shipped SWMU 59 samples via Fedex Priority Overnight under chain-of-custody to CT Laboratories in Baraboo, WI in three coolers.

Tracking #s:

- 7803 1914 1885
- 7803 1914 1896
- 7803 1914 1900.

1000 Pickup bladder pump tubing (500 ft.) and 4 poly bailers delivered by Fedex to Hampton Inn.

1017 Arrive at Radford AAP visitor's center and Contacted Lee Roope (540) 818-0808 for access to the ACD area for IDW water disposal.

1045 Emptied SWMU 49 purge water

Rite in the Rain

into a SWMU 48+49 designated poly drum at the ACD staging area.

1102 D. Taylor calibrates the Hanna HI 98703 Turbidimeter (RFW22192).

Standard (NTU)	Reading (NTU)
0.1	0.17
15	15.1
100	98.1
750	751

1120 Begin purge of 49MW01.

1200 Collect ground sample 49MW01.

1235 Begin purge of 50MW02.

1315 Collect groundwater sample 50MW02.

1400 Begin purge of 48MW2 using bladder pump at a rate of one cycle per minute (40:20).

1450 Collect groundwater sample 48MW2.

1527 Deposit remaining purge water and decon water from SWMU 49 in the SWMU 48/49 designated drum at the ACD Staging Area.

1530 Collect IDW water sample 49IDW from the SWMU 48/49 IDW drum.

1552 Depart Radford AAP dropping off

P. Taylor's badge at the Visitor's Center.

1726 Shipped SWMU 49 samples to CT Laboratories in Beaver, WI via Priority Overnight shipment on fedex under chain-of-custody. Also return shipped an empty cooler (Standard overnight).

- Return shipped the QED Bladder Pump to Pine Environmental Services in King of Prussia, PA. (Standard Overnight).

1728 Return shipped the turbidimeter, YSI water quality meter, and water level gauge to Weston's Exton, PA RES standard Overnight. Fedex Tracking #s:

- Samples to CT Lab: 780334830946
- Empty Cooler to CT Lab: 780334830957
- Bladder Pump to Pine: 780349757127
- Water Level Meter to RES: 802793714500
- Peristaltic Pump, YSI, Turbidimeter to RES: 802793714511

Rite in the Rain

RADFORD AAP 1/27/2020

0715 arrived onsite Got security Badge / Car pass

0800 Mtg w/ Jessica Lindsey at Burning Ground for PERMITS

0845 Got PERMITS discussed with Collin time to sample Burning Ground

0900 Proceed to Area 54

0930 Security let us into Area 19E to sample 54mw13

0945 Cal check of Equipment

0950 Began to purge of 54mw10

1035 sample 54mw10

1135 Collin starting purge of 54mw13 & 54Tmw13 (Duplicate)

1205 Sample of 54mw13 & 54Tmw13

1250 moved to 54mw12

1300 started purge of 54mw12

1350 sample 54mw12 ms/msd

1410 moved to 54mw1

1430 started purge of 54mw1

1505 sample of 54mw1

1520 sample of IDW 54

1606 Done sampling 15 Gal DCE used

1550 SAMPLE Processing

1700 Sample Drop off

MB

Radford AAP 1/28/2020

0700 Arrived onsite started Brief

0730 IDW disposal MT and PPE

0800 at 49mw07 set up of Bladder Pump

0830 Purge of 49mw07

0918 Sample of 49mw07

0930 Decon of Bladder pump

0945 at 49mw03 setup of Pump MAP says 49mw03 well has 49mw05 water on it.

1200 Issues with pump Collin said we could come to Burn area

1245 started Purge of 13mw8

1310 sample 13mw8

1330 moved to 13mw4 & started Purge

1355 sample 13mw4

1410 moved to 13mw3 & started Purge

1435 sample 13mw3 & 13Tmw3

1440 moved to 49mw04

1500 started Purge of 49mw04

1530 sample 49mw04

1600 Drop Purge water at ACE 10 Gal

1700 shipped samples to EDB

MB

Rite in the Rain.

1/29/20

0700 onsite safety Brief
0730 Cal check of equipment
0800 started at 48mw06
0830 purge started at 48mw06
0905 sample of 48mw06
0930 moved to 46mw01
Sue with pump water and tube
1030 moved to Burning Ground
1045 started Purge of 49mw05
1126 collect sample from 49mw05
1135 starting Purge of 48mw02
1210 Sampled 8mw2
1215 Headed to Hotel to get new Bladder Pump
1320 at 48mw03
1345 Purge started 48mw03
1420 Sample 48mw03 equipment Rinsate Blank 49EQ-48mw03
1500 moved to 49mw02
1515 started Purge of 49mw02
1540 Sample 49mw02
1545 ACN Area to Dump Purge water 10 Gal
1700 Samples Processed and to Fedex

1/30/20

0700 Period onsite safety Brief
0730 at 48mw1 Cal check
0830 started Purge of 48mw1
0915 Sample of 48mw1
0930 started at 49mw01
1000 Purge of 49mw01
1045 Sample 49mw01
1145 went to Hotel to pickup additional Hose and Lunch to Get oil in mckenna parked for all locks to be oiled
1230 at 50mw02
1320 started Purge 50mw02
1355 Sample 50mw02
430 Purge 48mw2
1505 Sample 48mw2
1555 Sample 48mw3 Dup
1615 ACN area to Gal

Rite in the Rain

Radford AAP Mon. 4/27/2020

0725 B. Bounds and P. Taylor depart hotel. Purchase ice.

0740 Arrive at Radford AAP Visitor's Center and acquire vehicle pass and temporary badge.

0820 Meet Andy at the burning grounds. Speak with Calvin about burn schedule. Will conduct sampling in burn area (SWMU 49) today. Meet with H&S to receive permits.

0917 P. Taylor calibrates the YSI Pro DSS Water Quality meter (RFW22561).

Parameter	Standard	Readings
DO	97.5%	97.6%
Sp. Cond.	1,000 uS/cm	1,000
pH 4	4.00	4.05 → 4.00
pH 7	7.00	7.10 → 7.06
pH 10	10.00	10.24 → 10.02
ORP	203 ~~246~~ mV	201.4 → 203.4

0939 Begin purge of well 13MW4.

1015 Collect groundwater sample 13MW4.

1053 Begin purge of well 13MW3.

1125 Collect groundwater sample 13MW3 and duplicate groundwater sample 13TW3.

Radford AAP Mon. April 27, 2020 17

1149 Begin purge of well 49MW04.

1230 Collect groundwater sample 49MW04.

1253 Begin purge of well 13MW2.

1325 Collect groundwater sample 13MW2 with triple volume for MS/MSD analysis.

~~1450~~

- Setup at well 48MW1. Found that we did not have any O-rings for the bladder pump. Ordered O-Rings and tubing from Pine Environmental for overnight delivery to the hotel in Blacksburg, VA.

1430 Deposited IDW purge water at the ACD Area after contacting Lee for access.

Water Level Gauging:

Well ID	Depth to Water (ft. TOC)
48MW1	98.71
13MW4	15.09
13MW3	13.42
49MW04	19.37
13MW2	20.14
48MW06	62.31
48MW2	~~96.9~~ 121.85
48MW3	96.96

Rite in the Rain.

Radford AAP — Tues. April 28, 2020

1340 Begin purge of well 54MW1.
1420 Collect groundwater sample 54MW1.
1438 Collect IDW purge water from all 4 SWMU 54 wells combined in one composite sample: 54 IDW.
1502 Delivered SWMU 54 purge water to the ACD staging area. Decant the water into designated 55-gallon drum.
1636 Deliver samples to Fedex in Christiansburg, VA for overnight shipment under chain-of-custody to CT Laboratories (1 cooler) in Berlin, WI and SGS North America (2 coolers) in Orlando, FL for analyses (SWMU-54 samples). Also deliver the peristaltic pump for overnight return shipment to Weston's RES in West Chester, PA.

Radford AAP — Wed. April 29, 2020

0810 W. Bounds and P. Taylor arrive at Radford AAP.
0831 P. Taylor calibrates the YSI ProDSS Water Quality Meter (RFW22561).

Parameter	Standard	Readings
DO	96.8%	98.8 → 96.8%
Sp. Cond.	1,000 µs/cm	1,001 → 1,000
pH 4	4.00	3.98 → 4.00
pH 7	7.00	7.01 → 7.05
pH 10	10.00	10.06 → 10.00
ORP	202.0 mV	208.1 → 202.3

0908 Begin purge of well 48MW06.
0940 Collect groundwater sample 48MW06.
0952 Following decontamination of the bladder pump, collect equipment rinsate blank ~~EQ01~~ 49EQ05-48MW06 by decanting distilled water from the pump into sample bottles.
1037 Begin purge of well 48MW1.
1110 Collect groundwater sample 48MW1.
1156 Begin purge of well 49MW01.
1245 Collect groundwater sample 49MW01.
1326 Begin purge of well 48MW2.
1410 Collect groundwater sample 48MW2.
1541 Deliver samples to Fedex.

Rite in the Rain

Radford AAP — Mon. April 27, 2020

Well ID	Depth to Water (ft. TOC)
49MW01	113.56
49MW02	92.35
50MW02	112.63
48MW07	42.07
13MW5	14.78
49MW03	95.73
49MW05	18.35

1530 Depart site.

1610 Purchase ice and supplies at Walmart. Pack samples for shipment to CT Laboratories in Baraboo, WI.

1700 Deliver samples to Fedex in Christiansburg for overnight delivery to CT Laboratory in Baraboo, WI.

Radford AAP — Tues. April 28, 2020

0800 D. Bounds and P. Taylor arrive at Radford AAP.

0847 P. Taylor calibrates the YSI Pro DSS Water Quality Meter (RFW22561).

Parameter	Standard	Reading
DO	97.9%	108.9 → 97.9 %
Sp. Cond.	1,000 uS/cm	998 → 1,000
pH 4	4.0	3.96 → 4.00
pH 7	7.0	6.96 → 7.00
pH 10	10.0	10.08 → 10.00
ORP	205.5 ~~240 mV~~	206.7 → 205.8

Note: No calibration fluids were provided. Fluids from a previous event were used. No turbidity calibration fluids were on hand. The conductance fluid was labeled with an expiration date of January 2020.

0920 Begin purge of well 54MW13.

1000 Collect groundwater sample 54MW13 and duplicate groundwater sample 54TW13.

1101 Begin purge of 54MW10.

1130 Collect groundwater sample 54MW10.

1153 Begin purge of well 54MW12

1245 Collect groundwater sample 54MW12 in triple volume for MS/MSD designation.

0835 P. Taylor calibrates the YSI ProDSS water Quality Meter (RFW 22561).

Parameters	Standard	Readings
~~DO%~~ DO%	96.0%	95.7 → 96.0
Sp. Cond.	1,000 uS/cm	998 → 1,000
pH 4	4.00	4.03 → 4.00
pH 7	7.00	6.99 → 7.00
pH 10	10.00	9.96 → 10.00
ORP	202.0	202.6 → 202.2

0914 Begin purge of well 50MW02.
0955 Collect groundwater sample 50MW02.
1033 Begin purge of well 48MW3.
- Todd with facility grounds maintenance cleared downed trees from the access road allowing access to well 49MW02.
1100 Collect groundwater sample 48MW3 and duplicate groundwater sample 48TW3.
1149 Begin purge of well 49MW02.
1250 Collect groundwater sample 49MW02.
1310 Arrive at SWMU 54 Gate 19E.
W. Bounds contacts site security for access to well 54MW10 through Gate 19E.
1350 Security arrives to open gate 19E.
1400 Collect chlorate/chlorite aliquot for groundwater sample 54MW10.

1420 Collect chlorate/chlorite aliquot ~~for~~ for groundwater sample 54MW12 including MS/MSD.
1440 Collect chlorate/chlorite aliquot for groundwater sample 54MW11.
1510 Dispose of SWMU 49 purge water at ACD Area in consolidated drum.
1515 Collect IDW purge water sample (Composite) from SWMU 49 purge water drum.
49IDW.
1646 Delivered samples to Fedex in Christiansburg, VA for overnight delivery to CT Laboratory in Baraboo, WI under chain-of-custody.
Also delivered rental equipment for overnight return shipment to Wesson's RES in Exton, PA.

Rite in the Rain

7/20/20 Radford AAP

0700 Left Hotel for site

0713 at Pass office

0830 Obtained permits

0900 Had to go to Lowes to Get Buckets

1030 back on site

1045 Cal of equipment

PID

CO 4 ppm

LEL 50%

O_2 14%

VOC 98.7

YSI Cal Good

1100 started Purge of 13MW4

1140 Sample 13MW4

1200 Purge of 13MW3

1230 ~~Sample of~~ 13MW3 13MW3

1250 Purge of 49MW04

1323 Sample of 49MW04

1350 Purge of 13MW02

1413 Sample 13MW02 MS/MSD

10/20/20

0730 arrived on site Got Keys Passes

0800 met Safety AT OBG TO GET PERMITS.

0830 Setup at 54MW13

0850 started Purge

940 Sample 54MW13 moved to 54MW10

1110 setup at 54 MW 10

1120 Purge started at 54MW10

1150 Sample 54MW10 moved TO 54MW12

1230 setup at 54 MW12

1255 Purge started 54MW12

1325 Sample 54MW12 moved to 54MW1

1400 Setup at 54MW1

1410 Purge started 54MW1

1440 Sample 54MW1 moved TO 48MW06

1500 Setup at ~~48MW06 couldn't~~

~~Get flow will Get water started -~~

~~pump on HOG~~ Dedicated Pump.

Purge water

1600 Process Samples

1700 Shipped Samples one for DAY

S

Rite in the Rain

10/27/20

0730 arrived onsite at 036
830 setup at 13mw4
840 start purge 13mw4
920 sample 13mw4 move to 49mw01
1025 setup at 49mw01
1040 start purge 49mw01
1120 sample 49mw01 move to 13mw3
930 setup 13mw3
940 Purge 13mw3
1010 Sample 13mw3 move to 49mw04
1025 setup 49mw04
1040 Purge 49mw04
1120 sample 49mw04 move to 13mw2
1130 setup 13mw2
1150 purge 13mw2
1230 sample 13mw2 moved to 46mw06 to sample couldn't Get purge started with Peri Pump will have to use Bladder to be sampled 10/28 full Gauging
1330 Pumped purge water
1430 processed Samples
1600 shipped samples

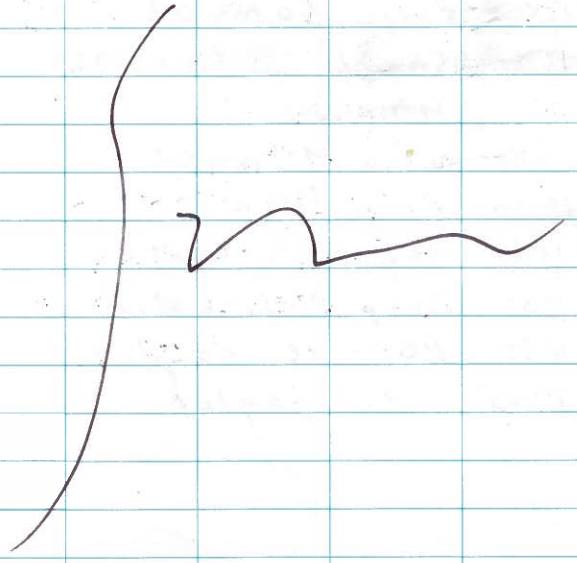
10/28/20

0730 arrived Onsite
0950 setup at 46mw06
805 Purge 46mw06
855 sample 46mw06 move to 46mw1
920 setup 46mw1
945 purge 46mw1
1025 sample 46mw1 move to 49mw01
1115 setup at 49mw01
1130 purge 49mw01
1210 sample 49mw01 move to 50mw02
1230 setup at 50mw02
1250 Purge 50mw02
1320 sample 50mw02 move to 49mw02
1400 setup 49mw02
1420 Purge 49mw02
1500 sample 49mw02
1600 Pump Purge water
1630 Process Samples
1700 Ship samples

Rite in the Rain

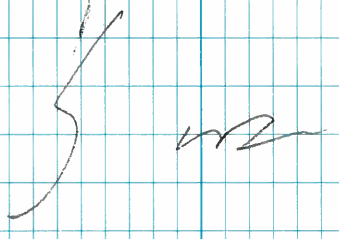
10/29/20

0730 arrived onsite
745 set-up 46 mw3
805 Purge 46 mw3
845 sample 46 mw3 now to 46mw2
910 setup 46 mw2
933 Purge 46 mw2
1015 Sample 46 mw2
1045 Dump Purge water
1200 process sample
1400 ship samples



11/25/21

0800 arrived possible
0835 at OBG for Permit (cell checks)
1000 Permit issued
1015 started sampling at OBG
1020 started 13mw5
1050 sample 13mw5
1100 started 13 mw4 Sin onsite
1150 sample 13 mw4
1200 started 13 mw3
1240 sample 13 mw3 Drip
1345 started 49mw02
* 1425 sample 49mw02 MSD/MS
1445 started 49mw05
1530 sample 49mw05
trip Blank full Bottle at Cooler
1600 Disposal of Purge water
1630 process samples
1730 ship samples Done fieldwork
1900 Fe/Mn Realized

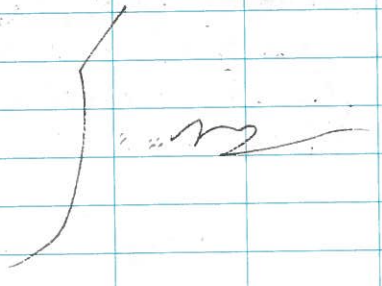


* 13mw2

Rite in the Rain.

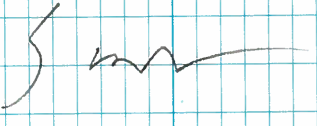
1/26/24

0800 arrive onsite prep 54
col check
0900 start sampling 54 mw13
1005 sample 54 mw13 DUP
collect secondary to get
to 54 mw10
1100 start sampling 54 mw10
1150 sample 54 mw10
1200 start 54 mw12
1300 sample 54 mw12 ms/msd
1445 start 54 mw1
1525 sample 54 mw1
1600 Disposal of purge water
1630 sample processing
1730 ship samples DOT field work
1900 FE/mn analysis



1/27/24

0745 arrive onsite
col check
0800 start sampling 48 mw07
0840 sample 49 mw07
0850 start sampling 48 mw06 S. in onsite
1035 sample 48 mw06
1045 start sampling 49 mw03
1130 sample 49 mw03
1140 start sampling 49 mw02 ? check first DUP
1240 sample 49 mw02
1255 start sampling 48 mw3
1345 sample 48 mw3 DUP
1400 start sampling mw02
1455 sample 48 mw02
1600 Rinsate Blank
Trip Blank
1630 took purge water for disposal
1900 Process samples
1800 ship samples DOT field work
1930 Fe/mn analysis



Rite in the Rain

1/24/24

1000 Arrival onsite Gate start
one to show
Cal check

1030 start 46 mw2 5:N onsite

1115 sampled 46 mw2

1430 start 49 mw01

1250 sampled 49 mw01

1330 start 46 mw1

1405 sampled 46 mw1

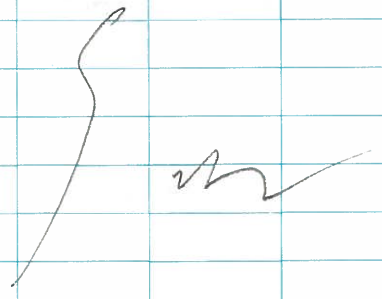
1500 Trip Blank

1530 Disposal of Purge water
sample Purge water

1600 Process samples

1700 Stopped samples
Done field work

1906 Fe Mn analysis



Rite in the Rain

APPENDIX B-1
DATA VALIDATION REPORTS

VALIDATA
Chemical Services, Inc.
(770) 232-0130
(770) 232-5082 (Fax)
2159 Wynnton Pointe, Duluth, GA 30097
www.datavalidator.com

DATA VALIDATION SUMMARY REPORT

COMPANY:	Weston Solutions, Inc.
SITE NAME:	Radford Army Ammunitions Plant
CONTRACTED LAB:	CT Laboratories LLC
QA/QC LEVEL:	EPA Stage 2B and 4
EPA SOW/METHODS:	EPA and SW-846 Methods
VALIDATION GUIDELINES:	*Radford Army Ammunitions Plant, Radford Virginia, SWMU 49 Monitored Natural Attenuation Groundwater Monitoring Work Plan, SWMU 54 Interim Measures Work Plan, QSM 5.1, SW 846 Methods, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* 2017; *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, 2017
SAMPLE MATRIX:	Water
TYPE OF ANALYSIS:	Volatile Organics (VOA), Dissolved Gases, Total Metals, Total Mercury, Anions, Total Organic Carbon (TOC), Chemical Oxygen Demand (COD), pH
SDG NUMBER:	148990
SAMPLING DATES:	October 14-17, 2019

SAMPLES:

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
48MW06	343846	Water	X	X
13MW2	343848	Water	X	X
49MW04	343850	Water	X	X
13MW3	343852	Water	X	X
13TW3	343854	Water	X	X
13MW4	343856	Water	X	X
49EQB-48MW2	343858	Water	X	X
48MW3	343860	Water	X	X

48MW3DL	343860DL	Water	X	

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
48TW3	343862	Water	X	X
48TW3DL	343862DL	Water	X	
49MW02	343864	Water	X	X
48MW1	343866	Water	X	X
49MW01	343868	Water	X	X
50MW02	343870	Water	X	X
48MW2	343872	Water	X	X
TRIP BLANK	344136	Water	X	
13MW2MS	343848MS	Water	X	X
13MW2MSD	343848MSD	Water	X	X

Client Sample #	Lab Sample #	Matrix	Total Metals*	Total Mercury
49IDW	343878	Water	X	X
49IDWRE	343878RE	Water	X	

Client Sample #	Lab Sample #	Matrix	Anions	TOC
48MW06	343846	Water	X	X
48MW06DL	343846DL	Water	X	
13MW2	343848	Water	X	X
13MW2DL	343848DL	Water	X	
49MW04	343850	Water	X	X
13MW3	343852	Water	X	X
13TW3	343854	Water	X	X
13TW3DL	383854DL	Water	X	
13MW4	343856	Water	X	X
49EQB-48MW2	343858	Water	X	X
48MW3	343860	Water	X	X
48TW3	343862	Water	X	X
49MW02	343864	Water	X	X
48MW1	343866	Water	X	X
49MW01	343868	Water	X	X
50MW02	343870	Water	X	X
48MW2	343872	Water	X	X

Client Sample #	Lab Sample #	Matrix	COD	pH
49IDW	343878	Water	X	X

*- analysis was for 22 analytes by Method 6010C.
All fractions were validated at Stage 4, except Metals and Mercury, which were validated at Stage 2B.

Suffix Codes: DL = DILUTION, MS = MATRIX SPIKE, MSD = MATRIX SPIKE DUPLICATE, RA = REANALYSIS

DATA REVIEWERS: Amy L. Hogan, Kevin C. Harmon, Sandra Nacquin

DATA VALIDATION SUMMARY

CT Laboratories LLC – 148990 - Organics & Inorganics

VOLATILE ORGANICS (VOA)

SUMMARY

I.) General:

The analyses for Volatile Organics (VOA) were performed according to SW 846 Method 8260B.

II.) Overall Assessment of Data:

It was noted by the laboratory personnel that the Trip Blank was not listed on the COC. The sample was logged in using the sample container label information.

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

It was noted by the laboratory that sample 49MW02 was received at a pH of greater than 2. Since the sample was analyzed 7-days after sample collection, which is within the 7-day QC limit for unpreserved samples, no data qualification was necessary.

II.) GC / MS Tuning:

All GC / MS Tuning criteria were met. No data qualification was necessary.

III.) Calibration:

Initial Calibration:

The average RRF for 1,4-dioxane (0.004) for the standards analyzed on 10/18/19 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

All other Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

The RRF for 1,4-dioxane (0.0031) for the standards run on 10/18/19 at 14:23 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

Continuing Calibration:

The RRFs for 1,4-dioxane (0.0033, 0.0027, 0.0029 and 0.0017) for the continuing calibration standards associated with this SDG were below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

The Percent Differences (%Ds) for the standards run on 10/23/19 at 07:49 on instrument VMS3 exceeded the 20% QC limit for the following compounds:

dichlorodifluoromethane	-21.7%
Freon 113	-21.3%

The results for these compounds in associated samples 49MW02, 48MW1, 49MW1 and 50MW02, which were all non-detect, were qualified as estimated (UJ).

The Percent Difference (%D) for the standards run on 10/23/19 at 14:16 on instrument VMS3 exceeded the 50% QC limit for 1,4-dioxane at 52.8%. The results for this compound in associated samples 49MW02, 48MW1, 49MW1 and 50MW02, which were all non-detect, were qualified as estimated (UJ).

IV.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

Acetone (4.5 ug/L) was detected in equipment blank 49EQB-48MW2. Since the blank result was less than half the LOQ, no data qualification was necessary.

Trip Blanks:

There were no detections in the associated trip blank. No data qualification was necessary.

V.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

VI.) Laboratory Control Samples (LCS):

One LCS was analyzed for this fraction of the SDG. All criteria were met. No data qualification was necessary.

VII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. The Percent Recoveries (%Rs) for 1,4-dioxane (18%, 38%), Freon 113 (141%) and vinyl chloride (138%) were outside the QC limits. The Relative Percent Difference (RPD) for 1,4-dioxane (70%) exceeded the 20% QC limit. The non-detect 1,4-dioxane result for the parent sample was qualified as estimated (UJ). Since the parent sample results for Freon 113 and vinyl chloride were non-detects and the %Rs exceeded the QC limits, no data qualification was necessary.

VIII.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

IX.) Internal Standards Performance (ISTD):

All ISTD criteria were met. No data qualification was necessary.

X.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

X.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

The carbon tetrachloride results for the initial analyses for samples 48MW3 and 48TW3 exceeded the linear calibration range of the instrument. Both samples were analyzed at a dilution with all calibration criteria met. Since the result for carbon tetrachloride was only reported from the

dilution analysis for the two samples, no data qualification was necessary.

All other Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

DISSOLVED GASSES

SUMMARY

I.) General:

The analyses for Dissolved Gases were performed according to Method RSK-175.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

The 8 to 9 days between sample collection and analysis exceeded the 7-day QC limit for the following samples: 48MW06, 13MW2, 49MW04, 13MW3, 13TW3, 13MW4, 49EQB-48MW2, 48MW3, 48TW3, 49MW02 and 48MW1. All positive and non-detect results for these samples were qualified as estimated (J) and (UJ).

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

All Initial Calibration Verification criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

There were no detections in the associated equipment blank. No data qualification was necessary.

IV.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

V.) Laboratory Control Samples (LCS):

One LCS was analyzed for this fraction of the SDG. All criteria were met. No data qualification was necessary.

VI.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VII.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VIII.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

IX.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

All Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

TOTAL METALS and MERCURY

SUMMARY

I.) General:

The analyses for Total Metals were performed according to SW-846 Method 6010C and the analyses for Total Mercury were performed according to SW-846 Method 7470A.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) LLCCV and CRDL:

All LLCCV and CRDL criteria were met. No data qualification was necessary

IV.) Blanks:

Method Blanks:

Selenium (3.18 ug/L) was detected in the associated method blank. Since the blank concentration was less than half the LOQ, no data qualification was necessary.

Calibration Blanks:

Antimony (3.76 ug/L), arsenic (8.20 ug/L) and selenium (4.97 ug/L) were detected in associated CCB for this SDG. Since the results for these analytes in the SDG sample were all non-detect, no data qualification was necessary.

V.) ICP Interference Check Sample Results:

All Interference Check Sample criteria were met. No data qualification was necessary.

VI.) ICP Serial Dilution Analysis:

Serial dilution analysis data was not required for this SDG. No data qualification was necessary.

VII.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

VIII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

Batch MS / MSD analyses data were analyzed in associated with this SDG. Since the parent sample was not an SDG sample the results were not submitted. No data qualification was necessary.

IX.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

X.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

ANIONS

SUMMARY

I.) General:

The analyses for Anions were performed according to SW-846 Method 9056A.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

The 55 to 81 hours between sample collection and analysis exceeded the 48-hour QC limit for Nitrate for all samples except 49MW01, 50MW02 and 48MW2. All positive nitrate results for the samples with the exceedance were qualified as estimated biased low (L) and all non-detect nitrate results for the samples with the exceedance were qualified as estimated (UJ).

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 13MW2. The parent sample result for sulfate was greater than 4X the spike concentration, so the results for sulfate were not considered meaningful. The Relative Percent Difference (RPD) for chloride at 11% exceeded the 10% QC limit. The positive chloride result for the parent sample was qualified as estimated (J).

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

TOTAL ORGANIC CARBON

SUMMARY

I.) General:

The analyses for Total Organic Carbon (TOC) were performed according to SW-846 Method 9060A.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

CHEMICAL OXYGEN DEMAND (COD)

SUMMARY

I.) General:

The analyses for Chemical Oxygen Demand (COD) were performed according to EPA Method 410.4.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was

necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

Batch MS / MSD analyses data were analyzed in associated with this SDG. Since the parent sample was not an SDG sample the results were not submitted. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

pH

SUMMARY

I.) General:

The analyses for pH were performed according to SW-846 Method 9040C.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

All Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Blanks data were not required for this fraction of the SDG. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

LCS data was not required for this fraction of the SDG. No data qualification was necessary.

V.) Matrix Duplicate (MD):

Batch MD analysis data was analyzed in associated with this SDG. Since the parent sample was not an SDG sample the results were not submitted. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

Appendix A
Qualified Form Is

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
96-18-4	1,2,3-Trichloropropane	0.60	U	0.30	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~M,Y~~ UJ	34	50	100	100
354-23-4	12Dichloro112trifluoroethane	0.60	U	0.30	0.60	1.0	1.0
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0

 Lcert 12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U M	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U M	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U T	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U T	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U T	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U T	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U T	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U T	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U T	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U T	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U T	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U T	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U T	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U T	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U T	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U T	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~FZ~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U T	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U T	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U T	2.2	6.0	10	10
67-64-1	Acetone	10	U T	4.0	10	20	20
71-43-2	Benzene	1.0	U T	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U T	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U T	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U T	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U T	0.90	2.0	4.0	4.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U T	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U T	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U T	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U T	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U T	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U T	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U T	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U T	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U T	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U T	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U ~~TZ~~ UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U T	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U ~~TZ~~ UJ	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U T	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U T	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U T	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U T	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U T	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U T	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U T	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U T	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U T	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U T	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U T	0.30	0.60	1.0	1.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U T	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U T	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U T	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U T	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.76	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ≠ US	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

Jeeat 12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.55	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U Z UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U Z UJ	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	1.7		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343868
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ZLCS	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
106-43-4	4-Chlorotoluene	0.60	U	0.30	0.60	1.0	1.0
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0

10/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343868
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	3.5		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.44	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U ~~Z~~ UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	1.0	J ~~Z~~ UJ	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0

10/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343868
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
108-05-4	Vinyl acetate	10	U	5.0	10	20	20
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343870
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

10/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343870
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	2.0		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U ZUJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U ZUJ	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

10/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343870
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.7		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343872
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 11:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z LCJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343872
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 11:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	63		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	6.1		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U Z J	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U Z J	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343872
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 11:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	6.5		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343846
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 10:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343850
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U LJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343852
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343854
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343856
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EQB-48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343858
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343860
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U LIJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ↓	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U ↓	0.30	0.60	0.70	0.70

Lee 12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343862
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U US	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U UJ	0.50	1.0	1.1	1.1
74-82-8	Methane	1.5	J	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:58	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U LOJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

48MW06

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343846
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 19:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	10		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.8	H- L	0.12	0.20	0.40	0.40

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343848
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6	~~Y~~ J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	~~J H~~ L	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	46	M	0.80	1.5	3.0	3.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343850
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.3		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.65	H-L	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	51		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343852
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6	~~H~~ L	0.12	0.20	0.40	0.40

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343854
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6	H L	0.12	0.20	0.40	0.40

3/13/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343856
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.15	J H L	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	63		0.80	1.5	3.0	3.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49EQB-48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343858
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.0	U	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.12	U HUT	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	0.80	U	0.80	1.5	3.0	3.0

10/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

48MW3

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343860
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.4	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.8	~~H~~ L	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	27		0.80	1.5	3.0	3.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343862
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.8	++ L	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	27		0.80	1.5	3.0	3.0

dlw 12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

49MW02

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343864
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.9	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.26	J- ~~H~~ L	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	32		0.80	1.5	3.0	3.0

12/23/19

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343866
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 23:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.3	H L	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	45	M	0.80	1.5	3.0	3.0

12/23/19

VALIDATA
Chemical Services, Inc.
(770) 232-0130
(770) 232-5082 (Fax)
2159 Wynnton Pointe, Duluth, GA 30097
www.datavalidator.com

DATA VALIDATION SUMMARY REPORT

COMPANY:	Weston Solutions, Inc.
SITE NAME:	Radford Army Ammunitions Plant
CONTRACTED LAB:	CT Laboratories LLC
QA/QC LEVEL:	EPA Stage 2B and 4
EPA SOW/METHODS:	EPA and SW-846 Methods
VALIDATION GUIDELINES:	*Radford Army Ammunitions Plant, Radford Virginia, SWMU 49 Monitored Natural Attenuation Groundwater Monitoring Work Plan, SWMU 54 Interim Measures Work Plan, QSM 5.1, SW 846 Methods, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* 2017; *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, 2017
SAMPLE MATRIX:	Water
TYPE OF ANALYSIS:	Volatile Organics (VOA), Dissolved Gases, Total Metals, Total Mercury, Anions, Total Organic Carbon (TOC), Chemical Oxygen Demand (COD), pH
SDG NUMBER:	151051
SAMPLING DATES:	January 28-30, 2020

SAMPLES:

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
TB-1	383695	Water	X	
48MW07	383696	Water	X	X
13MW5	383697	Water	X	X
13MW4	383698	Water	X	X
13MW3	383699	Water	X	X
13TW3	383700	Water	X	X
49MW04	383701	Water	X	X
TB-2	384093	Water	X	

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
48MW06	384094	Water	X	X
49MW05	384095	Water	X	X
13MW2	384096	Water	X	X
49MW03	384097	Water	X	X
49EQB-49MW03	384098	Water	X	X
49MW02	384099	Water	X	X
TB-3	384609	Water	X	
48MW1	384610	Water	X	X
49MW01	384613	Water	X	X
50MW02	384614	Water	X	X
48MW2	384615	Water	X	X
48MW3	384616	Water	X	X
48TW3	384617	Water	X	X
13MW2MS	384096MS	Water	X	X
13MW2MSD	384096MSD	Water	X	X

Client Sample #	Lab Sample #	Matrix	Total Metals*	Total Mercury
49IDW	384619	Water	X	X

Client Sample #	Lab Sample #	Matrix	Anions	TOC
48MW07	383696	Water	X	X
13MW5	383697	Water	X	X
13MW4	383698	Water	X	X
13MW3	383699	Water	X	X
13MW3DL	383699DL	Water	X	
13TW3	383700	Water	X	X
13TW3DL	383700DL	Water	X	
49MW04	383701	Water	X	X
48MW06	384094	Water	X	X
48MW06DL	384094DL	Water	X	
49MW05	384095	Water	X	X
49MW05DL	384095DL	Water	X	
13MW2	384096	Water	X	X
49MW03	384097	Water	X	X
49EQB-49MW03	384098	Water	X	X
49MW02	384099	Water	X	X
48MW1	384610	Water	X	X

Client Sample #	Lab Sample #	Matrix	Anions	TOC
49MW01	384613	Water	X	X
50MW02	384614	Water	X	X
48MW2	384615	Water	X	X
48MW3	384616	Water	X	X
48TW3	384617	Water	X	X
13MW2MS	384096MS	Water	X	X
13MW2MSD	384096MSD	Water	X	X
48MW07MS	383696MS	Water	X	
48MW07MSD	383696MSD	Water	X	
49MW01MS	384613MS	Water	X	
49MW01MSD	384613MSD	Water	X	

Client Sample #	Lab Sample #	Matrix	COD	pH
49IDW	384619	Water	X	X
49IDWMD	384619MD	Water		X
49IDWMS	384619MS	Water	X	
49IDWMSD	384619MSD	Water	X	

*- analysis was for 24 analytes by Method 6010C.
All fractions were validated at Stage 4, except Metals and Mercury, which were validated at Stage 2B.

Suffix Codes: DL = DILUTION, MS = MATRIX SPIKE, MSD = MATRIX SPIKE DUPLICATE, RA = REANALYSIS

DATA REVIEWERS: Amy L. Hogan, Kevin C. Harmon, Sandra Nacquin

DATA VALIDATION SUMMARY

CT Laboratories LLC – 151051 - Organics & Inorganics

VOLATILE ORGANICS (VOA)

SUMMARY

I.) General:

The analyses for Volatile Organics (VOA) were performed according to SW 846 Method 8260B.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) GC / MS Tuning:

All GC / MS Tuning criteria were met. No data qualification was necessary.

III.) Calibration:

Initial Calibration:

The average RRF for 1,4-dioxane (0.0008) for the standards analyzed on 2/4/20 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

The average RRF for 1,4-dioxane (0.0006) for the standards analyzed on 2/5/20 on instrument VMS4 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a

known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

All other Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

The RRF for 1,4-dioxane (0.0008) for the standards run on 2/4/20 at 21:30 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

The RRF for 1,4-dioxane (0.00055) for the standards run on 2/5/20 at 18:44 on instrument VMS4 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

Continuing Calibration:

The RRFs for 1,4-dioxane (0.0008, 0.0008, 0.0055 and 0.0058) for the continuing calibration standards associated with this SDG were below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

The Percent Difference (%D) for the standards run on 2/6/20 at 08:14 on instrument VMS4 for bromomethane (-33.2%) exceeded the 20% QC limit. The results for this compound in the associated samples, which consisted entirely of non-detects, were qualified as estimated (UJ). The associated samples were: 48MW07, 13MW5, 13MW4, 13MW3, 13TW3, 49MW04, 48MW06, 49MW05, 13MW2, 49MW03 and 49MW02.

IV.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

Chloroform (0.51 ug/L) was detected in equipment blank 49EQB-49MW03. Since the blank result was greater than half the LOQ, the positive results for this compound in associated samples 13MW3, 13TW3 and 49MW01, which were less than the LOQ, were qualified as undetected (U) with the result being raised to the LOQ.

Trip Blanks:

There were no detections in the associated trip blanks. No data qualification was necessary.

V.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

VI.) Laboratory Control Samples (LCS):

One LCS and one LCS / LCSD set were analyzed for this fraction of the SDG. All criteria were met. No data qualification was necessary.

VII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. The Percent Recoveries (%Rs) for bromochloromethane (124%), 1,1-dichloroethene (132%) and trans-1,2-dichloroethene (125%) exceeded the QC limits. Since the parent sample results for these compounds were all non-detect, no data qualification was necessary.

VIII.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

IX.) Internal Standards Performance (ISTD):

All ISTD criteria were met. No data qualification was necessary.

X.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

X.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

All Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

DISSOLVED GASSES

SUMMARY

I.) General:

The analyses for Dissolved Gases were performed according to Method RSK-175.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

It was noted by the laboratory that samples 49MW02 and 48MW2 were received at a pH of greater than 2. The positive and non-detect results for these two samples were qualified as estimated (J) and (UJ).

The 8 to 9 days between sample collection and analysis exceeded the 7-day QC limit for the following samples: 13MW3, 13MW4, 13MW5, 13TW3, 48MW06, 48MW07, 49MW02, 49MW03, 49MW04 and 49MW05. The positive and non-detect results for these samples were qualified as estimated (J) and (UJ).

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

All Initial Calibration Verification criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

There were no detections in the associated equipment blank. No data qualification was necessary.

IV.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

V.) Laboratory Control Samples (LCS):

One LCS was analyzed for this fraction of the SDG. All criteria were met. No data qualification was necessary.

VI.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VII.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VIII.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

IX.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

All Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

TOTAL METALS and MERCURY

SUMMARY

I.) General:

The analyses for Total Metals were performed according to SW-846 Method 6010C and the analyses for Total Mercury were performed according to SW-846 Method 7470A.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) LLCCV and CRDL:

All LLCCV and CRDL criteria were met. No data qualification was necessary

IV.) Blanks:

Method Blanks:

Selenium (2.83 ug/L) was detected in the associated method blank. Since the blank concentration was less than half the LOQ, no data qualification was necessary.

Calibration Blanks:

Antimony (2.13 ug/L) and copper (2.49 ug/L) were detected in associated CCB for this SDG. Since the results for these analytes in the SDG sample were all non-detect, no data qualification was necessary.

V.) ICP Interference Check Sample Results:

All Interference Check Sample criteria were met. No data qualification was necessary.

VI.) ICP Serial Dilution Analysis:

Serial dilution analysis was performed using sample 49IDW. The Percent Difference (11%) fir iron exceeded the QC limit. The positive result for this compound in the sample was qualified as estimated (J).

VII.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

VIII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 49IDW. The parent sample results for aluminum and iron were greater than 4X the spike concentrations, so the results for these analytes were not considered meaningful. The Percent Recoveries (%Rs) for thallium (82%) and vanadium (116%) were outside the QC limits. The post spike %R for thallium (72%) was below the QC limits. The positive thallium result for the sample was qualified as estimated biased low (J-) and the positive vanadium result for the sample was qualified as estimated (J).

IX.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

X.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

ANIONS

SUMMARY

I.) General:

The analyses for Anions were performed according to SW-846 Method 9056A.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using samples 13MW2, 48MW07 and 49MW01. The parent sample result (13MW2) for sulfate was greater than 4X the spike concentration, so the results for sulfate were not considered meaningful. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

TOTAL ORGANIC CARBON

SUMMARY

I.) General:

The analyses for Total Organic Carbon (TOC) were performed according to SW-846 Method 9060A.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

CHEMICAL OXYGEN DEMAND (COD)

SUMMARY

I.) General:

The analyses for Chemical Oxygen Demand (COD) were performed according to EPA Method 410.4.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 49IDW. The Percent Recoveries (%Rs) at 111% and 111% exceeded the QC limits. The positive COD result for the sample was qualified as estimated (J).

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

pH

SUMMARY

I.) General:

The analyses for pH were performed according to SW-846 Method 9040C.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

All Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Blanks data were not required for this fraction of the SDG. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

LCS data was not required for this fraction of the SDG. No data qualification was necessary.

V.) Matrix Duplicate (MD):

MD analysis was performed using sample 49IDW. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

Appendix A
Qualified Form Is

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:27	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U M	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U M	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U M	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

Reed 2/26/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ≤ LOJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

Accept 2/26/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	4.6		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	1.0 ~~0.41~~	J U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.79	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 08:58	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U U5	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

Jeeed 2/26/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ≠ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.83	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW5**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 08:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U LOS	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW5**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ≠ UCJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW5**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW5**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ↓	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U ↓	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ZUJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	4.6		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	1.0 ~~0.38~~	~~J~~ U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.72	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	1.3		0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ≠ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	2.3		0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW07**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 08:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ↓	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U ↓	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW07**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ≠ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW07**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW07**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.32	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.86	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.76	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.7		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U ~~J~~ UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ~~J~~ UJ	0.50	1.0	1.1	1.1
74-82-8	Methane	1.3	~~J~~ J	0.30	0.60	0.70	0.70

Leeed 2/26/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	21		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	3.5		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.71	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	78		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	13		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:22	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.65	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	73		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	13		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	14		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EQB-49MW03**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EQB-49MW03**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.51	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

Sample Description: 49MW01

VOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	2.5		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	1.0 ~~0.38~~	J- U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U ~~J~~ UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ~~J~~ UJ	0.50	1.0	1.1	1.1
74-82-8	Methane	0.88	~~J~~ J	0.30	0.60	0.70	0.70

Reviewed 2/12/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 16:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z LAJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 16:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 16:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW03**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ↓	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U ↓	0.30	0.60	0.70	0.70

Agreed 2/26/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW03**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ≠ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW03**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW03**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:10	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

Recvd 3/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ≠ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW05**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U UJ	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ↓	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U ↓	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW05**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U -ZUJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW05**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW05**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:10	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	1.1		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.3		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383695
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383695
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383695
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384093
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384093
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384093
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384609
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384609
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384609
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 7470A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168650	Analysis Date/Time	02/06/2020 09:40
Analytical Prep Batch #:	75377	Prep. Date/Time:	02/05/2020 11:45
ICAL Calibration #:	02062020	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 6010C	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168590	Analysis Date/Time	02/07/2020 10:23
Analytical Prep Batch #:	75378	Prep. Date/Time:	02/03/2020 08:07
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	5060		90	250	500	500
7440-23-5	Total Sodium	10500		100	300	600	600

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description: 49IDW

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 6010C	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168589	Analysis Date/Time	02/06/2020 14:33
Analytical Prep Batch #:	75378	Prep. Date/Time:	02/03/2020 08:07
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	5180		6.0	18	36	36
7440-36-0	Total Antimony	2.2	J	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	4.0	12	24	24
7440-39-3	Total Barium	192		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.36	J	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	77800		17	50	100	100
7440-47-3	Total Chromium	11.9		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	3.7	J	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	16.4		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	6250	M J	16	50	100	100
7439-92-1	Total Lead	6.9		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	40000		6.0	20	40	40
7439-96-5	Total Manganese	240		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	8.2		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	3.4	J B	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	3.9	J M J-	2.5	7.5	15	15
7440-62-2	Total Vanadium	9.4	J	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	21.8		1.6	5.0	10	10

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384096
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 15:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384096
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 18:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.65		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	54	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383699
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/30/2020 09:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	110		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383699
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383699
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 14:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.7		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.9		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383698
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:38
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383698
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 14:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.78		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	29		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383697
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:24
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383697
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 14:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.60		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	52		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383700
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/30/2020 09:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	110		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383700
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 14:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383700
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 15:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.9		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384094
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/31/2020 08:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	76		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384094
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 14:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.88	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384094
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 18:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.1		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383696
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383696
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 13:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.2	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.1		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384610
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 12:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.8		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	56		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384610
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384615
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 13:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.9	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.75		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	4.0		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384615
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 18:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384616
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 14:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	6.1		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	28		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384616
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 18:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384617
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 14:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	6.2		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	28		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384617
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 19:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

49EQB-49MW03

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384098
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384098
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 20:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.5	U	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	U	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description: 49IDW

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 410.4	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168727	Analysis Date/Time	02/11/2020 10:26
Analytical Prep Batch #:	75455	Prep. Date/Time:	02/10/2020 08:16
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	130	M J	15	35	75	75

Page 1043

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 9040C	Date Received:	01/31/2020
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168555	Analysis Date/Time	01/31/2020 14:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.48	Y				

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384613
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 13:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.4		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.37	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	0.88	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384613
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384099
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:23
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384099
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 20:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.29	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	17		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384097
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 16:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384097
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 20:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.0		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.0		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	2.6	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383701
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 14:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383701
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 15:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.0		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.46		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	55		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384095
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/31/2020 09:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	92		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384095
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 15:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384095
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 18:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.9		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.29	J	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384614
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 13:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.0		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	68		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384614
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 18:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

VALIDATA
Chemical Services, Inc.
(770) 232-0130
(770) 232-5082 (Fax)
2159 Wynnton Pointe, Duluth, GA 30097
www.datavalidator.com

DATA VALIDATION SUMMARY REPORT

COMPANY:	Weston Solutions, Inc.
SITE NAME:	Radford Army Ammunitions Plant
CONTRACTED LAB:	CT Laboratories LLC
QA/QC LEVEL:	EPA Stage 2B and 4
EPA SOW/METHODS:	EPA and SW-846 Methods
VALIDATION GUIDELINES:	*Radford Army Ammunitions Plant, Radford Virginia, SWMU 49 Monitored Natural Attenuation Groundwater Monitoring Work Plan, SWMU 54 Interim Measures Work Plan, QSM 5.1, SW 846 Methods, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* 2017; *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, 2017
SAMPLE MATRIX:	Water
TYPE OF ANALYSIS:	Volatile Organics (VOA), Dissolved Gases, Total Metals, Total Mercury, Anions, Total Organic Carbon (TOC), Chemical Oxygen Demand (COD), pH
SDG NUMBER:	152873*
SAMPLING DATES:	April 27-30, 2020

SAMPLES:

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
TB-1	412552	Water	X	
13MW4	412553	Water	X	X
13MW3	412558	Water	X	X
13TW3	412559	Water	X	X
49MW04	412562	Water	X	X
13MW2	412563	Water	X	X
48MW06	413571	Water	X	X

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
49EQB-48MW06	413572	Water	X	X
TB-2	413573	Water	X	
48MW1	413574	Water	X	X
49MW01	413575	Water	X	X
48MW2	413576	Water	X	X
TB-3	413970	Water	X	
50MW02	413971	Water	X	X
48MW3	413972	Water	X	X
48TW3	413973	Water	X	X
49MW02	413974	Water	X	X
13MW2MS	412563MS	Water	X	X
13MW2MSD	412563MSD	Water	X	X

Client Sample #	Lab Sample #	Matrix	Total Metals**	Total Mercury
49IDW	413975	Water	X	X
49IDWRE	413975RE	Water	X	
49IDWMS	413975MS	Water	X	X
49IDWMSD	413975MSD	Water	X	X

Client Sample #	Lab Sample #	Matrix	Anions	TOC
13MW4	412553	Water	X	X
13MW3	412558	Water	X	X
13MW3DL	412558DL	Water	X	
13TW3	412559	Water	X	X
13TW3DL	412559DL	Water	X	
49MW04	412562	Water	X	X
13MW2	412563	Water	X	X
48MW06	413571	Water	X	X
48MW06DL	413571DL	Water	X	
49EQB-48MW06	413572	Water	X	X
48MW1	413574	Water	X	X
49MW01	413575	Water	X	X
48MW2	413576	Water	X	X
50MW02	413971	Water	X	X
48MW3	413972	Water	X	X
48TW3	413973	Water	X	X
49MW02	413974	Water	X	X

Client Sample #	Lab Sample #	Matrix	Anions	TOC
13MW2MS	412563MS	Water	X	X
13MW2MSD	412563MSD	Water	X	X
48MW2MS	413576MS	Water	X	
48MW2MSD	413576MSD	Water	X	
49MW02MS	413974MS	Water	X	
49MW02MSD	413974MSD	Water	X	

Client Sample #	Lab Sample #	Matrix	COD	pH
49IDW	413975	Water	X	X
49IDWMD	413975MD	Water		X

* - All samples were submitted as SDG 152873. There are three separate analysis folders and EDD files for this data set. The Folders and EDD files are labelled as 152873, 152924 and 152962.
**- analysis was for 2 analytes by Method 6010C and 20 analytes by Method 602010C.
All fractions were validated at Stage 4, except Metals and Mercury, which were validated at Stage 2B.

Suffix Codes: DL = DILUTION, MS = MATRIX SPIKE, MSD = MATRIX SPIKE DUPLICATE, RA = REANALYSIS

DATA REVIEWERS: Amy L. Hogan, Kevin C. Harmon, Sandra Nacquin

DATA VALIDATION SUMMARY

CT Laboratories LLC – 152873 - Organics & Inorganics

VOLATILE ORGANICS (VOA)

SUMMARY

I.) General:

The analyses for Volatile Organics (VOA) were performed according to SW 846 Method 8260B.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) GC / MS Tuning:

All GC / MS Tuning criteria were met. No data qualification was necessary.

III.) Calibration:

Initial Calibration:

The average RRF for 1,4-dioxane (0.0016) for the standards analyzed on 4/29/20 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

All other Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

The RRF for 1,4-dioxane (0.0015) for the standards run on 4/29 at 14:54 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

Continuing Calibration:

The RRFs for 1,4-dioxane (0.0009, 0.0018, 0.0009 and 0.0007) for the continuing calibration standards associated with this SDG were below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

The Percent Differences (%Ds) for 1,4-dioxane (46.6%) for the continuing calibration run on 5/1/20 at 09:00 and 1,4-dioxane (42.8%) for the continuing calibration run on 5/4/20 at 08:22 exceeded the 20% QC limit for opening CCVs. The results for this compound in the samples, which were all non-detects, were qualified as estimated (UJ).

The Percent Difference (%D) for 1,4-dioxane (55.5%) the standards run on 5/4/20 at 19:49 exceeded the 50% QC limit for closing CCVs. The results for this compound in the associated samples, which were all non-detect, were qualified as estimated (UJ).

IV.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

Acetone (9.7 ug/L) and toluene (0.30 ug/L) were detected in equipment blank 49EQB-48MW06. Since the blank results were less than half the LOQ, no data qualification was necessary.

Trip Blanks:

Methylene chloride was detected in associated trip blanks TB-1 (0.95 ug/L), TB-2 (1.0 ug/L) and TB-3 (1.1 ug/L). Since there were no detections for this compound in the field samples, no data qualification was necessary.

V.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

VI.) Laboratory Control Samples (LCS):

One LCS and one LCS / LCSD set analyzed for this fraction of the SDG. The Percent Recovery (%R) for 1,4-dioxane (53%) for sample 413899 was below the QC limits. The 1,4-dioxane results for the associated samples, which were all non-detects, were qualified as estimated (UJ).

The Percent Recoveries (%Rs) for 1,4-dioxane (57%, 44%) and bromomethane (50%) for LCS set 414443 / 414444 were below the QC limits and the RPDs for 1,4-dioxane (25%) and bromomethane (59%) exceeded the QC limit. The results for these compounds in the associated samples, which were all non-detects, were qualified as estimated (UJ).

VII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. The Percent Recoveries (%Rs) for bromomethane (51%), methyl acetate (41%) and cis-1,3-dichloropropene (72%) were below the QC limits. The Relative Percent Differences (RPDs) for bromomethane (60%), 1,2-dibromo-3-chloropropane (27%), 2-butanone (22%) and 4-methyl-2-pentanone (21%) exceeded the 20% QC limit. The non-detect bromomethane, methyl acetate and cis-13-dichloropropene results for the parent sample were qualified as estimated (UJ). Since the parent sample results for 1,2-dibromo-3-chloropropane, 2-butanone and 4-methyl-2-pentanone were non-detects, no data qualification based on the RPD criteria was necessary.

VIII.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. The calculable Relative Percent Differences (RPDs) were carbon tetrachloride (23%) for the first set and carbon tetrachloride (1%), chloroform (0%) and trichloroethene (0%) for the second set. All criteria were met. No data qualification was necessary.

IX.) Internal Standards Performance (ISTD):

All ISTD criteria were met. No data qualification was necessary.

X.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

X.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

All Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

DISSOLVED GASSES

SUMMARY

I.) General:

The analyses for Dissolved Gases were performed according to Method RSK-175.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

All Initial Calibration Verification criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

There were no detections in the associated equipment blank. No data qualification was necessary.

IV.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

V.) Laboratory Control Samples (LCS):

One LCS was analyzed for this fraction of the SDG. All criteria were met. No data qualification was necessary.

VI.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VII.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. There were no calculable Relative Percent Differences (RPDs). No data qualification was necessary.

VIII.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

IX.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

All Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

TOTAL METALS and MERCURY

SUMMARY

I.) General:

The analyses for Total Metals were performed according to SW-846 Method 6010C and the analyses for Total Mercury were performed according to SW-846 Method 7470A.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) LLCCV and CRDL:

All LLCCV and CRDL criteria were met. No data qualification was necessary

IV.) Blanks:

Method Blanks:

The following analytes were detected in the associated method blank:

arsenic	4.62 ug/L
beryllium	0.141 ug/L
copper	1.84 ug/L
selenium	4.06 ug/L

Since the blank results for arsenic, beryllium and copper were less than the LOQ and the sample result for selenium was non-detect, no data qualification based on method blank contamination was necessary.

Calibration Blanks:

Antimony (4.41 ug/L), potassium (144 ug/L) and selenium (3.79 ug/L) were detected in associated CCB for this SDG. Since the blank results for antimony and selenium were less than ½ the LOQ and the sample result for potassium was greater than the LOQ and 10X the blank concentration, no data qualification was necessary.

V.) ICP Interference Check Sample Results:

All Interference Check Sample criteria were met. No data qualification was necessary.

VI.) ICP Serial Dilution Analysis:

Serial dilution analysis was performed using sample 49IDW. The following Percent Differences (%Ds) exceeded the 10% QC limit:

aluminum	56%
calcium	50%
iron	49%
magnesium	48%
manganese	23%

The positive results for these analytes in the sample were qualified as estimated (J).

VII.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

VIII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 49IDW. The Percent Recoveries (%Rs) were below their QC limits for the following analytes:

Analyte	MS, %R	MSD %R
barium	82%	82%
cadmium	84%	83%
copper	79%	80%
lead	85%	85%
magnesium	74%	75%
manganese	42%	42%
thallium	65%	78%
vanadium	77%	78%

In addition, the post spike %Rs for lead (56%) and manganese (68%) were below the QC limits. The positive and non-detect results for these analytes in the sample were qualified as estimated (J) and (UJ).

IX.) Field Duplicates:

There were no field duplicate samples identified for this fraction of the SDG. No data qualification was necessary.

X.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

ANIONS

SUMMARY

I.) General:

The analyses for Anions were performed according to SW-846 Method 9056A.
II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

Sulfate (0.8010 ug/L) was detected in an associated CCB for this SDG. Since the blank result was greater than ½ the LOQ and all associated sample results were greater than the LOQ, no data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using samples 13MW2, 48MW2 and 49MW02. The Percent Recoveries (%Rs) for sulfate were 85% and 85% for sample 49MW02 and 82% and 80% for 13MW2. Since the %Rs were below the QC limits, the sulfate results for the two parent samples were qualified as estimated (J).

VI.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. The calculable Relative Percent Differences (RPDs) were 0% for chloride and nitrate and 2.5% for sulfate for the first set and 0% for nitrate and 3.5% for sulfate in the second set. All criteria were met. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

TOTAL ORGANIC CARBON

SUMMARY

I.) General:

The analyses for Total Organic Carbon (TOC) were performed according to SW-846 Method 9060A.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. There were no calculable Relative Percent Differences (RPDs). No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

CHEMICAL OXYGEN DEMAND (COD)

SUMMARY

I.) General:

The analyses for Chemical Oxygen Demand (COD) were performed according to EPA Method 410.4.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

COD (-9.2 ug/L) was reported in the ICB. Since the absolute value of the blank was less than ½ the LOQ, no data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses data were not submitted for this SDG. Data qualification based on the absence of data was not required. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this fraction of the SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

pH

SUMMARY

I.) General:

The analyses for pH were performed according to SW-846 Method 9040C.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

All Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Blanks data were not required for this fraction of the SDG. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

LCS data was not required for this fraction of the SDG. No data qualification was necessary.

V.) Matrix Duplicate (MD):

MD analysis was performed using sample 49IDW. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was

necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412552
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ LJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 5/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412552
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	0.95	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412552
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412553
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ LAJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 5/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412553
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412553
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.56	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412558
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 fwd 5/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412558
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	3.5		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.37	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412558
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.66	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412559
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ LCJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 5/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412559
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	4.4		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.43	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412559
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.85	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412562
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~QZ~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412562
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.40	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412562
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412563
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Y	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U Y	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U Y	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~M,Y~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 6/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412563
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.33	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U M	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U M	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412563
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412563
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 05:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.4		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.26	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	39	~~M~~ J	0.80	1.5	3.0	3.0

6/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

Sample Description: **48MW06**

VOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413571
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.84	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	5.2		0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ LCS	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	2.4		0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413571
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	8.3		0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.82	J	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413571
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	5.4		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EQB-48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413572
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ LCS	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	9.7	J	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 5/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EQB-48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413572
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.30	J	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413572
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413573
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z LCS	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 5/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413573
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413573
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413574
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.79	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413574
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.58	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413574
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.5		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413575
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ LCJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413575
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	3.1		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.39	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	0.80	J	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413575
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413576
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 16:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Q,Z~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413576
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 16:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	33		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	3.6		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413576
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 16:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.9		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413970
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q,Y UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Q,Y UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413970
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.1	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413970
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413971
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.35	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q,Y LCS	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Q,Y LCS	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413971
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.68	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413971
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.4		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413972
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.62	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q,Y~~ LJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Q,Y~~ LJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 5/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413972
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	64		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	12		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413972
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	12		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413973
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.57	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q,Y~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Q,Y~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

 6/22/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413973
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	63		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	12		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413973
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	12		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413974
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q,Y~~ LCJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Q,Y~~ LCJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413974
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413974
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413974
Analytical Method:	EPA 9056A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170840	Analysis Date/Time	05/01/2020 17:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.31	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	17	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description: 49IDW

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413975
Analytical Method:	EPA 6010C	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170875	Analysis Date/Time	05/06/2020 23:55
Analytical Prep Batch #:	76290	Prep. Date/Time:	05/04/2020 11:26
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	5690	J	6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	7.2	J B	4.0	12	24	24
7440-39-3	Total Barium	233	J	0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.43	J B	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U J	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	103000	J	17	50	100	100
7440-47-3	Total Chromium	12.6		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	5.3		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	19.7	J	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	9380	M J	16	50	100	100
7439-92-1	Total Lead	6.8	J	1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	55900	J	6.0	20	40	40
7439-96-5	Total Manganese	567	M J	0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	9.2		1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U J	2.5	7.5	15	15
7440-62-2	Total Vanadium	10.0	J	0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	35.9		1.6	5.0	10	10

6/22/20

VALIDATA
Chemical Services, Inc.
(770) 232-0130
(770) 232-5082 (Fax)
2159 Wynnton Pointe, Duluth, GA 30097
www.datavalidator.com

DATA VALIDATION SUMMARY REPORT

COMPANY:	Weston Solutions, Inc.
SITE NAME:	Radford Army Ammunitions Plant
CONTRACTED LAB:	CT Laboratories LLC
QA/QC LEVEL:	EPA Stage 2B and 4
EPA SOW/METHODS:	EPA and SW-846 Methods
VALIDATION GUIDELINES:	*Radford Army Ammunitions Plant, Radford Virginia, SWMU 49 Monitored Natural Attenuation Groundwater Monitoring Work Plan, SWMU 54 Interim Measures Work Plan, QSM 5.1, SW 846 Methods, USEPA Contract Laboratory Program National Functional Guidelines for Organic Data Review,* 2017; *USEPA Contract Laboratory Program National Functional Guidelines for Inorganic Data Review*, 2017
SAMPLE MATRIX:	Water
TYPE OF ANALYSIS:	Volatile Organics (VOA), Dissolved Gases, Total Metals, Total Mercury, Anions, Total Organic Carbon (TOC), Chemical Oxygen Demand (COD), pH
SDG NUMBER:	154947*
SAMPLING DATES:	July 20-23, 2020

SAMPLES:

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
13MW4	447991	Water	X	X
13MW3	447992	Water	X	X
13TW3	447993	Water	X	X
49MW04	447994	Water	X	X
13MW2	447995	Water	X	X
TB-1	447996	Water	X	
50MW02	449329	Water	X	X
48MW2	449330	Water	X	X

Client Sample #	Lab Sample #	Matrix	VOA	Dis. Gases
48MW3	449331	Water	X	X
48TW3	449332	Water	X	X
49MW2	449333	Water	X	X
49EB	449334	Water	X	X
TB-49	449335	Water	X	
48MW06	450340	Water	X	X
48MW01	450341	Water	X	X
49MW01	450342	Water	X	X
TB-48	450343	Water	X	
13MW2MS	447995MS	Water	X	X
13MW2MSD	447995MSD	Water	X	X

Client Sample #	Lab Sample #	Matrix	Total Metals**	Total Mercury
IDW-48/49	450344	Water	X	X
IDW-48/49MS	450344MS	Water	X	
IDW-48/49MSD	450344MSD	Water	X	

Client Sample #	Lab Sample #	Matrix	Anions	TOC
13MW4	447991	Water	X	X
13MW3	447992	Water	X	X
13MW3DL	447992DL	Water	X	
13TW3	447993	Water	X	X
13TW3DL	447993DL	Water	X	
49MW04	447994	Water	X	X
13MW2	447995	Water	X	X
50MW02	449329	Water	X	X
48MW2	449330	Water	X	X
48MW3	449331	Water	X	X
48TW3	449332	Water	X	X
49MW2	449333	Water	X	X
49EB	449334	Water	X	X
48MW06	450340	Water	X	X
48MW06DL	450340DL	Water	X	
48MW01	450341	Water	X	X
49MW01	450342	Water	X	X
13MW2MS	447995MS	Water	X	X
13MW2MSD	447995MSD	Water	X	X

Client Sample #	Lab Sample #	Matrix	COD	pH
IDW-48/49	450344	Water	X	X
IDW-48/49MD	450344MD	Water		X

* - All samples were submitted as SDG 154947. There are three separate analysis folders and EDD files for this data set. The Folders and EDD files are labelled as 154947, 155037 and 155089.
**- analysis was for 22 analytes by Method 6010C.
All fractions were validated at Stage 4, except Metals and Mercury, which were validated at Stage 2B.

Suffix Codes: DL = DILUTION, MS = MATRIX SPIKE, MSD = MATRIX SPIKE DUPLICATE, RA = REANALYSIS

DATA REVIEWERS: Amy L. Hogan, Kevin C. Harmon, Sandra Nacquin

DATA VALIDATION SUMMARY

CT Laboratories LLC – 154947 - Organics & Inorganics

VOLATILE ORGANICS (VOA)

SUMMARY

I.) General:

The analyses for Volatile Organics (VOA) were performed according to SW 846 Method 8260B.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) GC / MS Tuning:

All GC / MS Tuning criteria were met. No data qualification was necessary.

III.) Calibration:

Initial Calibration:

The average RRF for 1,4-dioxane (0.0007) for the standards analyzed on 7/23/20 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

All other Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

The RRF for 1,4-dioxane (0.0006) for the standards run on 7/23/20 at 22:55 on instrument VMS3 was below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

The Percent Differences (%Ds) for the standards run on 7/23/20 at 22:55 on instrument VMS3 were -35.4% for dichlorodifluoromethane and -34% for bromomethane, which exceeded the 20% QC limit. The results for these compounds in the SDG samples, which were all non-detects, were qualified as estimated (UJ).

Continuing Calibration:

The RRFs for 1,4-dioxane (0.0003 and 0.0007) for the continuing calibration standards associated with this SDG were below 0.010. Since the limit for this compound is advisory and 1,4-dioxane is a known poor performed, citing professional judgment, the validator determined that no data qualification based on the RRF was necessary.

The Percent Differences (%Ds) for the standards run on 7/28/20 at 12:21 on instrument VMS3 for dichlorodifluoromethane (-25.2%), bromomethane (-26.1%) and 1,2-dibromo-3-chloropropane (22.9%) exceeded the 20% QC limit for opening CCVs. The results for these compounds in the samples, which were all non-detects, were qualified as estimated (UJ).

IV.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

There were no detections in the associated equipment blank. No data qualification was necessary.

Trip Blanks:

Bromodichloromethane (1.3 ug/L) and chloroform (5.2 ug/L) were detected in associated trip blank TB-1. Since the blank concentrations were greater than the LOQ, the positive chloroform results for associated samples 13MW3 and 13TW3, which were less than the LOQ, were qualified as undetected (U) with the result being raised to the LOQ.

Methylene chloride was detected in associated trip blanks TB-48 (1.2 ug/L) and TB-49 (0.64 ug/L). Since there were no detections for this compound in the field samples, no data qualification

was necessary.

V.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

VI.) Laboratory Control Samples (LCS):

One LCS was analyzed for this fraction of the SDG. The Percent Recovery (%R) for 1,4-dioxane (38%) was below the QC limits. The 1,4-dioxane results for the SDG samples, which were all non-detects, were qualified as estimated (UJ).

VII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VIII.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. The calculable Relative Percent Differences (RPDs) were carbon tetrachloride (3.8) and trichloroethene (8.7%) for the first set and 1,2-dichloroethane (31%), carbon tetrachloride (3.0%), chloroform (6.9%) and trichloroethene (0%) for the second set. All criteria were met. No data qualification was necessary.

IX.) Internal Standards Performance (ISTD):

All ISTD criteria were met. No data qualification was necessary.

X.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

X.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

All Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

DISSOLVED GASSES

SUMMARY

I.) General:

The analyses for Dissolved Gases were performed according to Method RSK-175.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction of the SDG.

MINOR ISSUES

I.) Holding Times:

Sample 13MW2 was received at a pH of greater than 2, but the sample was analyzed within the 7-day QC limit. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Initial Calibration Verification (ICV):

All Initial Calibration Verification criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Equipment Blank:

There were no detections in the associated equipment blank. No data qualification was necessary.

IV.) Surrogate Recoveries:

All Surrogate Recovery criteria were met.

V.) Laboratory Control Samples (LCS):

Two LCS were analyzed for this fraction of the SDG. All criteria were met. No data qualification was necessary.

VI.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS/ MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VII.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. There were no calculable Relative Percent Differences (RPDs). No data qualification was necessary.

VIII.) TCL Compound Identification:

All TCL Compound Identification criteria were met. No data qualification was necessary.

IX.) Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL):

All Compound Quantitation and Reported Contract Required Quantitation Limits (CRQL) criteria were met. No data qualification was necessary.

TOTAL METALS and MERCURY

SUMMARY

I.) General:

The analyses for Total Metals were performed according to SW-846 Method 6010C and the analyses for Total Mercury were performed according to SW-846 Method 7470A.

II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) LLCCV and CRDL:

All LLCCV and CRDL criteria were met. No data qualification was necessary

IV.) Blanks:

Method Blanks:

Magnesium (-39.2 ug/L) was reported in the associated method blank. Since the magnesium result for the sample was greater than 10X the LOQ, no data qualification was necessary.

Calibration Blanks:

Potassium (103 ug/L, 90 ug/L) and thallium (2.57 ug/L) were detected in associated CCB for this SDG. Since the blank results were less than ½ the LOQ, no data qualification was necessary.

V.) ICP Interference Check Sample Results:

All Interference Check Sample criteria were met. No data qualification was necessary.

VI.) ICP Serial Dilution Analysis:

Serial dilution analysis was performed using sample IDW-48/49. The Percent Differences (%Ds) for aluminum (45) and iron (45%) exceeded the 10% QC limit. The positive results for these analytes in the sample were qualified as estimated (J).

VII.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

VIII.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample IDW-48/49. The parent sample results for aluminum and iron were greater than 4X the spike concentrations, so the results for these analytes were not considered meaningful. The Percent Recoveries (%Rs) for copper (117%, 119%) exceeded the QC limits, and the associated post spike %R (74%) was below the QC limits. The positive copper result for the sample was qualified as estimated (J). The Relative Percent Difference (RPD) for led (72%) exceeded the QC limits, so the positive lead result for the sample was also qualified as estimated (J).

IX.) Field Duplicates:

There were no field duplicate samples identified for this fraction of the SDG. No data qualification was necessary.

X.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

ANIONS

SUMMARY

I.) General:

The analyses for Anions were performed according to SW-846 Method 9056A.
II.) Overall Assessment of Data:

All laboratory data were acceptable with qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using samples 13MW2, 48MW06 and 49EB2. The Percent Recoveries (%Rs) for sulfate (70%, 72%) for sample 13MW2 and nitrate (112%, 114%) for 48MW06 were outside the QC limits. The positive sulfate result for sample 13MW2 and the positive nitrate result for sample 48MW06 were qualified as estimated (J).

VI.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. The calculable Relative Percent Differences (RPDs) were chloride (0%), nitrate (6.9%) and sulfate (3.3%) for the first set and chloride (18%), nitrate (1.9%) and sulfate (4.1%)for the second set, which were all within the QC limit. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

TOTAL ORGANIC CARBON

SUMMARY

I.) General:

The analyses for Total Organic Carbon (TOC) were performed according to SW-846 Method 9060A.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

There were no detections in the associated calibration blanks. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses were performed using sample 13MW2. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

Two sets of field duplicate samples (13MW3 / 13TW3 and 48MW3 / 48TW3) were identified for this SDG. There were no calculable Relative Percent Differences (RPDs). No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

CHEMICAL OXYGEN DEMAND (COD)

SUMMARY

I.) General:

The analyses for Chemical Oxygen Demand (COD) were performed according to EPA Method 410.4.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

Initial Calibration:

All Initial Calibration criteria were met. No data qualification was necessary.

Continuing Calibration:

All Continuing Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Method Blanks:

There were no detections in the associated method blank. No data qualification was necessary.

Calibration Blanks:

COD (10.2 ug/L) was reported in the ICB. Since the blank concentration was less than ½ the LOQ, no data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

All LCS Recovery criteria were met. No data qualification was necessary.

V.) Matrix Spike / Matrix Spike Duplicate (MS / MSD):

MS / MSD analyses data were not submitted for this SDG. Data qualification based on the

absence of data was not required. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this fraction of the SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

pH

SUMMARY

I.) General:

The analyses for pH were performed according to SW-846 Method 9040C.

II.) Overall Assessment of Data:

All laboratory data were acceptable without qualifications.

MAJOR ISSUES

There were no Major Issues for this fraction.

MINOR ISSUES

I.) Holding Times:

All Holding Time criteria were met. No data qualification was necessary.

II.) Calibration:

All Calibration criteria were met. No data qualification was necessary.

III.) Blanks:

Blanks data were not required for this fraction of the SDG. No data qualification was necessary.

IV.) Laboratory Control Samples (LCS):

LCS data was not required for this fraction of the SDG. No data qualification was necessary.

V.) Matrix Duplicate (MD):

MD analysis was performed using sample IDW-48/49. All criteria were met. No data qualification was necessary.

VI.) Field Duplicates:

There were no field duplicate samples identified for this SDG. No data qualification was necessary.

VII.) Sample Result, Calculation/Transcription Verification:

All criteria were met. No data qualification was necessary.

Appendix A
Qualified Form Is

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.98	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447991
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 16:23
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.72		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	28		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW4**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447991
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 19:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

Sample Description: 13MW3

VOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

8/31/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	5.4		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform 1.0	~~0.64~~	J- U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

Reviewed 8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.2		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447992
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 16:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.1		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.5		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447992
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/22/2020 09:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	90		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447992
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 19:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	5.2		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	1.0 ~~0.57~~	J+ U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.1		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447993
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 16:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.1		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.4		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447993
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/22/2020 10:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	93		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447993
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 20:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	1.1		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447994
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 17:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.7		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.33	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	54		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW04**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447994
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 20:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.96	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U LJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:22	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U ~~T~~	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U ~~T~~	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U ~~J~~	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description: 13MW2

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447995
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 17:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.9		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.32	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	51	M J	0.80	1.5	3.0	3.0

Jeem 8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447995
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 20:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.91	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447996
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 13:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	1.3		0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447996
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 13:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	5.2		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-1**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447996
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 13:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.41	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	1.8		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.46	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.8		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.30	J	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

50MW02

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449329
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 18:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	7.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.2		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	62		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **50MW02**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449329
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

Reviewed 8/21/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	24		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	3.3		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.8		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449330
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 18:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.4	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.73		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	5.8		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449330
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.88	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	65		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	15		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449331
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 19:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.5	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.3		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	25		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449331
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.88	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

Second 8/31/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	67		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	14		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449332
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 19:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.0		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.4		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	25		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48TW3**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449332
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.77		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449333
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 19:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.3	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.18	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	16		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449333
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 02:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EB2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U -Z UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EB2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49EB2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 16:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49EB2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449334
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 20:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.5	U	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	U	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49EB2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449334
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 02:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449335
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449335
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	0.64	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449335
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.79	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	4.4		0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~ZUJ~~	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~ZQ UJ~~	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.7	J	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~ZUJ~~	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

8/31/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	8.4		0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.82	J	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

dcc 8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	5.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2020 / 09:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.70		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450340
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/24/2020 14:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	17		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	3.2	MJ	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450340
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/27/2020 08:47
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	130		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW06**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450340
Analytical Method:	EPA 9060A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 02:47
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.33	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.85	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

Accept 3Dec20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

Sample Description: 48MW01

VOLATILE ORGANICS ANALYSIS

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.93	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U LO	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.29	J	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **48MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2020 / 10:25	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450341
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/24/2020 14:22
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.3		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.1		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	65		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **48MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450341
Analytical Method:	EPA 9060A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 03:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U ~~Z~~ UJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z~~ UJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U ~~Z~~ UJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

8/31/20

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	2.8		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.42	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	1.6	J	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2020 / 10:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450342
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/24/2020 14:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.9		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.26	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **49MW01**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450342
Analytical Method:	EPA 9060A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 03:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-48**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450343
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z UCJ	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U ~~Z,Q~~ UCJ	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z UCJ	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **TB-48**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450343
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U UJ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.2	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-48

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450343
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

1

IDW-48/49

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 6010C	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173504	Analysis Date/Time	07/28/2020 11:44
Analytical Prep Batch #:	77404	Prep. Date/Time:	07/27/2020 09:20
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	4350	J	6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	4.0	12	24	24
7440-39-3	Total Barium	151		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.13	J	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	103000		17	50	100	100
7440-47-3	Total Chromium	9.2		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	6.1		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	10.8	MJ	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	5080	J	16	50	100	100
7439-92-1	Total Lead	2.6	J J	1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	47800		6.0	20	40	40
7439-96-5	Total Manganese	673		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	5.7	J	1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-62-2	Total Vanadium	6.7		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	16.6		1.6	5.0	10	10

dcm 8/24/20

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **IDW-48/49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 6010C	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173505	Analysis Date/Time	07/31/2020 12:59
Analytical Prep Batch #:	77404	Prep. Date/Time:	07/27/2020 09:20
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	3680		90	250	500	500
7440-23-5	Total Sodium	49600		100	300	600	600

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **IDW-48/49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 7470A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173576	Analysis Date/Time	07/29/2020 10:15
Analytical Prep Batch #:	77414	Prep. Date/Time:	07/28/2020 12:30
ICAL Calibration #:	07292020	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **IDW-48/49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 410.4	Date Received:	07/24/2020
Dilution Factor:	2.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173688	Analysis Date/Time	07/31/2020 13:17
Analytical Prep Batch #:	77490	Prep. Date/Time:	07/31/2020 08:16
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	570		30	70	150	150

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description: **IDW-48/49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 9040C	Date Received:	07/24/2020
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173461	Analysis Date/Time	07/24/2020 14:05
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.99					

APPENDIX B-2
LABORATORY ANALYTICAL REPORTS

CT LABORATORIES

delivering more than data from your environmental analyses

ANALYTICAL RESULTS FOR:

ANTHONY PACE
WESTON SOLUTIONS, INC.
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

PROJECT SITE:	RFAAP SWMU-49; RADFORD, VA
DOD CONTRACT #:	
PROJECT #:	
SDG:	148990
PREPARED:	December 5, 2019
TOTAL # OF PAGES:	1178

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents

Section	Page
Cover Page	1
Table of Contents	2
Case Narrative and Summary of Detects (if applicable)	3
Data Qualifier Sheet	7
Sample Delivery Group Summary	9
QC Batch Cross Reference	10
VOC QC Summary Documents	13
VOC Sample Data Documents	107
VOC ICAL Documents	218
VOC CCV Documents	307
VOC QC Documents	354
VOC Logbook Documents	377
Metals CLP Forms Documents	425
Metals Raw Data Documents	484
Metals Logbook Documents	650
Inorganic CLP Forms Documents	883
Inorganic Raw Data Documents	990
Inorganic Logbook Documents	1055
Chain of Custody, PM Confirmation and Sample Condition Forms	1155

CT LABORATORIES

delivering more than data from your environmental analyses

Case Narrative

Client: Bering Sea Environmental
Project: RFAAP SWMU-49, Radford, VA
Sample Receipt Date: 10/18/2019
SDG #: 148990

Fifteen water samples were received and analyzed for a variety of parameters, including: VOCs, Dissolved Gases, Metals, pH, COD, Anions, and TOC. One Trip Blank was included with the VOCs. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.1 requirements.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C (VOC) and RSK-175 (Dissolved Gases). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

VOC (8260C) Water Analysis

Analytical Run # 165696

CCV3 had high recoveries outside of specified criteria for dichlorodifluoromethane and 1,1,2-trichloro-1,2,2-trifluoroethane. These compounds were qualified with a "Z" flag on all associated samples.

CCVF3 had a low recovery outside of specified criteria for 1,4-dioxane. This compound was qualified with a "Z" flag on all associated samples.

Sample # 343864 had a pH > 2. This sample was qualified with a "T" flag for being insufficiently preserved.

The Matrix Spike (MS) and the Matrix Spike Duplicate (MSD) for sample # 343848 had a low recovery 1,4-dioxane. The MSD also had high recoveries for vinyl chloride and 1,1,2-trichloro-1,2,2-trifluoroethane. The parent sample results for these compounds were qualified with an "M" flag. The MS/MSD for this sample also had a Relative Percent Difference (RPD) failure for 1,4-dioxane. The parent sample result for this compound was qualified with a "Y" flag.

Dissolved Gases (RSK-175) Analysis

Analytical Run # 165890

All analytical results for this run met the method/project specified quality control criteria.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 165750

The sample QC was performed on a sample from SDG # 149018.

Selenium was detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The samples were reported and not qualified because the results were less than the MDL.

ICP Sodium & Potassium (6010C) Water Analysis

Analytical Run # 165751

The sample QC was performed on a sample from SDG # 149018.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 165806

Mercury exceeded the recovery limit in the CCV standard. The CCV standard was reanalyzed twice and was acceptable.

The sample QC was performed on a sample from SDG # 149018.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC), 9040C (pH), 410.4 (COD) and 9056A (Anions). All samples were analyzed within the holding time unless noted below. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Water Analysis

Analytical Run # 165651

Sample #'s 343846, 343848, 343850, 343852, 343854, 343856, 343858, 343860, 343862, 343864, and 343866 were received past hold for nitrate analysis. This analyte was qualified with an "H" flag on these samples.

The MS and the MSD for sample #'s 343840 and 343848 had low sulfate recoveries. The parent sample result for this analyte was qualified with an "M" flag.

The Duplicate (DUP) for sample # 343848 exceeded RPD limits for chloride. The parent sample result for this analyte was qualified with a "Y" flag.

COD (410.4) Water Analysis

Analytical Run # 165740

All analytical results for this run met the method/project specified quality control criteria.

pH (9040C) Water Analysis

Analytical Run # 165767

All analytical results for this run met the method/project specified quality control criteria.

TOC (9060A) Water Analysis

Analytical Run # 165875

All analytical results for this run met the method/project specified quality control criteria.

CT LABORATORIES

delivering more than data from your environmental analyses

Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

CT LABORATORIES

delivering more than data from your environmental analyses

MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sample Delivery Group

148990

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name: RADFORD AAP SWMU-49
Project #:

	CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
1	343846	148990		48MW06	GROUND WATER	10/15/2019	10/18/2019
2	343848	148990		13MW2	GROUND WATER	10/15/2019	10/18/2019
3	343850	148990		49MW04	GROUND WATER	10/15/2019	10/18/2019
4	343852	148990		13MW3	GROUND WATER	10/15/2019	10/18/2019
5	343854	148990		13TW3	GROUND WATER	10/15/2019	10/18/2019
6	343856	148990		13MW4	GROUND WATER	10/15/2019	10/18/2019
7	343858	148990		49EQB-48MW2	GROUND WATER	10/16/2019	10/18/2019
8	343860	148990		48MW3	GROUND WATER	10/16/2019	10/18/2019
9	343862	148990		48TW3	GROUND WATER	10/16/2019	10/18/2019
10	343864	148990		49MW02	GROUND WATER	10/16/2019	10/18/2019
11	343866	148990		48MW1	GROUND WATER	10/16/2019	10/18/2019
12	343868	148990		49MW01	GROUND WATER	10/17/2019	10/18/2019
13	343870	148990		50MW02	GROUND WATER	10/17/2019	10/18/2019
14	343872	148990		48MW2	GROUND WATER	10/17/2019	10/18/2019
15	343878	148990		49IDW	GROUND WATER	10/17/2019	10/18/2019
16	344136	148990		TRIP BLANK	TRIP BLANK	10/14/2019	10/18/2019

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

QC Batch Cross Reference Summary

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name:	RADFORD AAP SWMU-49
Project #:	
Report Date:	12/05/2019
Date Received:	10/18/2019
SDG #:	148990

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343878	pH	EPA 9040C	GROUND WATER		165767

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343878	COD QSM	EPA 410.4	GROUND WATER	74074	165740

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343846	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343848	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343850	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343852	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343854	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343856	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343858	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343860	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343862	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343864	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343866	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343868	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343870	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343872	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343846	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343852	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651
343854	Anions QSM 5.0	EPA 9056A	GROUND WATER		165651

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343846	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343848	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343850	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343852	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU-49
Project #:
SDG #: 148990

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343854	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343856	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343858	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343860	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343862	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343864	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343866	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343868	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343870	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875
343872	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		165875

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343878	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	74046	165751

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343878	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	74046	165751

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343878	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	74046	165750

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343878	Mercury, Total QSM	EPA 7470A	GROUND WATER	74031	165806

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343846	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343848	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343850	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343852	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343854	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343856	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343858	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343860	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343862	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343864	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343866	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU-49
Project #:
SDG #: 148990

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343868	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343870	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343872	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
344136	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		165696
343860	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696
343862	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		165696

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
343846	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343848	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343850	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343852	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343854	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343856	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343858	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343860	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343862	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343864	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343866	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343868	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343870	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890
343872	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	74137	165890

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
96-18-4	1,2,3-Trichloropropane	0.60	U	0.30	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U M,Y	34	50	100	100
354-23-4	12Dichloro112trifluoroethane	0.60	U	0.30	0.60	1.0	1.0
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U M	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343848
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U M	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343852
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343852
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 22:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
107-13-1	Acrylonitrile	3.0	U	1.9	3.0	5.0	5.0
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343852
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 22:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	4.2		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.51	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343852
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 22:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.64	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343856
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343856
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 23:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343856
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 23:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343856
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 23:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.72	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343854
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:12	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343854
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 23:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343854
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 23:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	4.2		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.49	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
126-99-8	Chloroprene	2.0	U	0.70	2.0	4.0	4.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343854
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 23:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.63	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343846
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 10:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343846
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.43	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	3.3		0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343846
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	5.7		0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343846
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 21:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	3.1		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.76	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.55	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U Z	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U Z	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:49	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	1.7		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343866
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:58	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343872
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 11:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343872
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 11:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	63		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	6.1		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U Z	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U Z	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343872
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 11:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	6.5		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343872
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 12:10	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343860
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 00:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.57	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343860
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 00:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	12		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343860
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 00:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343860
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343860
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	5.00
Date & Time Analyzed:	10/23/2019 / 12:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	88		1.5	3.0	5.0	5.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343862
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 00:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.57	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343862
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 00:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	12		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
103-65-1	n-Propylbenzene	0.60	U	0.30	0.60	1.0	1.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343862
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 00:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343862
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343862
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	5.00
Date & Time Analyzed:	10/23/2019 / 12:47	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	91		1.5	3.0	5.0	5.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343858
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343858
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 20:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
110-75-8	2-Chloroethyl vinyl ether	10	U	5.0	10	20	20
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	4.5	J	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343858
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 20:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343858
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 20:32	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343868
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
106-43-4	4-Chlorotoluene	0.60	U	0.30	0.60	1.0	1.0
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343868
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	3.5		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.44	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U Z	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	1.0	J Z	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343868
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:18	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
108-05-4	Vinyl acetate	10	U	5.0	10	20	20
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343868
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 12:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U T	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U T	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U T	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U T	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U T	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U T	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U T	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U T	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U T	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U T	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U T	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U T	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U T	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U T	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U TZ	34	50	100	100
78-93-3	2-Butanone	6.0	U T	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U T	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U T	2.2	6.0	10	10
67-64-1	Acetone	10	U T	4.0	10	20	20
71-43-2	Benzene	1.0	U T	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U T	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U T	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U T	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U T	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U T	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U T	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U T	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U T	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U T	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U T	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U T	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U T	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U T	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U T	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U TZ	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U T	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U TZ	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U T	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U T	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U T	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U T	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U T	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U T	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U T	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U T	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U T	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U T	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U T	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U T	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U T	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U T	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U T	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343864
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	1.5		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343850
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343850
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 22:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343850
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 22:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343850
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 22:02	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343870
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343870
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	2.0		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U Z	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U Z	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	343870
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/23/2019 / 10:48	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.7		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	343870
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Date & Time Analyzed:	10/24/2019 / 12:07	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TRIP BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	344136
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 19:33	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
630-20-6	1,1,1,2-Tetrachloroethane	1.0	U	0.40	1.0	2.0	2.0
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
106-46-7	1,4-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TRIP BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	344136
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 19:33	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
97-63-2	Ethyl methacrylate	2.0	U	0.50	2.0	4.0	4.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
98-06-6	tert-Butylbenzene	1.0	U	0.40	1.0	2.0	2.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TRIP BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	344136
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	165696	Dilution Factor:	1.00
Date & Time Analyzed:	10/22/2019 / 19:33	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

METHOD BLANK

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	345784
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	165696	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	10/22/2019	19:03	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
79-00-5	1,1,2-Trichloroethane	10/22/2019	19:03	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
75-35-4	1,1-Dichloroethene	10/22/2019	19:03	0.4	U	0.4	2.0	***1.0***
87-61-6	1,2,3-Trichlorobenzene	10/22/2019	19:03	0.23	U	0.23	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	10/22/2019	19:03	0.28	U	0.28	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	10/22/2019	19:03	0.25	U	0.25	1.00	***0.50***
106-93-4	1,2-Dibromoethane	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
107-06-2	1,2-Dichloroethane	10/22/2019	19:03	0.24	U	0.24	1.00	***0.50***
78-87-5	1,2-Dichloropropane	10/22/2019	19:03	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	10/22/2019	19:03	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
123-91-1	1,4-Dioxane	10/22/2019	19:03	34	U	34	100	***50***
78-93-3	2-Butanone	10/22/2019	19:03	2.6	U	2.6	10.0	***5.0***
591-78-6	2-Hexanone	10/22/2019	19:03	3	U	3	10	***5***
108-10-1	4-Methyl-2-pentanone	10/22/2019	19:03	2.2	U	2.2	10.0	***5.0***
67-64-1	Acetone	10/22/2019	19:03	4	U	4	20	***10***
71-43-2	Benzene	10/22/2019	19:03	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
75-27-4	Bromodichloromethane	10/22/2019	19:03	0.29	U	0.29	1.00	***0.50***
75-25-2	Bromoform	10/22/2019	19:03	0.4	U	0.4	2.0	***1.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	345784
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	165696	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-83-9	Bromomethane	10/22/2019	19:03	0.9	U	0.9	4.0	***2.0***
75-15-0	Carbon disulfide	10/22/2019	19:03	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
108-90-7	Chlorobenzene	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
75-00-3	Chloroethane	10/22/2019	19:03	0.5	U	0.5	2.0	***1.0***
67-66-3	Chloroform	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	10/22/2019	19:03	0.6	U	0.6	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	10/22/2019	19:03	0.3	U	0.3	1.00	***0.5***
10061-01-5	cis-1,3-Dichloropropene	10/22/2019	19:03	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
124-48-1	Dibromochloromethane	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
75-71-8	Dichlorodifluoromethane	10/22/2019	19:03	0.4	U	0.4	2.0	***1.0***
100-41-4	Ethylbenzene	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
76-13-1	Freon 113	10/22/2019	19:03	0.7	U	0.7	4.0	***2.0***
98-82-8	Isopropylbenzene	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
179601-23-1	m & p-Xylene	10/22/2019	19:03	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	10/22/2019	19:03	0.5	U	0.5	2.0	***1.0***
108-87-2	Methylcyclohexane	10/22/2019	19:03	0.26	U	0.26	1.00	***0.50***
75-09-2	Methylene chloride	10/22/2019	19:03	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	10/22/2019	19:03	0.26	U	0.26	1.00	***0.50***
100-42-5	Styrene	10/22/2019	19:03	0.29	U	0.29	1.00	***0.50***
127-18-4	Tetrachloroethene	10/22/2019	19:03	0.27	U	0.27	1.00	***0.50***
108-88-3	Toluene	10/22/2019	19:03	0.21	U	0.21	1.00	***0.50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	345784
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	165696	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
156-60-5	trans-1,2-Dichloroethene	10/22/2019	19:03	0.3	U	0.3	1.0	***0.50***
10061-02-6	trans-1,3-Dichloropropene	10/22/2019	19:03	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	10/22/2019	19:03	0.3	U	0.3	1.0	***0.5***
75-69-4	Trichlorofluoromethane	10/22/2019	19:03	0.4	U	0.4	2.0	***1.0***
75-01-4	Vinyl chloride	10/22/2019	19:03	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	148990
Sample wt/vol:	18.3 (g/mL)	CTL Sample ID:	346909
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	18.3 (mL)	Date/Time Prepared:	10/24/2019 / 10:21
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	74137
Analytical Run #:	165890	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG062619	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	10/24/2019	10:54	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	10/24/2019	10:54	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	10/24/2019	10:54	0.3	U	0.3	0.7	***0.4***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	350748
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	165696	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	10/23/2019	08:49	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	10/23/2019	08:49	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
75-35-4	1,1-Dichloroethene	10/23/2019	08:49	0.4	U	0.4	2.0	***1.0***
87-61-6	1,2,3-Trichlorobenzene	10/23/2019	08:49	0.23	U	0.23	1.0	***0.5***
120-82-1	1,2,4-Trichlorobenzene	10/23/2019	08:49	0.28	U	0.28	1.0	***0.5***
96-12-8	1,2-Dibromo-3-chloropropane	10/23/2019	08:49	0.25	U	0.25	1.0	***0.5***
106-93-4	1,2-Dibromoethane	10/23/2019	08:49	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
107-06-2	1,2-Dichloroethane	10/23/2019	08:49	0.24	U	0.24	1.0	***0.5***
78-87-5	1,2-Dichloropropane	10/23/2019	08:49	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	10/23/2019	08:49	0.26	U	0.26	1.00	***0.50***
106-46-7	1,4-Dichlorobenzene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
123-91-1	1,4-Dioxane	10/23/2019	08:49	34	U	34	100	***50***
78-93-3	2-Butanone	10/23/2019	08:49	2.6	U	2.6	10.0	***5***
95-49-8	2-Chlorotoluene	10/23/2019	08:49	0.25	U	0.25	1.00	***0.50***
591-78-6	2-Hexanone	10/23/2019	08:49	3	U	3	10.0	***5.0***
108-10-1	4-Methyl-2-pentanone	10/23/2019	08:49	2.2	U	2.2	10	***5***
67-64-1	Acetone	10/23/2019	08:49	4	U	4	20	***10***
71-43-2	Benzene	10/23/2019	08:49	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	10/23/2019	08:49	0.30	U	0.30	1.00	***0.50***
75-27-4	Bromodichloromethane	10/23/2019	08:49	0.29	U	0.29	1.00	***0.50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	350748
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	165696	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
75-25-2	Bromoform	10/23/2019	08:49	0.4	U	0.4	2.0	***1.0***
74-83-9	Bromomethane	10/23/2019	08:49	0.9	U	0.9	4.0	***2.0***
75-15-0	Carbon disulfide	10/23/2019	08:49	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
108-90-7	Chlorobenzene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
75-00-3	Chloroethane	10/23/2019	08:49	0.5	U	0.5	2.0	***1.0***
67-66-3	Chloroform	10/23/2019	08:49	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	10/23/2019	08:49	0.6	U	0.6	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	10/23/2019	08:49	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
124-48-1	Dibromochloromethane	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	10/23/2019	08:49	0.4	U	0.4	2.0	***1.0***
100-41-4	Ethylbenzene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
76-13-1	Freon 113	10/23/2019	08:49	0.7	U	0.7	4.0	***2.0***
98-82-8	Isopropylbenzene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
179601-23-1	m & p-Xylene	10/23/2019	08:49	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	10/23/2019	08:49	0.5	U	0.5	2.0	***1.0***
1634-04-4	Methyl tert-butyl ether	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
75-09-2	Methylene chloride	10/23/2019	08:49	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	10/23/2019	08:49	0.26	U	0.26	1.00	***0.50***
100-42-5	Styrene	10/23/2019	08:49	0.29	U	0.29	1.00	***0.50***
127-18-4	Tetrachloroethene	10/23/2019	08:49	0.27	U	0.27	1.0	***0.5***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	148990
Sample wt/vol:	(g/mL)	CTL Sample ID:	350748
% Solids:		Date Received:	10/18/2019
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	165696	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W101819.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
108-88-3	Toluene	10/23/2019	08:49	0.21	U	0.21	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	10/23/2019	08:49	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	10/23/2019	08:49	0.3	U	0.3	1.00	***0.50***
75-69-4	Trichlorofluoromethane	10/23/2019	08:49	0.4	U	0.4	2.0	***1.0***
75-01-4	Vinyl chloride	10/23/2019	08:49	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Analytical Method: EPA 8260C | SDG: 148990

Analytical Run #: 165696 | ICAL Calibration #: W101819.

CTLab #	343846				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	107	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	343848				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	343850				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	343852				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	343854				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	106	80	119	

CTLab #	343856				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	104	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	148990
Analytical Run #:	165696	ICAL Calibration #:	W101819.

CTLab #	343858				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	107	80	119	

CTLab #	343860				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	106	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	104	80	119	

CTLab #	343862				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	105	80	119	

CTLab #	343864				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	109	80	119	

CTLab #	343866				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	107	80	119	

CTLab #	343868				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	109	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Analytical Method: EPA 8260C | SDG: 148990

Analytical Run #: 165696 | ICAL Calibration #: W101819.

CTLab #	343870				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	110	80	119	
CTLab #	**343872**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	108	80	119	
CTLab #	**344136**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	104	80	119	
CTLab #	**345784**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	70	120	
Bromofluorobenzene	100	96.0	75	120	
d8-Toluene	100	97.0	85	120	
Dibromofluoromethane	100	104	85	115	
CTLab #	**345785**	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	50	150	
Bromofluorobenzene	100	101	50	150	
d8-Toluene	100	103	50	150	
Dibromofluoromethane	100	106	50	150	
CTLab #	**346509**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	148990
Analytical Run #:	165696	ICAL Calibration #:	W101819.

CTLab #	346517	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	81	118	
Bromofluorobenzene	100	98.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	346633	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	50	150	
Bromofluorobenzene	100	99.0	50	150	
d8-Toluene	100	100	50	150	
Dibromofluoromethane	100	103	50	150	

CTLab #	349129	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	349130	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	70	120	
Bromofluorobenzene	100	101	70	120	
d8-Toluene	100	101	85	120	
Dibromofluoromethane	100	102	85	115	

CTLab #	350747	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	70	120	
Bromofluorobenzene	100	99.0	70	120	
d8-Toluene	100	101	85	120	
Dibromofluoromethane	100	103	85	115	

CTLab #	350748	Sample Type:		Normal Field Sample	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	70	120	
Bromofluorobenzene	100	101	75	120	
d8-Toluene	100	99.0	85	120	
Dibromofluoromethane	100	108	85	115	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: GROUND WATER
SDG No.: 148990
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 165696
Sample No.: 346509
Parent Sample No.: 343848
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W101819.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	10/23/2019	13:16	74-131	11.1	BDL	10.0	111	
1,1,2,2-Tetrachloroethane	10/23/2019	13:16	71-121	9.38	BDL	10.0	94	
1,1,2-Trichloroethane	10/23/2019	13:16	80-119	9.66	BDL	10.0	97	
1,1-Dichloroethane	10/23/2019	13:16	77-125	10.2	BDL	10.0	102	
1,1-Dichloroethene	10/23/2019	13:16	71-131	11.5	BDL	10.0	115	
1,2,3-Trichlorobenzene	10/23/2019	13:16	69-129	9.01	BDL	10.0	90	
1,2,4-Trichlorobenzene	10/23/2019	13:16	69-130	9.02	BDL	10.0	90	
1,2-Dibromo-3-chloropropane	10/23/2019	13:16	62-128	8.25	BDL	10.0	82	
1,2-Dibromoethane	10/23/2019	13:16	77-121	9.36	BDL	10.0	94	
1,2-Dichlorobenzene	10/23/2019	13:16	80-119	9.87	BDL	10.0	99	
1,2-Dichloroethane	10/23/2019	13:16	73-128	10.1	BDL	10.0	101	
1,2-Dichloropropane	10/23/2019	13:16	78-122	10.5	BDL	10.0	105	
1,3-Dichlorobenzene	10/23/2019	13:16	80-119	9.93	BDL	10.0	99	
1,4-Dichlorobenzene	10/23/2019	13:16	79-118	9.83	BDL	10.0	98	
1,4-Dioxane	10/23/2019	13:16	59-139	90.5	BDL	500	18	*FAIL*
2-Butanone	10/23/2019	13:16	56-143	92.6	BDL	100	93	
2-Hexanone	10/23/2019	13:16	57-139	95.8	BDL	100	96	
4-Methyl-2-pentanone	10/23/2019	13:16	67-130	94.3	BDL	100	94	
Acetone	10/23/2019	13:16	39-160	76.5	BDL	100	76	
Benzene	10/23/2019	13:16	79-120	10.8	BDL	10.0	108	
Bromochloromethane	10/23/2019	13:16	78-123	9.76	BDL	10.0	98	
Bromodichloromethane	10/23/2019	13:16	79-125	10.1	BDL	10.0	101	
Bromoform	10/23/2019	13:16	66-130	8.89	BDL	10.0	89	
Bromomethane	10/23/2019	13:16	53-141	11.7	BDL	10.0	117	
Carbon disulfide	10/23/2019	13:16	64-133	25.2	BDL	20.0	126	
Carbon tetrachloride	10/23/2019	13:16	72-136	11.9	BDL	10.0	119	
Chlorobenzene	10/23/2019	13:16	82-118	9.84	BDL	10.0	98	
Chloroethane	10/23/2019	13:16	60-138	11.1	BDL	10.0	111	
Chloroform	10/23/2019	13:16	79-124	10.1	BDL	10.0	101	
Chloromethane	10/23/2019	13:16	50-139	11.5	BDL	10.0	115	
cis-1,2-Dichloroethene	10/23/2019	13:16	78-123	10.5	BDL	10.0	105	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: GROUND WATER
SDG No.: 148990
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 165696
Sample No.: 346509
Parent Sample No.: 343848
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W101819.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
cis-1,3-Dichloropropene	10/23/2019	13:16	75-124	8.76	BDL	10.0	88
Cyclohexane	10/23/2019	13:16	71-130	10.9	BDL	10.0	109
Dibromochloromethane	10/23/2019	13:16	74-126	9.12	BDL	10.0	91
Dichlorodifluoromethane	10/23/2019	13:16	32-152	13.0	BDL	10.0	130
Ethylbenzene	10/23/2019	13:16	79-121	10.7	BDL	10.0	107
Freon 113	10/23/2019	13:16	70-136	26.5	BDL	20.0	132
Isopropylbenzene	10/23/2019	13:16	72-131	10.9	BDL	10.0	109
m & p-Xylene	10/23/2019	13:16	80-121	21.2	BDL	20.0	106
Methyl Acetate	10/23/2019	13:16	56-136	6.75	BDL	10.0	68
Methyl tert-butyl ether	10/23/2019	13:16	71-124	10.2	BDL	10.0	102
Methylcyclohexane	10/23/2019	13:16	72-132	10.8	BDL	10.0	108
Methylene chloride	10/23/2019	13:16	74-124	10.3	BDL	10.0	103
o-Xylene	10/23/2019	13:16	78-122	10.1	BDL	10.0	101
Styrene	10/23/2019	13:16	78-123	10.4	BDL	10.0	104
Tetrachloroethene	10/23/2019	13:16	74-129	10.8	BDL	10.0	108
Toluene	10/23/2019	13:16	80-121	10.3	BDL	10.0	103
trans-1,2-Dichloroethene	10/23/2019	13:16	75-124	10.6	BDL	10.0	106
trans-1,3-Dichloropropene	10/23/2019	13:16	73-127	9.26	BDL	10.0	93
Trichloroethene	10/23/2019	13:16	79-123	10.3	BDL	10.0	103
Trichlorofluoromethane	10/23/2019	13:16	65-141	12.5	BDL	10.0	125
Vinyl chloride	10/23/2019	13:16	58-137	13.3	BDL	10.0	133

Spike Recovery: 1 out of 52 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 148990

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 165890 Sample No.: 353925 Parent Sample No.: 343848

Analytical Prep Batch #: 74137 Analytical Preparation Date/Time: 10/24/2019 10:21

ICAL Calibration #:

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	10/24/2019	11:40	74-131	4.11	BDL	4.79	86
Ethene	10/24/2019	11:40	72-133	5.74	BDL	6.81	84
Methane	10/24/2019	11:40	73-125	2.02	BDL	2.30	88

Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 148990

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 165696 Sample No.: 346517 Parent Sample No.: 346509

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W101819.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,1,1-Trichloroethane	10/23/2019	13:45	11.7	10.0	117	6	74-131	20	
1,1,2,2-Tetrachloroethane	10/23/2019	13:45	9.07	10.0	91	3	71-121	20	
1,1,2-Trichloroethane	10/23/2019	13:45	10.2	10.0	102	6	80-119	20	
1,1-Dichloroethane	10/23/2019	13:45	11.0	10.0	110	8	77-125	20	
1,1-Dichloroethene	10/23/2019	13:45	12.4	10.0	124	8	71-131	20	
1,2,3-Trichlorobenzene	10/23/2019	13:45	9.80	10.0	98	8	69-129	20	
1,2,4-Trichlorobenzene	10/23/2019	13:45	9.47	10.0	95	5	69-130	20	
1,2-Dibromo-3-chloropropane	10/23/2019	13:45	8.33	10.0	83	1	62-128	20	
1,2-Dibromoethane	10/23/2019	13:45	9.57	10.0	96	2	77-121	20	
1,2-Dichlorobenzene	10/23/2019	13:45	10.0	10.0	100	2	80-119	20	
1,2-Dichloroethane	10/23/2019	13:45	10.6	10.0	106	4	73-128	20	
1,2-Dichloropropane	10/23/2019	13:45	10.8	10.0	108	3	78-122	20	
1,3-Dichlorobenzene	10/23/2019	13:45	10.1	10.0	101	2	80-119	20	
1,4-Dichloro-2-butene	10/23/2019	13:45	6.58	10.0	66	1	43-146	20	
1,4-Dichlorobenzene	10/23/2019	13:45	10.1	10.0	101	3	79-118	20	
1,4-Dioxane	10/23/2019	13:45	189	500	38	70	59-139	20	*FAIL*
2-Butanone	10/23/2019	13:45	99.3	100	99	7	56-143	20	
2-Hexanone	10/23/2019	13:45	96.7	100	97	1	57-139	20	
4-Methyl-2-pentanone	10/23/2019	13:45	95.4	100	95	1	67-130	20	
Acetone	10/23/2019	13:45	79.5	100	80	4	39-160	20	
Benzene	10/23/2019	13:45	11.4	10.0	114	6	79-120	20	
Bromochloromethane	10/23/2019	13:45	10.3	10.0	103	5	78-123	20	
Bromodichloromethane	10/23/2019	13:45	10.6	10.0	106	5	79-125	20	
Bromoform	10/23/2019	13:45	9.70	10.0	97	9	66-130	20	
Bromomethane	10/23/2019	13:45	12.9	10.0	129	10	53-141	20	
Carbon disulfide	10/23/2019	13:45	26.6	20.0	133	5	64-133	20	
Carbon tetrachloride	10/23/2019	13:45	12.8	10.0	128	7	72-136	20	
Chlorobenzene	10/23/2019	13:45	10.6	10.0	106	7	82-118	20	
Chloroethane	10/23/2019	13:45	11.8	10.0	118	6	60-138	20	
Chloroform	10/23/2019	13:45	10.9	10.0	109	8	79-124	20	
Chloromethane	10/23/2019	13:45	12.2	10.0	122	6	50-139	20	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 148990

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 165696 Sample No.: 346517 Parent Sample No.: 346509

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W101819.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
cis-1,2-Dichloroethene	10/23/2019	13:45	11.5	10.0	115	9	78-123	20	
cis-1,3-Dichloropropene	10/23/2019	13:45	9.56	10.0	96	9	75-124	20	
Cyclohexane	10/23/2019	13:45	11.3	10.0	113	3	71-130	20	
Dibromochloromethane	10/23/2019	13:45	10.1	10.0	101	11	74-126	20	
Dichlorodifluoromethane	10/23/2019	13:45	13.5	10.0	135	4	32-152	20	
Dichlorofluoromethane	10/23/2019	13:45	11.7	10.0	117	5	72-131	20	
Ethylbenzene	10/23/2019	13:45	11.3	10.0	113	6	79-121	20	
Freon 113	10/23/2019	13:45	28.2	20.0	141	6	70-136	20	*FAIL*
Isopropylbenzene	10/23/2019	13:45	11.5	10.0	115	6	72-131	20	
m & p-Xylene	10/23/2019	13:45	22.6	20.0	113	7	80-121	20	
Methyl Acetate	10/23/2019	13:45	8.20	10.0	82	19	56-136	20	
Methyl tert-butyl ether	10/23/2019	13:45	11.0	10.0	110	8	71-124	20	
Methylcyclohexane	10/23/2019	13:45	11.8	10.0	118	9	72-132	20	
Methylene chloride	10/23/2019	13:45	11.2	10.0	112	9	74-124	20	
o-Xylene	10/23/2019	13:45	11.0	10.0	110	8	78-122	20	
Styrene	10/23/2019	13:45	10.9	10.0	109	5	78-123	20	
Tetrachloroethene	10/23/2019	13:45	11.4	10.0	114	6	74-129	20	
Toluene	10/23/2019	13:45	11.0	10.0	110	7	80-121	20	
trans-1,2-Dichloroethene	10/23/2019	13:45	11.8	10.0	118	10	75-124	20	
trans-1,3-Dichloropropene	10/23/2019	13:45	9.51	10.0	95	3	73-127	20	
Trichloroethene	10/23/2019	13:45	11.2	10.0	112	8	79-123	20	
Trichlorofluoromethane	10/23/2019	13:45	13.3	10.0	133	6	65-141	20	
Vinyl chloride	10/23/2019	13:45	13.8	10.0	138	4	58-137	20	*FAIL*

RPD or Spike Recovery: 3 out of 54 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 148990

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 165890 Sample No.: 353926 Parent Sample No.: 353925

Analytical Prep Batch #: 74137 Analytical Preparation Date/Time: 10/24/2019 10:21

ICAL Calibration #:

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	10/24/2019	11:44	4.26	4.79	89	4	74-131	30
Ethene	10/24/2019	11:44	5.96	6.81	88	4	72-133	30
Methane	10/24/2019	11:44	2.06	2.30	90	2	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Sample No.: 346910 SDG No.: 148990

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Sample No.: 346910 Parent Sample No.: 0

Analytical Prep Batch #: 74137 Analytical Preparation Date/Time: 10/24/2019 10:21

Analytical Run #: 165890 ICAL Calibration #:

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	10/24/2019	10:50	74-131	4.24		4.79	89
Ethene	10/24/2019	10:50	72-133	5.93		6.81	87
Methane	10/24/2019	10:50	73-125	2.19		2.30	95

Spike Recovery: 0 out of 3 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Sample No.: 349129 | SDG No.: 148990

Analytical Method: EPA 8260C | Concentration Units: ug/L

Sample No.: 349129 | Parent Sample No.: 0

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

Analytical Run #: 165696 | ICAL Calibration #: W101819.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	10/22/2019	18:04	74-131	10.2		10.0	102
1,1,2,2-Tetrachloroethane	10/22/2019	18:04	71-121	8.80		10.0	88
1,1,2-Trichloroethane	10/22/2019	18:04	80-119	9.59		10.0	96
1,1-Dichloroethane	10/22/2019	18:04	77-125	9.99		10.0	100
1,1-Dichloroethene	10/22/2019	18:04	71-131	10.4		10.0	104
1,2,3-Trichlorobenzene	10/22/2019	18:04	69-129	9.43		10.0	94
1,2,4-Trichlorobenzene	10/22/2019	18:04	69-130	9.49		10.0	95
1,2-Dibromo-3-chloropropane	10/22/2019	18:04	62-128	8.88		10.0	89
1,2-Dibromoethane	10/22/2019	18:04	77-121	9.41		10.0	94
1,2-Dichlorobenzene	10/22/2019	18:04	80-119	9.56		10.0	96
1,2-Dichloroethane	10/22/2019	18:04	73-128	9.80		10.0	98
1,2-Dichloropropane	10/22/2019	18:04	78-122	10.3		10.0	103
1,3-Dichlorobenzene	10/22/2019	18:04	80-119	10.2		10.0	102
1,4-Dichlorobenzene	10/22/2019	18:04	79-118	9.77		10.0	98
1,4-Dioxane	10/22/2019	18:04	59-139	460		500	92
2-Butanone	10/22/2019	18:04	56-143	100		100	100
2-Hexanone	10/22/2019	18:04	57-139	90.6		100	91
4-Methyl-2-pentanone	10/22/2019	18:04	67-130	89.5		100	90
Acetone	10/22/2019	18:04	39-160	88.3		100	88
Benzene	10/22/2019	18:04	79-120	10.5		10.0	105
Bromochloromethane	10/22/2019	18:04	78-123	9.09		10.0	91
Bromodichloromethane	10/22/2019	18:04	79-125	9.90		10.0	99
Bromoform	10/22/2019	18:04	66-130	9.55		10.0	96
Bromomethane	10/22/2019	18:04	53-141	9.52		10.0	95
Carbon disulfide	10/22/2019	18:04	64-133	21.7		20.0	108
Carbon tetrachloride	10/22/2019	18:04	72-136	11.0		10.0	110
Chlorobenzene	10/22/2019	18:04	82-118	9.85		10.0	98
Chloroethane	10/22/2019	18:04	60-138	10.1		10.0	101

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 349129
SDG No.: 148990
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 349129
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 165696
ICAL Calibration #: W101819.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloroform	10/22/2019	18:04	79-124	9.70		10.0	97
Chloromethane	10/22/2019	18:04	50-139	10.3		10.0	103
cis-1,2-Dichloroethene	10/22/2019	18:04	78-123	10.1		10.0	101
cis-1,3-Dichloropropene	10/22/2019	18:04	75-124	10.4		10.0	104
Cyclohexane	10/22/2019	18:04	71-130	10.1		10.0	101
Dibromochloromethane	10/22/2019	18:04	74-126	9.49		10.0	95
Dichlorodifluoromethane	10/22/2019	18:04	32-152	11.4		10.0	114
Ethylbenzene	10/22/2019	18:04	79-121	10.5		10.0	105
Freon 113	10/22/2019	18:04	70-136	22.7		20.0	114
Isopropylbenzene	10/22/2019	18:04	72-131	10.9		10.0	109
m & p-Xylene	10/22/2019	18:04	80-121	21.0		20.0	105
Methyl Acetate	10/22/2019	18:04	56-136	8.66		10.0	87
Methyl tert-butyl ether	10/22/2019	18:04	71-124	9.99		10.0	100
Methylcyclohexane	10/22/2019	18:04	72-132	10.2		10.0	102
Methylene chloride	10/22/2019	18:04	74-124	10.2		10.0	102
o-Xylene	10/22/2019	18:04	78-122	10.4		10.0	104
Styrene	10/22/2019	18:04	78-123	10.6		10.0	106
Tetrachloroethene	10/22/2019	18:04	74-129	10.3		10.0	103
Toluene	10/22/2019	18:04	80-121	10.2		10.0	102
trans-1,2-Dichloroethene	10/22/2019	18:04	75-124	9.98		10.0	100
trans-1,3-Dichloropropene	10/22/2019	18:04	73-127	10.3		10.0	103
Trichloroethene	10/22/2019	18:04	79-123	10.2		10.0	102
Trichlorofluoromethane	10/22/2019	18:04	65-141	11.2		10.0	112
Vinyl chloride	10/22/2019	18:04	58-137	11.1		10.0	111

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name:	CT Laboratories	Contract	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.:	349129	SDG No.:	148990
Analytical Method:	EPA 8260C	Concentration Units:	ug/L

Spike Recovery: 0 out of 52 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	345784	SDG No.:	148990
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	10/22/2019	Time Analyzed:	19:03
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	165696	Extraction Batch #:	0
		ICAL Calibration #:	W101819.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	349128	10/22/2019 17:48	
2	LCSW	349129	10/22/2019 18:04	W101819.
3	CCV	349130	10/22/2019 18:04	W101819.
4	MBW	345784	10/22/2019 19:03	W101819.
5	TRIP BLANK	344136	10/22/2019 19:33	W101819.
6	49EQB-48MW2	343858	10/22/2019 20:32	W101819.
7	48MW06	343846	10/22/2019 21:02	W101819.
8	13MW2	343848	10/22/2019 21:32	W101819.
9	49MW04	343850	10/22/2019 22:02	W101819.
10	13MW3	343852	10/22/2019 22:32	W101819.
11	13TW3	343854	10/22/2019 23:02	W101819.
12	13MW4	343856	10/22/2019 23:32	W101819.
13	48MW3	343860	10/23/2019 00:02	W101819.
14	48TW3	343862	10/23/2019 00:32	W101819.
15	CCVF	345785	10/23/2019 07:10	W101819.
16	BFB	350746	10/23/2019 07:32	
17	CCV	350747	10/23/2019 07:49	W101819.
18	CCB	350748	10/23/2019 08:49	W101819.
19	49MW02	343864	10/23/2019 09:19	W101819.
20	48MW1	343866	10/23/2019 09:49	W101819.
21	49MW01	343868	10/23/2019 10:18	W101819.
22	50MW02	343870	10/23/2019 10:48	W101819.
23	48MW2	343872	10/23/2019 11:18	W101819.
24	48MW3	343860	10/23/2019 12:17	W101819.
25	48TW3	343862	10/23/2019 12:47	W101819.
26	13MW2MSW	346509	10/23/2019 13:16	W101819.
27	13MW2MSDW	346517	10/23/2019 13:45	W101819.
28	CCVF	346633	10/23/2019 14:16	W101819.

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	346909	SDG No.:	148990
Matrix:	LIQUID	Date Extracted:	10/24/2019
Date Analyzed:	10/24/2019	Time Analyzed:	10:54
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	165890	Extraction Batch #:	74137
		ICAL Calibration #:	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	350199	10/24/2019 10:47	P4DG062619
2	LCSW	346910	10/24/2019 10:50	
3	MBW	346909	10/24/2019 10:54	
4	48MW06	343846	10/24/2019 10:57	P4DG062619
5	13MW2	343848	10/24/2019 11:01	P4DG062619
6	49MW04	343850	10/24/2019 11:05	P4DG062619
7	13MW3	343852	10/24/2019 11:08	P4DG062619
8	13TW3	343854	10/24/2019 11:12	P4DG062619
9	13MW4	343856	10/24/2019 11:17	P4DG062619
10	49EQB-48MW2	343858	10/24/2019 11:20	P4DG062619
11	48MW3	343860	10/24/2019 11:26	P4DG062619
12	48TW3	343862	10/24/2019 11:29	P4DG062619
13	49MW02	343864	10/24/2019 11:34	P4DG062619
14	13MW2MSW	353925	10/24/2019 11:40	
15	13MW2MSDW	353926	10/24/2019 11:44	
16	CCV	350200	10/24/2019 11:47	P4DG062619
17	48MW1	343866	10/24/2019 11:58	P4DG062619
18	49MW01	343868	10/24/2019 12:02	P4DG062619
19	50MW02	343870	10/24/2019 12:07	P4DG062619
20	48MW2	343872	10/24/2019 12:10	P4DG062619
21	CCV	350201	10/24/2019 12:53	P4DG062619

BFB

Data File : C:\Instarch\Data\OCT1819\BFB1.D Vial: 1
Acq On : 18 Oct 2019 7:37 Operator: RLD-DGS
Sample : BFB Injection Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.591 to 4.603 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.3	13743	PASS
75	95	30	60	55.1	37245	PASS
95	95	100	100	100.0	67573	PASS
96	95	5	9	7.1	4771	PASS
173	174	0.00	2	1.6	901	PASS
174	95	50	100	84.6	57133	PASS
175	174	5	9	7.5	4264	PASS
176	174	95	101	98.0	55994	PASS
177	176	5	9	7.1	3975	PASS

W101819.M Fri Nov 22 09:28:54 2019

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT1819\BFB1.D
Injection Date : 18 Oct 2019 Log Time Period (hrs) : ALL
Injection Time : 07:37 Total files within period : 17
Sample Directory : C:\INSTARCH\DATA\OCT1819\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	18 Oct 2019	08:57
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0	18 Oct 2019	09:26
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0	18 Oct 2019	09:56
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	18 Oct 2019	10:26
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0	18 Oct 2019	10:56
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0	18 Oct 2019	11:25
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0	18 Oct 2019	11:55
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0	18 Oct 2019	12:25
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0	18 Oct 2019	12:54
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	18 Oct 2019	13:53
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	18 Oct 2019	14:23
ICV1R	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	18 Oct 2019	14:52
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20	18 Oct 2019	15:54

BFB

Data File : C:\Instarch\Data\OCT2219\BFB2.D Vial: 22
Acq On : 22 Oct 2019 17:48 Operator: RLD-DGS
Sample : 165696,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.597 to 4.609 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.7	8491	PASS
75	95	30	60	56.3	30375	PASS
95	95	100	100	100.0	53946	PASS
96	95	5	9	5.9	3190	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.9	44176	PASS
175	174	5	9	8.0	3520	PASS
176	174	95	101	95.6	42224	PASS
177	176	5	9	7.4	3108	PASS

W101819.M Mon Oct 28 10:44:41 2019

BFB

Data File : C:\Instarch\Data\OCT2219\BFB3.D Vial: 37
Acq On : 23 Oct 2019 6:53 Operator: RLD-DGS
Sample : 165696,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.579 to 4.597 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	7447	PASS
75	95	30	60	55.7	19087	PASS
95	95	100	100	100.0	34264	PASS
96	95	5	9	7.5	2567	PASS
173	174	0.00	2	0.4	113	PASS
174	95	50	100	79.4	27192	PASS
175	174	5	9	6.1	1647	PASS
176	174	95	101	98.2	26698	PASS
177	176	5	9	7.5	2003	PASS

W101819.M Mon Oct 28 10:45:04 2019

BFB

Data File : C:\Instarch\Data\OCT2219\BFB4.D Vial: 39
Acq On : 23 Oct 2019 7:32 Operator: RLD-DGS
Sample : 165696,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.567 to 4.573 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.5	6529	PASS
75	95	30	60	54.7	20472	PASS
95	95	100	100	100.0	37408	PASS
96	95	5	9	5.8	2187	PASS
173	174	0.00	2	1.7	476	PASS
174	95	50	100	76.5	28612	PASS
175	174	5	9	8.0	2275	PASS
176	174	95	101	97.4	27860	PASS
177	176	5	9	6.3	1753	PASS

W101819.M Mon Oct 28 10:45:27 2019

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT2219\BFB2.D
Injection Date : 22 Oct 2019 Log Time Period (hrs) : ALL
Injection Time : 17:48 Total files within period : 39
Sample Directory : C:\INSTARCH\DATA\OCT2219\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS2	1.00	1.00	1.00	165696,LCSW, 10.0/100.0 ug/L, 5.0 mL P	22 Oct 2019	18:04
MB2	1.00	1.00	1.00	165696,MBW, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	19:03
344136	1.00	1.00	1.00	165696,344136, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	19:33
343858	1.00	1.00	1.00	165696,343858, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	20:32
343846	1.00	1.00	1.00	165696,343846, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	21:02
343848	1.00	1.00	1.00	165696,343848, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	21:32
343850	1.00	1.00	1.00	165696,343850, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	22:02
343852	1.00	1.00	1.00	165696,343852, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	22:32
343854	1.00	1.00	1.00	165696,343854, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	23:02
343856	1.00	1.00	1.00	165696,343856, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	23:32
343860	1.00	1.00	1.00	165696,343860, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	00:02
343862	1.00	1.00	1.00	165696,343862, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	00:32
BFB3	1.00	1.00	1.00	165696,BFB, 50 ng Inj.	23 Oct 2019	06:53
CCVF2	1.00	1.00	1.00	165696,CCVF, 10.0/100.0 ug/L, 5.0 mL P	23 Oct 2019	07:10
BFB4	1.00	1.00	1.00	165696,BFB, 50 ng Inj.	23 Oct 2019	07:32
CCV3	1.00	1.00	1.00	165696,CCV, 10.0/100.0 ug/L, 5.0 mL P	23 Oct 2019	07:49
CCB2	1.00	1.00	1.00	165696,MBW, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	08:49
343864	1.00	1.00	1.00	165696,343864, pH7, 5.0 mL DI H20 Purge	23 Oct 2019	09:19
343866	1.00	1.00	1.00	165696,343866, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	09:49

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT2219\BFB2.D
Injection Date : 22 Oct 2019 Log Time Period (hrs) : ALL
Injection Time : 17:48 Total files within period : 39
Sample Directory : C:\INSTARCH\DATA\OCT2219\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
343868	1.00	1.00	1.00	165696,343868, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	10:18
343870	1.00	1.00	1.00	165696,343870, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	10:48
343872	1.00	1.00	1.00	165696,343872, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	11:18
344267R	1.00	1.00	1.00	165700,344267, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	11:47
343860R	1.00	1.00	1.00	165696,343860,5 pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	12:17
343862R	1.00	1.00	1.00	165696,343862,5 pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	12:47
343848MS	1.00	1.00	1.00	165696,MSW343848, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	13:16
343848SD	1.00	1.00	1.00	165696,MSDW343848, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	13:45
CCVF3	1.00	1.00	1.00	165696,CCVF, 10.0/100.0 ug/L, 5.0 mL P	23 Oct 2019	14:16

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL5.D Date Analyzed : 18 Oct 2019
Instrument ID : VMS3 Time Analyzed : 10:56
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1254694	7.64	1008187	11.54	613456	14.84
UPPER LIMIT	2509388	8.14	2016374	12.04	1226912	15.34
LOWER LIMIT	627347	7.14	504094	11.04	306728	14.34
File ID Sample						
343846 165696,34	1110050	7.64	928564	11.54	521386	14.84
343848 165696,34	1125947	7.64	934427	11.54	536195	14.84
343848MS 165696,MS	1120350	7.64	922212	11.54	566585	14.84
343848SD 165696,MS	1165411	7.64	966637	11.54	608682	14.84
343850 165696,34	1112647	7.64	925509	11.54	528003	14.84
343852 165696,34	1111718	7.64	937551	11.54	518036	14.83
343854 165696,34	1109918	7.64	940937	11.54	509340	14.84
343856 165696,34	1119999	7.64	916265	11.54	513715	14.84
343858 165696,34	1062039	7.64	898710	11.54	503604	14.84
343860 165696,34	1102981	7.64	916113	11.54	522070	14.83
343860R 165696,34	905726	7.64	752795	11.54	412769	14.84
343862 165696,34	1123854	7.64	929259	11.54	517461	14.84
343862R 165696,34	956111	7.64	793366	11.54	437079	14.84
343864 165696,34	1091053	7.64	920027	11.54	514008	14.84
343866 165696,34	1092168	7.64	917897	11.54	522661	14.84
343868 165696,34	1107478	7.64	928184	11.54	541000	14.84
343870 165696,34	1098654	7.64	941416	11.54	540117	14.84
343872 165696,34	861978	7.64	746699	11.54	412593	14.84
344136 165696,34	963720	7.64	809267	11.54	457777	14.84

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL5.D Date Analyzed : 18 Oct 2019
Instrument ID : VMS3 Time Analyzed : 10:56
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1254694	7.64	1008187	11.54	613456	14.84
UPPER LIMIT	2509388	8.14	2016374	12.04	1226912	15.34
LOWER LIMIT	627347	7.14	504094	11.04	306728	14.34
File ID Sample						
CCB2 165696,MB	1065797	7.64	902787	11.54	496021	14.84
CCV3 165696,CC	1138904	7.64	924131	11.54	577045	14.84
CCVF2 165696,CC	1002292	7.64	813704	11.54	521709	14.84
CCVF3 165696,CC	1205843	7.64	994978	11.54	614912	14.84
CCV-LCS2 165696,LC	1206169	7.64	1016784	11.54	634665	14.84
MB2 165696,MB	1417569	7.64	1177024	11.54	675828	14.84

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\344136.D Vial: 26
Acq On : 22 Oct 2019 19:33 Operator: RLD-DGS
Sample : 165696,344136, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:54:02 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	963720	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	809267	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	457777	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.80	113	271601	20.813 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104 %		
45) SURR12DCAd4	7.20	102	69644	20.013 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %		
61) SURRd8Tolule	9.63	98	1032704	19.747 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %		
83) SURR4BrFBenz	13.18	95	414288	20.425 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.08	43	10217	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.22	76	3080	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.60	84	5275	N.D.	
21) tbutylalcohol	4.79	59	3434	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.61	42	2613	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\344136.D Vial: 26
Acq On : 22 Oct 2019 19:33 Operator: RLD-DGS
Sample : 165696,344136, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:54:02 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\344136.D Vial: 26
Acq On : 22 Oct 2019 19:33 Operator: RLD-DGS
Sample : 165696,344136, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:54:02 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

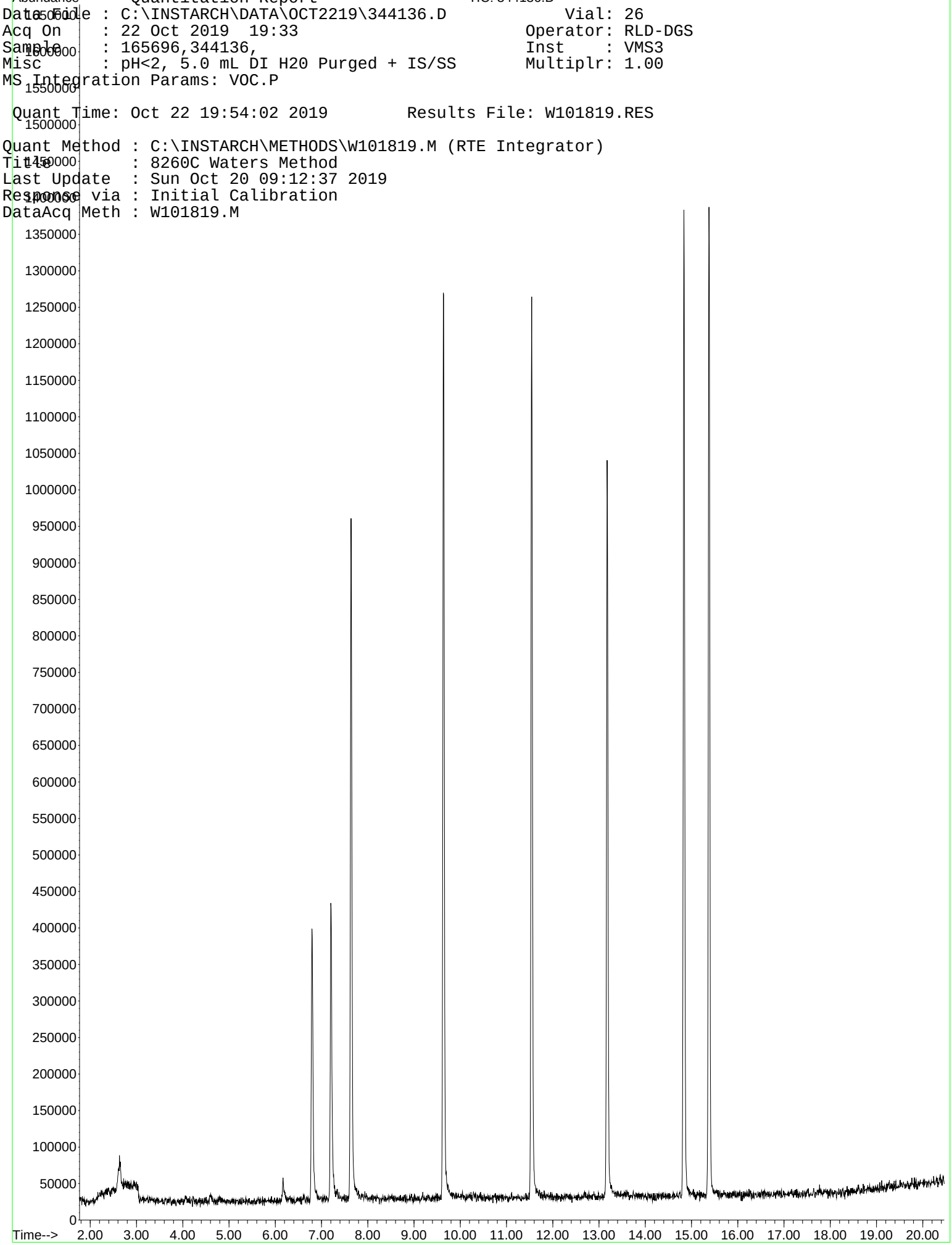
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 344136.D

Data File : C:\INSTARCH\DATA\OCT2219\344136.D Vial: 26
Acq On : 22 Oct 2019 19:33 Operator: RLD-DGS
Sample : 165696,344136, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:54:02 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343858.D Vial: 28
Acq On : 22 Oct 2019 20:32 Operator: RLD-DGS
Sample : 165696,343858, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:53:14 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1062039	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	898710	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	503604	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	307017	21.349	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 107	%		
45) SURR12DCAd4	7.21	102	77350	20.170	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.63	98	1131273	19.629	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.18	95	446265	20.000	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.06	43	18498	4.4506	ug/L	99
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.21	76	3306	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343858.D Vial: 28
Acq On : 22 Oct 2019 20:32 Operator: RLD-DGS
Sample : 165696,343858, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:53:14 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.62	83	3605	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	2671	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343858.D Vial: 28
Acq On : 22 Oct 2019 20:32 Operator: RLD-DGS
Sample : 165696,343858, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:53:14 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

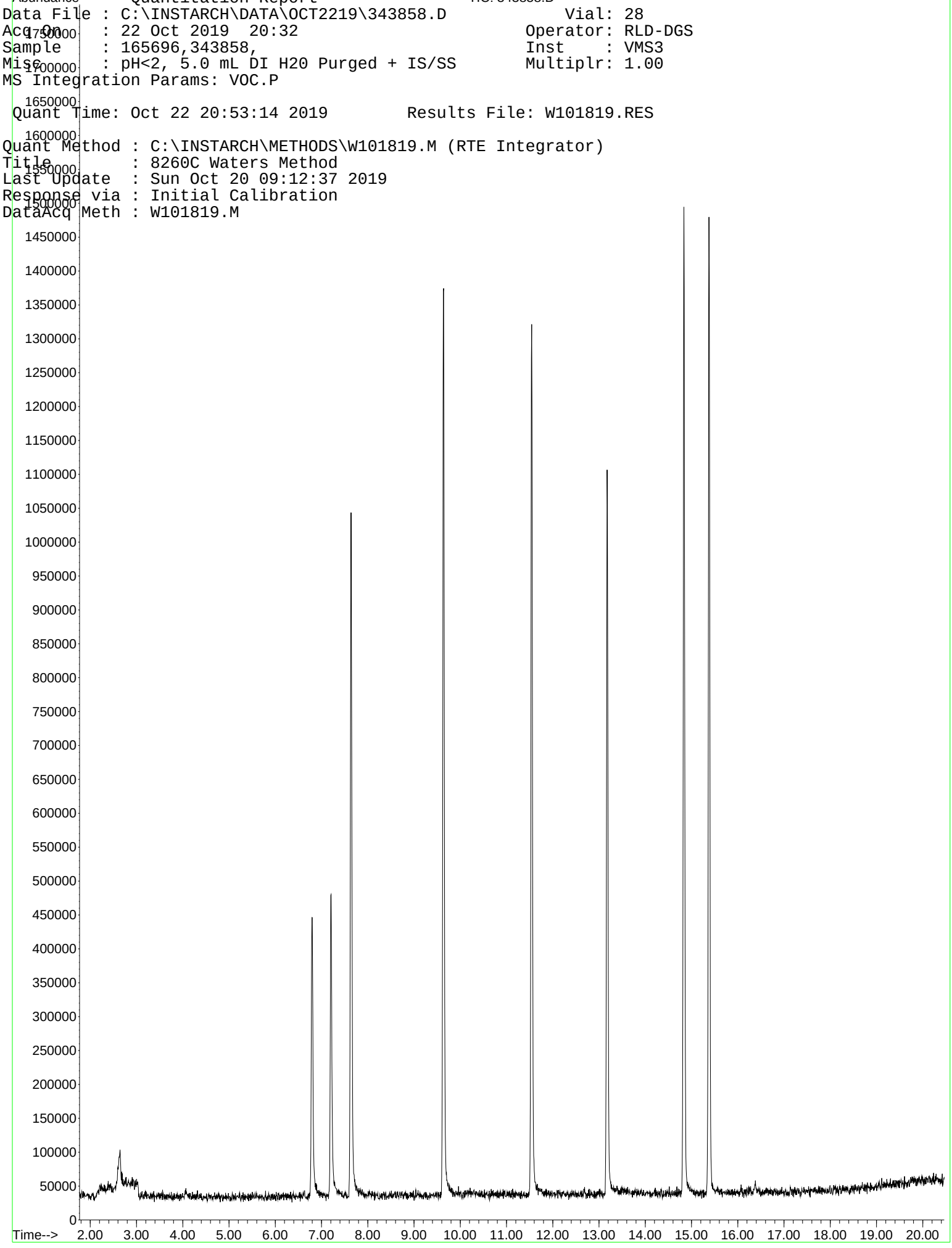
(#) = qualifier out of range (m) = manual integration

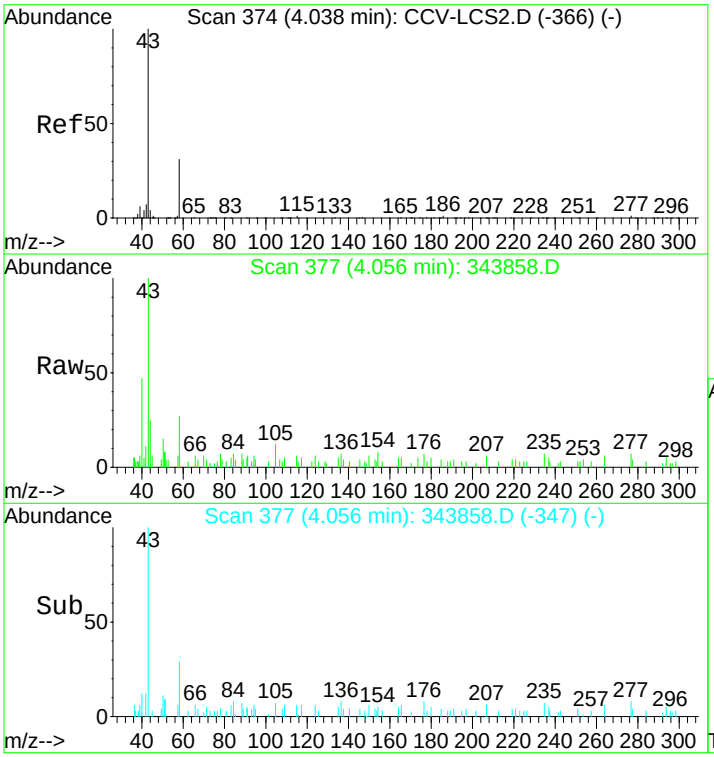
Abundance Quantitation Report TIC: 343858.D

Data File : C:\INSTARCH\DATA\OCT2219\343858.D Vial: 28
Acq On : 22 Oct 2019 20:32 Operator: RLD-DGS
Sample : 165696,343858, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 20:53:14 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

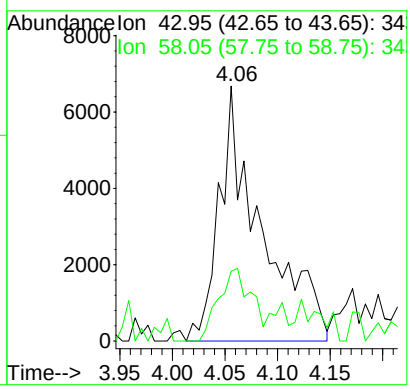




#15
Acetone
Concen: 4.45 ug/L
RT: 4.06 min Scan# 377
Delta R.T. 0.03 min
Lab File: 343858.D
Acq: 22 Oct 2019 20:32

Tgt Ion: 43 Resp: 18498

Ion	Ratio	Lower	Upper
43	100		
58	28.7	9.5	49.5



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343846.D Vial: 29
Acq On : 22 Oct 2019 21:02 Operator: RLD-DGS
Sample : 165696,343846, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:23:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1110050	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	928564	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	521386	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.80	113	314043	20.893	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.21	102	85568	21.347	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 107	%		
61) SURRd8Tolule	9.64	98	1179201	19.576	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.18	95	466249	20.183	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.66	94	2576	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	3.70	59	2844	N.D.		
10) dichlorotfluoroethan	3.68	67	7382	0.3922	ug/L #	77
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	0.00	43	0	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.21	76	3210	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.49	63	103202	3.2760	ug/L	97
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.22	96	104925	5.6555	ug/L	89
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343846.D Vial: 29
Acq On : 22 Oct 2019 21:02 Operator: RLD-DGS
Sample : 165696,343846, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:23:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	6.84	97	12332	0.4327 ug/L	94
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.30	78	16203	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.10	95	57401	3.1342 ug/L	89
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.73	92	4603	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.46	166	4702	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.55	91	2801	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.93	106	3112	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.36	105	2557	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343846.D Vial: 29
Acq On : 22 Oct 2019 21:02 Operator: RLD-DGS
Sample : 165696,343846, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:23:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.96	128	2808	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

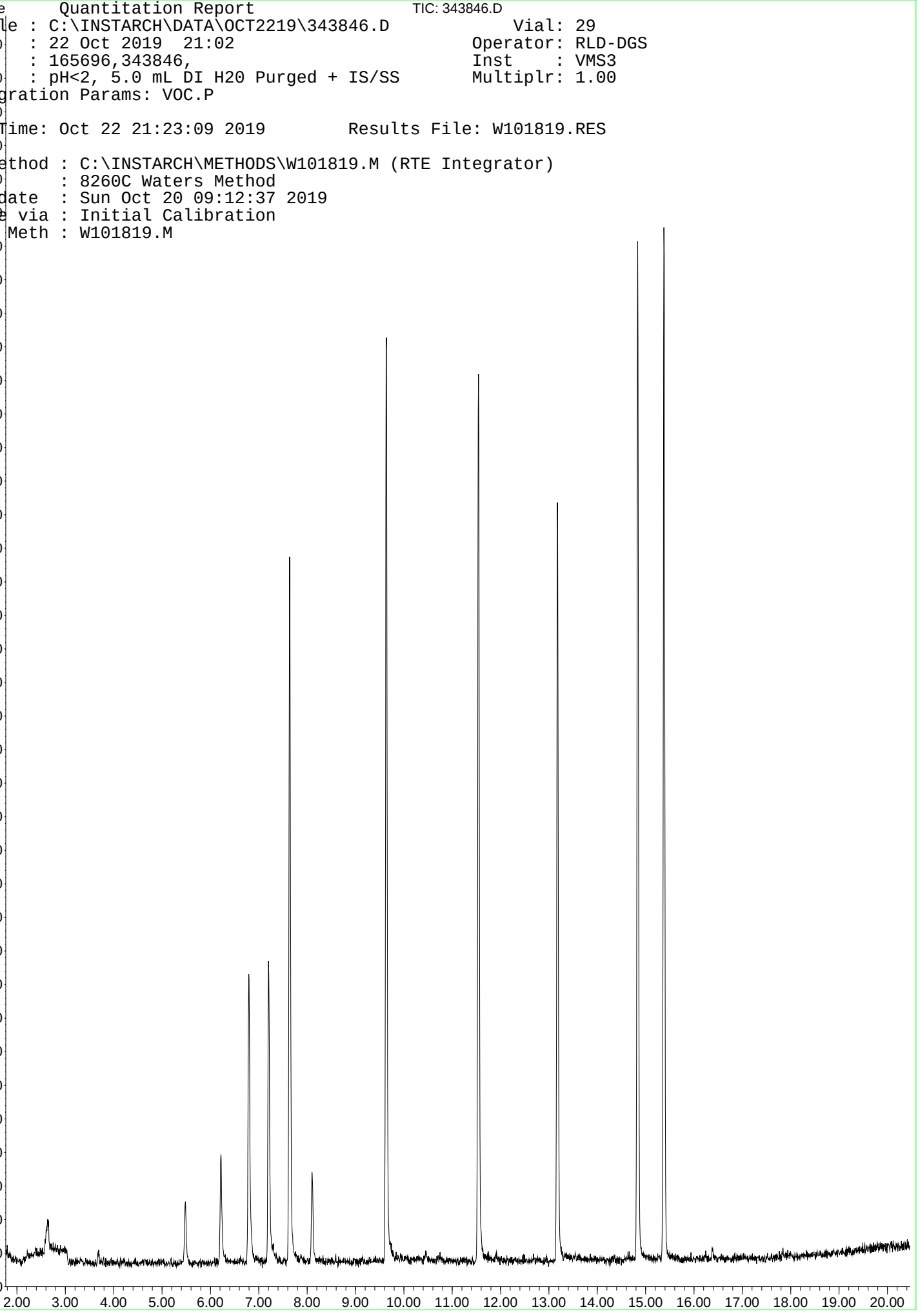
(#) = qualifier out of range (m) = manual integration

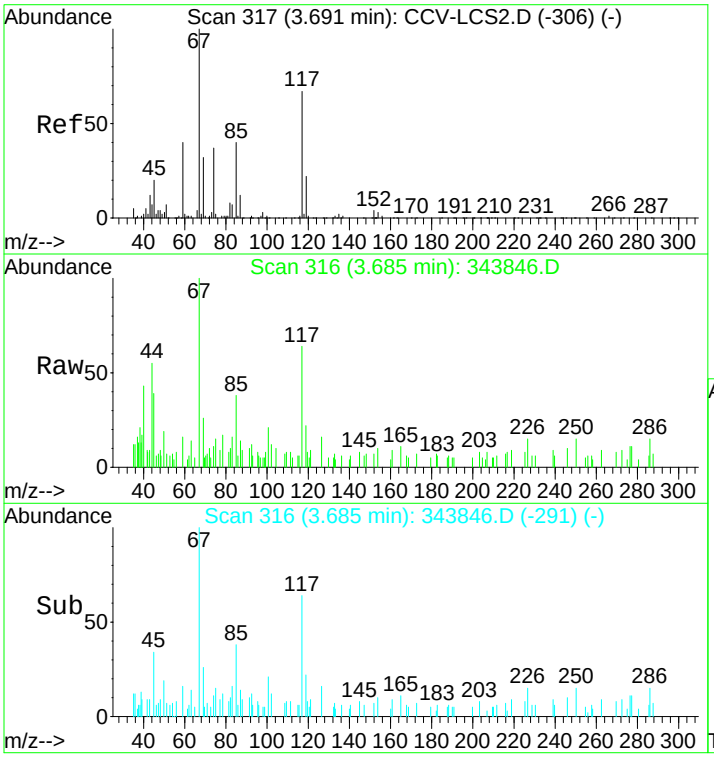
Abundance Quantitation Report TIC: 343846.D

Data File : C:\INSTARCH\DATA\OCT2219\343846.D Vial: 29
Acq On : 22 Oct 2019 21:02 Operator: RLD-DGS
Sample : 165696,343846, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:23:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

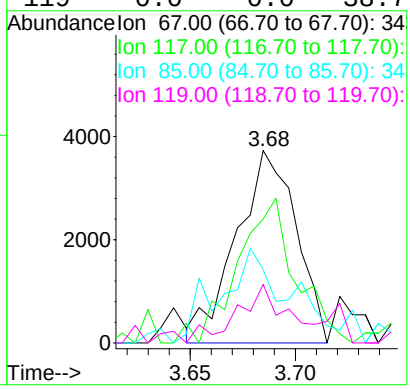


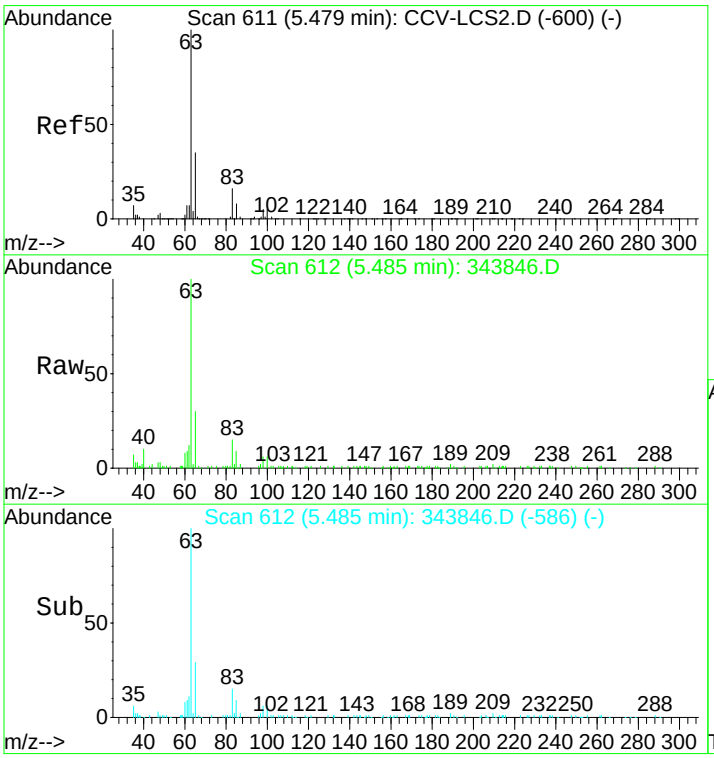


#10
dichlorotfluoroethan
Concen: 0.39 ug/L
RT: 3.68 min Scan# 316
Delta R.T. -0.00 min
Lab File: 343846.D
Acq: 22 Oct 2019 21:02

Tgt Ion: 67 Resp: 7382

Ion	Ratio	Lower	Upper
67	100		
117	73.3	45.0	85.0
85	61.6	19.6	59.6#
119	0.0	0.0	38.7

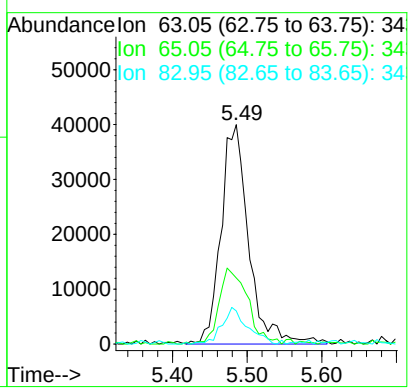


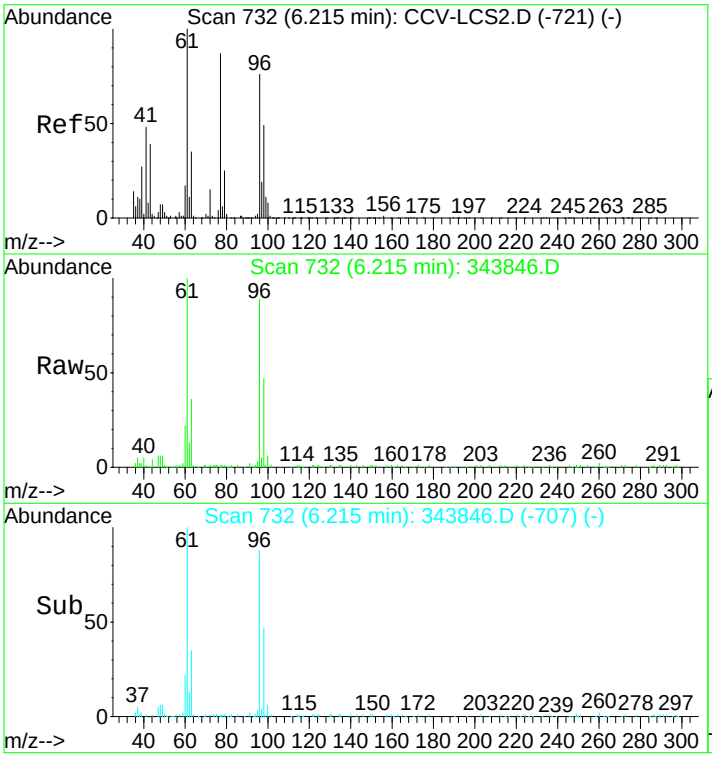


#26
11dichlorota
Concen: 3.28 ug/L
RT: 5.49 min Scan# 612
Delta R.T. 0.01 min
Lab File: 343846.D
Acq: 22 Oct 2019 21:02

Tgt Ion: 63 Resp: 103202

Ion	Ratio	Lower	Upper
63	100		
65	35.5	13.4	53.4
83	15.3	0.0	34.5

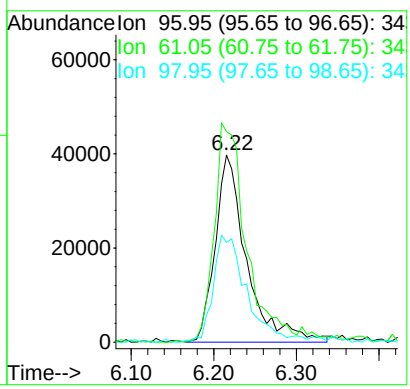


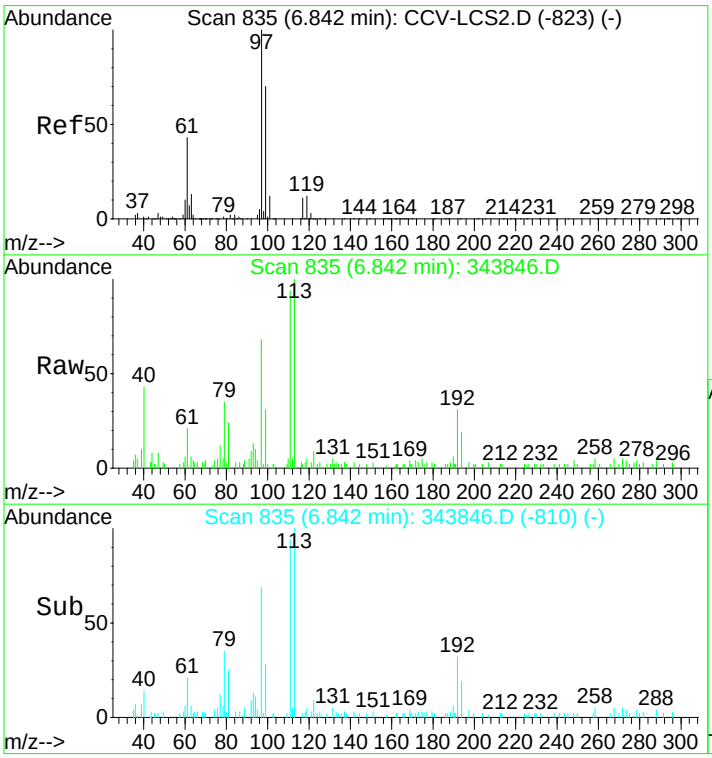


#32
c12dichlorte
Concen: 5.66 ug/L
RT: 6.22 min Scan# 732
Delta R.T. -0.00 min
Lab File: 343846.D
Acq: 22 Oct 2019 21:02

Tgt Ion: 96 Resp: 104925

Ion	Ratio	Lower	Upper
96	100		
61	122.1	117.7	157.7
98	61.7	46.4	86.4

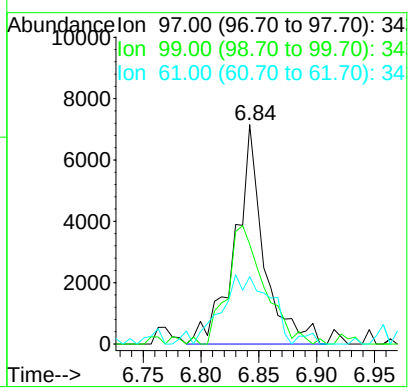


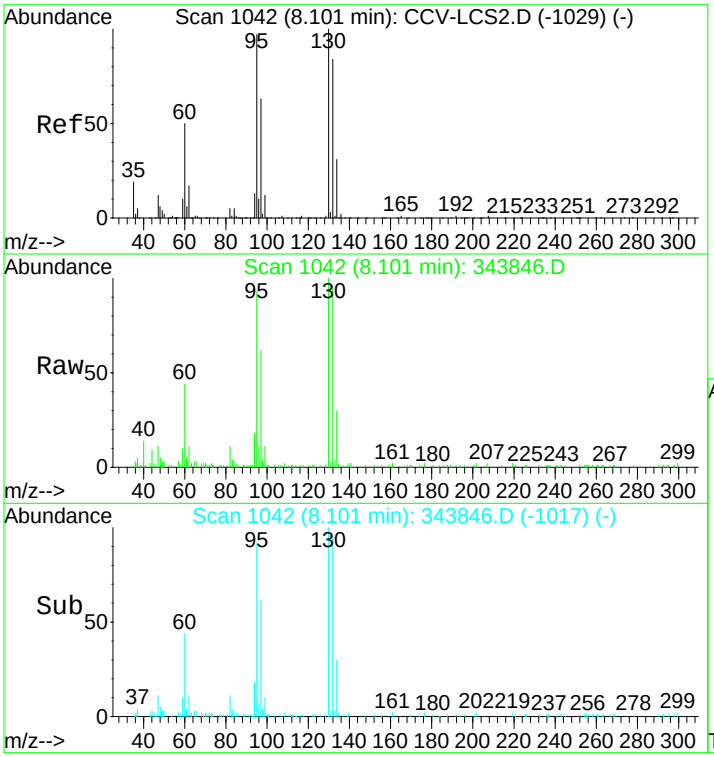


#40
111trichlota
Concen: 0.43 ug/L
RT: 6.84 min Scan# 835
Delta R.T. -0.00 min
Lab File: 343846.D
Acq: 22 Oct 2019 21:02

Tgt Ion: 97 Resp: 12332

Ion	Ratio	Lower	Upper
97	100		
99	69.8	42.6	82.6
61	51.5	29.7	69.7

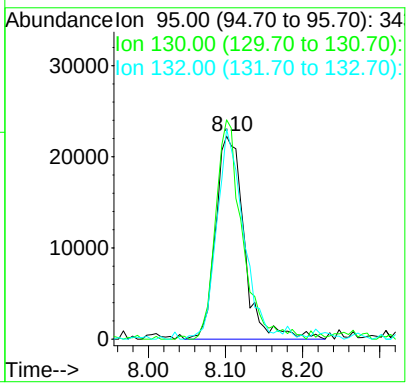




#49
trichloroete
Concen: 3.13 ug/L
RT: 8.10 min Scan# 1042
Delta R.T. -0.00 min
Lab File: 343846.D
Acq: 22 Oct 2019 21:02

Tgt Ion: 95 Resp: 57401

Ion	Ratio	Lower	Upper
95	100		
130	100.6	72.9	112.9
132	97.9	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848.D Vial: 30
Acq On : 22 Oct 2019 21:32 Operator: RLD-DGS
Sample : 165696,343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:53:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1125947	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	934427	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	536195	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	306568	20.107	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.21	102	84438	20.768	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104	%		
61) SURRd8Tolule	9.63	98	1184174	19.381	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97	%		
83) SURR4BrFBenz	13.18	95	460149	19.369	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.61	42	5179	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848.D Vial: 30
Acq On : 22 Oct 2019 21:32 Operator: RLD-DGS
Sample : 165696,343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:53:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.54	91	2668	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	13.38	75	2924	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.37	105	3017	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.37	91	2700	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848.D Vial: 30
Acq On : 22 Oct 2019 21:32 Operator: RLD-DGS
Sample : 165696,343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:53:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

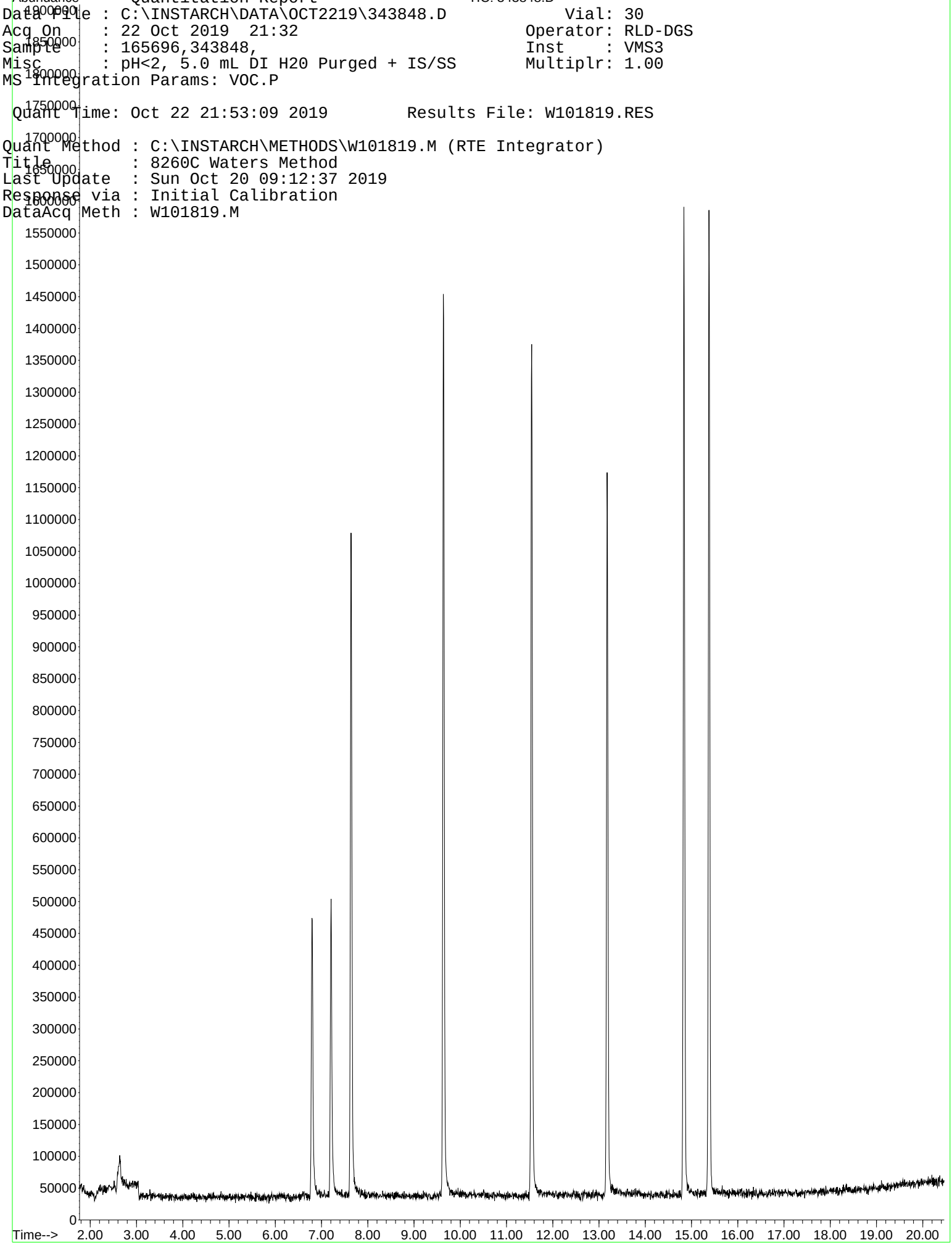
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: 343848.D)

Data File : C:\INSTARCH\DATA\OCT2219\343848.D Vial: 30
Acq On : 22 Oct 2019 21:32 Operator: RLD-DGS
Sample : 165696,343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 21:53:09 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343850.D Vial: 31
Acq On : 22 Oct 2019 22:02 Operator: RLD-DGS
Sample : 165696,343850, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:23:22 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1112647	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	925509	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	528003	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.79	113	307681	20.422 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %		
45) SURR12DCAd4	7.20	102	82730	20.591 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103 %		
61) SURRd8Tolule	9.64	98	1166061	19.312 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97 %		
83) SURR4BrFBenz	13.18	95	460590	19.688 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.10	43	2533	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.60	42	5162	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343850.D Vial: 31
Acq On : 22 Oct 2019 22:02 Operator: RLD-DGS
Sample : 165696,343850, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:23:22 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.54	91	2913	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.76	91	2750	N.D.	
76) m p-Xylene	11.92	106	3023	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.18	55	2648	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.34	105	2672	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.38	91	2755	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343850.D Vial: 31
Acq On : 22 Oct 2019 22:02 Operator: RLD-DGS
Sample : 165696,343850, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:23:22 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

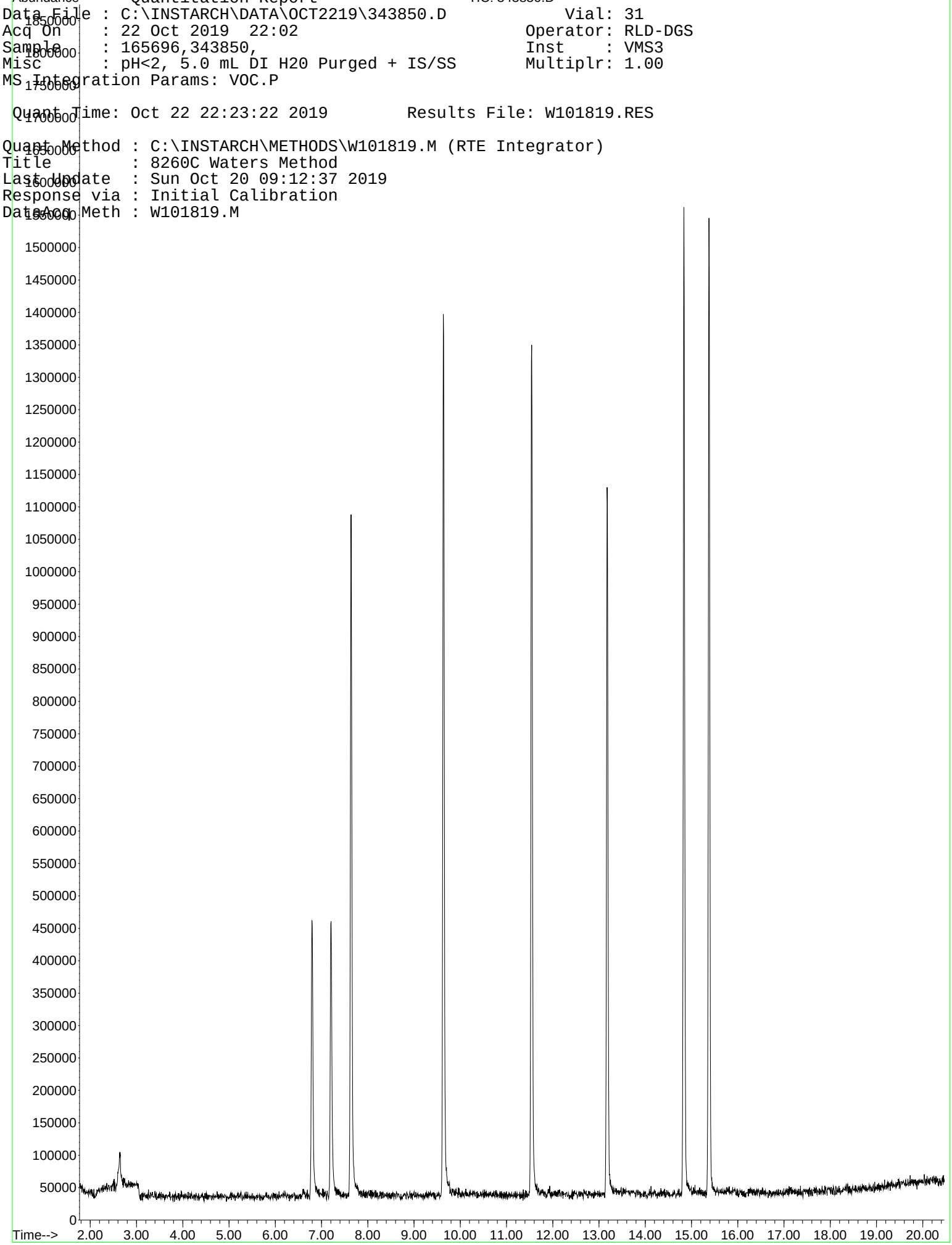
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 343850.D

Data File : C:\INSTARCH\DATA\OCT2219\343850.D Vial: 31
Acq On : 22 Oct 2019 22:02 Operator: RLD-DGS
Sample : 165696,343850, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:23:22 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343852.D Vial: 32
Acq On : 22 Oct 2019 22:32 Operator: RLD-DGS
Sample : 165696,343852, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:53:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1111718	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	937551	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	518036	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.80	113	312539	20.761	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.21	102	77998	19.430	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 97	%		
61) SURRd8Tolule	9.63	98	1167865	19.358	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97	%		
83) SURR4BrFBenz	13.18	95	450110	19.610	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.09	50	2836	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	3.23	101	6595	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.62	42	4858	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343852.D Vial: 32
Acq On : 22 Oct 2019 22:32 Operator: RLD-DGS
Sample : 165696,343852, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:53:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.62	83	16962	0.5143 ug/L	98
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.05	119	91940	4.2126 ug/L	97
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.10	95	11657	0.6355 ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.38	91	2840	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343852.D Vial: 32
Acq On : 22 Oct 2019 22:32 Operator: RLD-DGS
Sample : 165696,343852, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:53:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

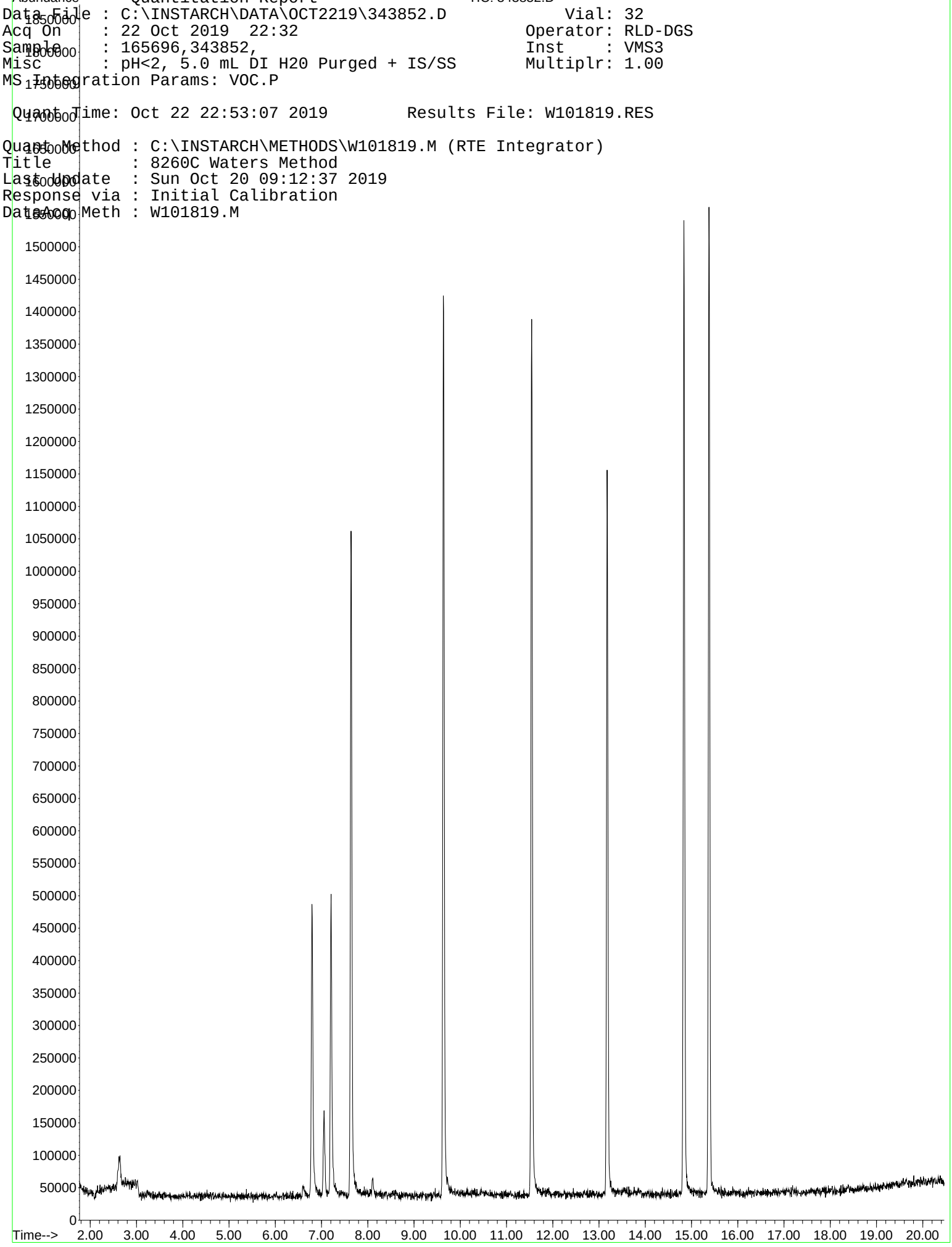
(#) = qualifier out of range (m) = manual integration

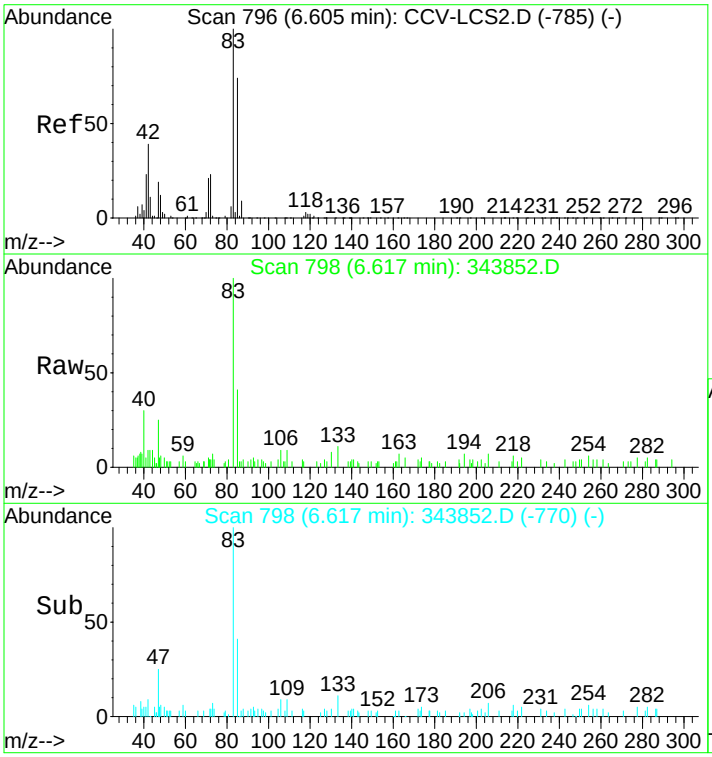
Abundance Quantitation Report TIC: 343852.D

Data File : C:\INSTARCH\DATA\OCT2219\343852.D Vial: 32
Acq On : 22 Oct 2019 22:32 Operator: RLD-DGS
Sample : 165696,343852, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 22:53:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

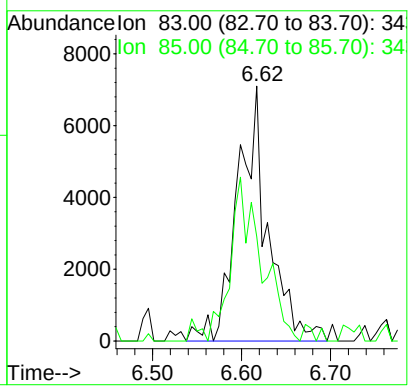


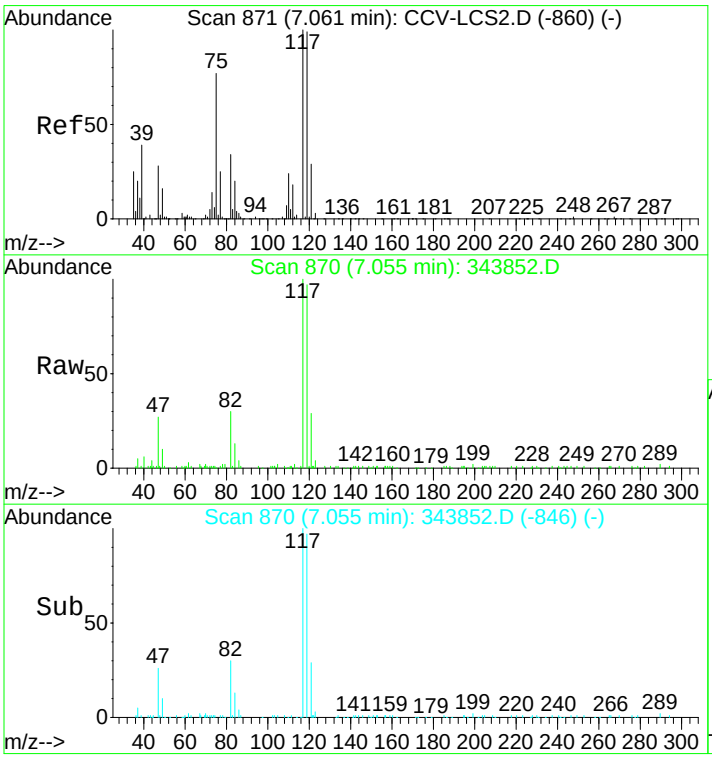


#39
Chloroform
Concen: 0.51 ug/L
RT: 6.62 min Scan# 798
Delta R.T. 0.02 min
Lab File: 343852.D
Acq: 22 Oct 2019 22:32

Tgt Ion: 83 Resp: 16962

Ion	Ratio	Lower	Upper
83	100		
85	64.0	45.4	85.4

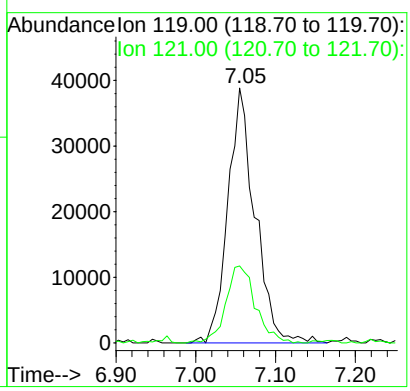


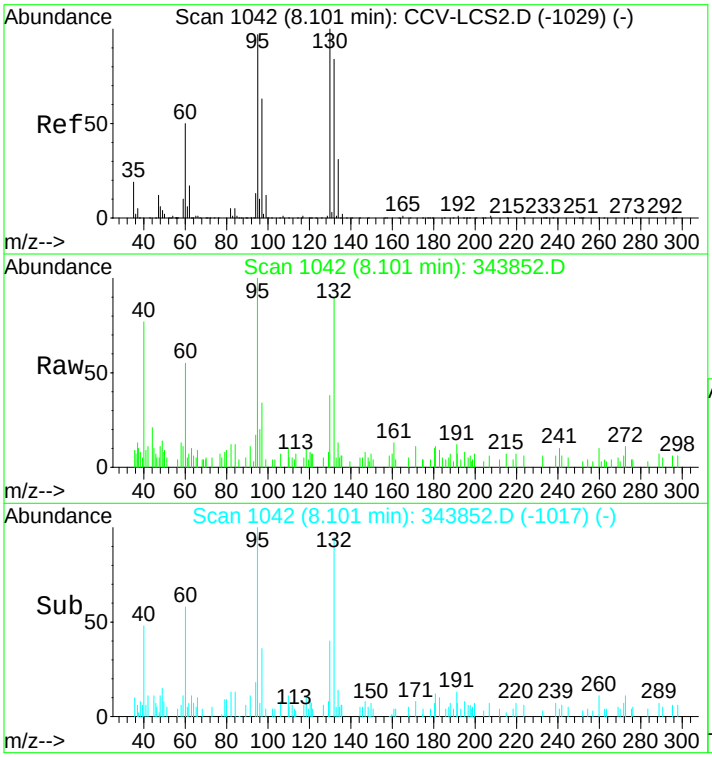


#43
Carbtetraclo
Concen: 4.21 ug/L
RT: 7.05 min Scan# 870
Delta R.T. -0.01 min
Lab File: 343852.D
Acq: 22 Oct 2019 22:32

Tgt Ion:119 Resp: 91940

Ion	Ratio	Lower	Upper
119	100		
121	33.0	11.5	51.5

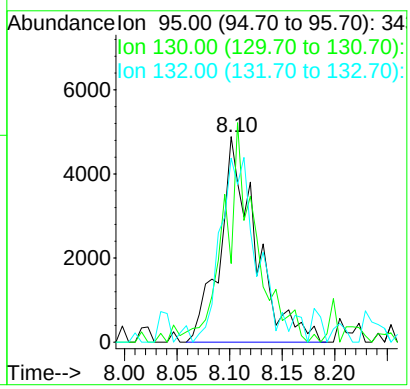




#49
trichloroete
Concen: 0.64 ug/L
RT: 8.10 min Scan# 1042
Delta R.T. 0.00 min
Lab File: 343852.D
Acq: 22 Oct 2019 22:32

Tgt Ion: 95 Resp: 11657

Ion	Ratio	Lower	Upper
95	100		
130	91.9	72.9	112.9
132	93.3	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343854.D Vial: 33
Acq On : 22 Oct 2019 23:02 Operator: RLD-DGS
Sample : 165696,343854, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:22:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1109918	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	940937	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	509340	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.79	113	318202	21.172 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 106 %		
45) SURR12DCAd4	7.21	102	83745	20.895 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104 %		
61) SURRd8Tolule	9.64	98	1173439	19.482 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97 %		
83) SURR4BrFBenz	13.18	95	447234	19.818 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.68	94	3125	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	3.23	101	6910	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.50	63	2850	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	6.17	77	4117	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.60	42	3187	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343854.D Vial: 33
Acq On : 22 Oct 2019 23:02 Operator: RLD-DGS
Sample : 165696,343854, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:22:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.59	83	16167	0.4910	ug/L	83
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.06	119	92238	4.2331	ug/L	94
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.10	95	11482	0.6270	ug/L	99
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	9.47	43	2514	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.53	91	3531	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	11.90	106	2980	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	14.82	146	2775	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\OCT2219\343854.D Vial: 33
Acq On : 22 Oct 2019 23:02 Operator: RLD-DGS
Sample : 165696,343854, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:22:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

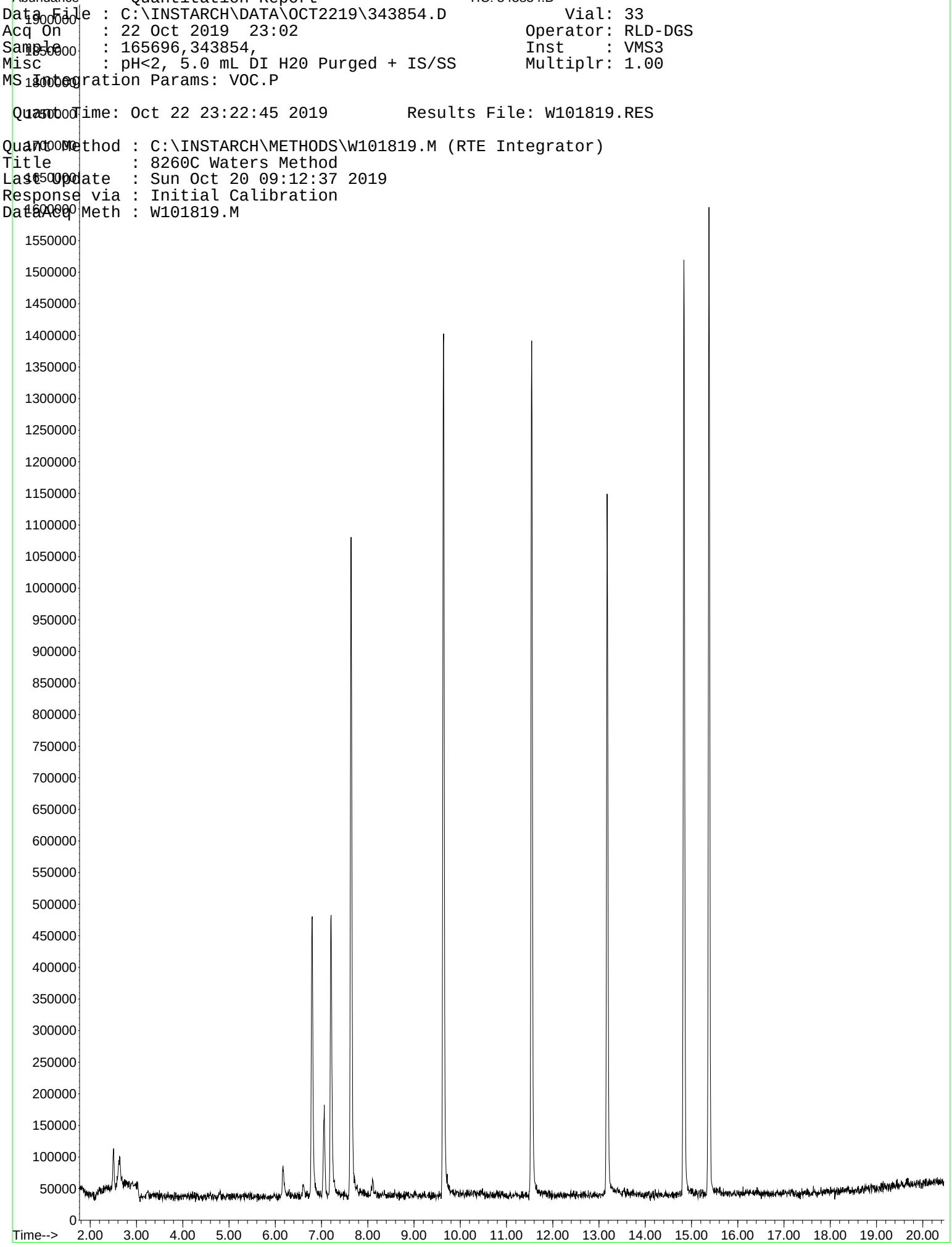
(#) = qualifier out of range (m) = manual integration

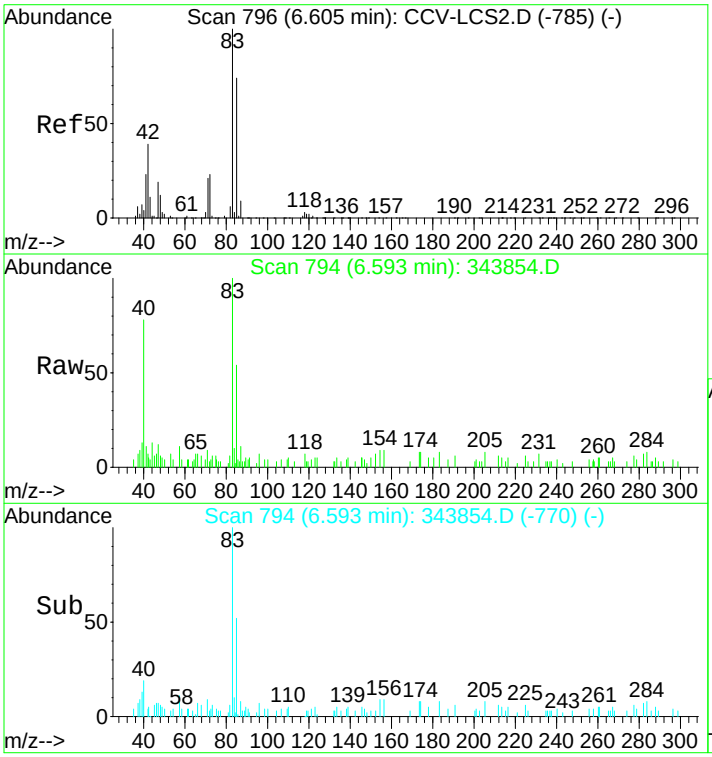
Abundance Quantitation Report TIC: 343854.D

Data File : C:\INSTARCH\DATA\OCT2219\343854.D Vial: 33
Acq On : 22 Oct 2019 23:02 Operator: RLD-DGS
Sample : 165696,343854, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:22:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

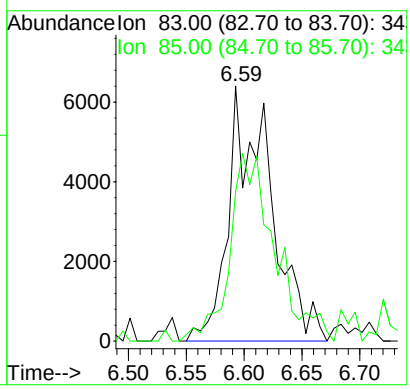


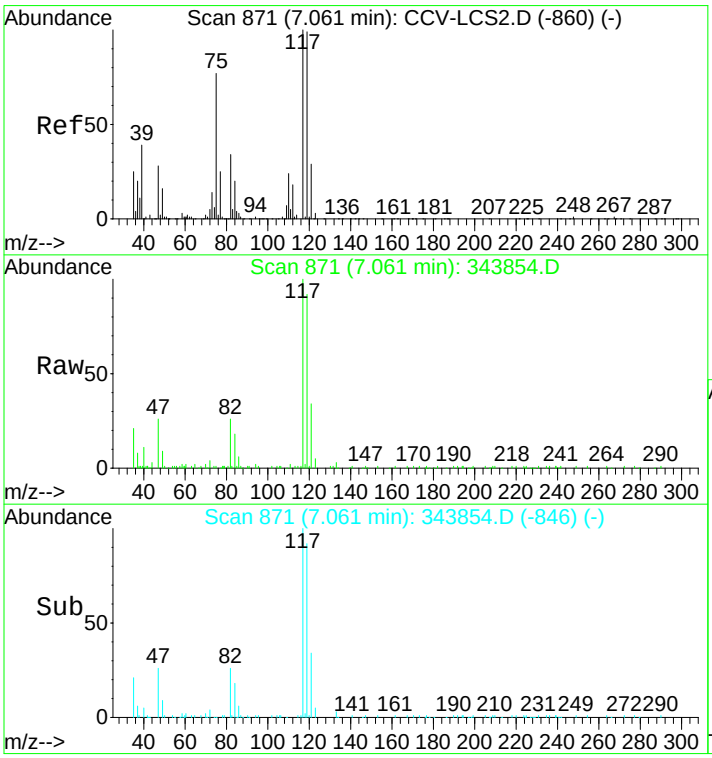


#39
Chloroform
Concen: 0.49 ug/L
RT: 6.59 min Scan# 794
Delta R.T. -0.01 min
Lab File: 343854.D
Acq: 22 Oct 2019 23:02

Tgt Ion: 83 Resp: 16167

Ion	Ratio	Lower	Upper
83	100		
85	78.7	45.4	85.4

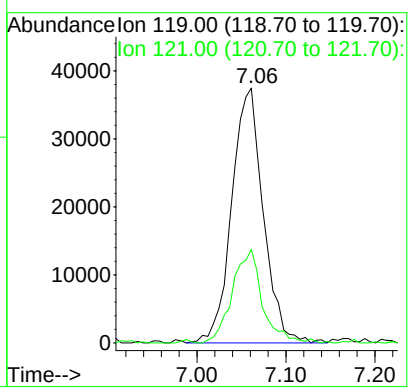


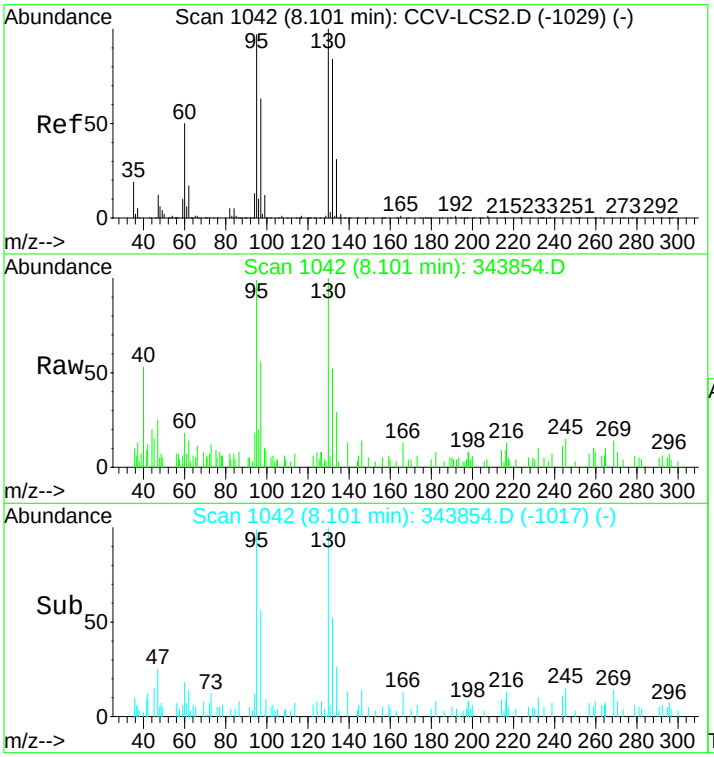


#43
Carbtetraclo
Concen: 4.23 ug/L
RT: 7.06 min Scan# 871
Delta R.T. -0.00 min
Lab File: 343854.D
Acq: 22 Oct 2019 23:02

Tgt Ion:119 Resp: 92238

Ion	Ratio	Lower	Upper
119	100		
121	35.0	11.5	51.5

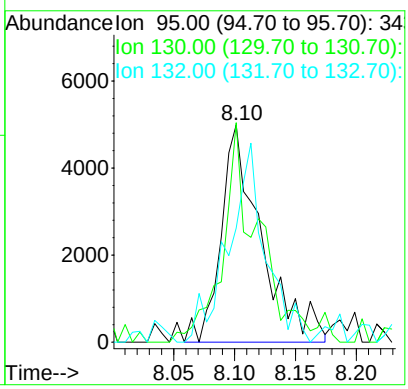




#49
trichloroete
Concen: 0.63 ug/L
RT: 8.10 min Scan# 1042
Delta R.T. -0.00 min
Lab File: 343854.D
Acq: 22 Oct 2019 23:02

Tgt Ion: 95 Resp: 11482

Ion	Ratio	Lower	Upper
95	100		
130	92.3	72.9	112.9
132	84.1	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343856.D Vial: 34
Acq On : 22 Oct 2019 23:32 Operator: RLD-DGS
Sample : 165696,343856, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:53:00 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1119999	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	916265	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	513715	20.00 ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma		6.80	113	316505	20.869 ug/L	0.00
Spiked Amount	20.000	Range 90 - 110		Recovery = 104	%	
45) SURR12DCAd4		7.21	102	82245	20.336 ug/L	0.00
Spiked Amount	20.000	Range 89 - 111		Recovery = 102	%	
61) SURRd8Tolule		9.64	98	1189071	19.564 ug/L	0.00
Spiked Amount	20.000	Range 93 - 107		Recovery = 98	%	
83) SURR4BrFBenz		13.18	95	447814	19.674 ug/L	0.00
Spiked Amount	20.000	Range 83 - 111		Recovery = 98	%	

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	0.00	50	0	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	0.00	94	0	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	0.00	101	0	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	0.00	43	0	N.D.
16) Iodomethane	0.00	142	0	N.D.
17) Carbon Dislf	0.00	76	0	N.D.
18) allylchloride	0.00	41	0	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	0.00	84	0	N.D.
21) tbutylalcohol	4.79	59	4933	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	0.00	63	0	N.D.
27) Vinylacetate	0.00	43	0	N.D.
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	6.17	77	2528	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	0.00	42	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343856.D Vial: 34
Acq On : 22 Oct 2019 23:32 Operator: RLD-DGS
Sample : 165696,343856, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:53:00 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.11	95	13314	0.7205 ug/L #	75
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.54	91	2949	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343856.D Vial: 34
Acq On : 22 Oct 2019 23:32 Operator: RLD-DGS
Sample : 165696,343856, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:53:00 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

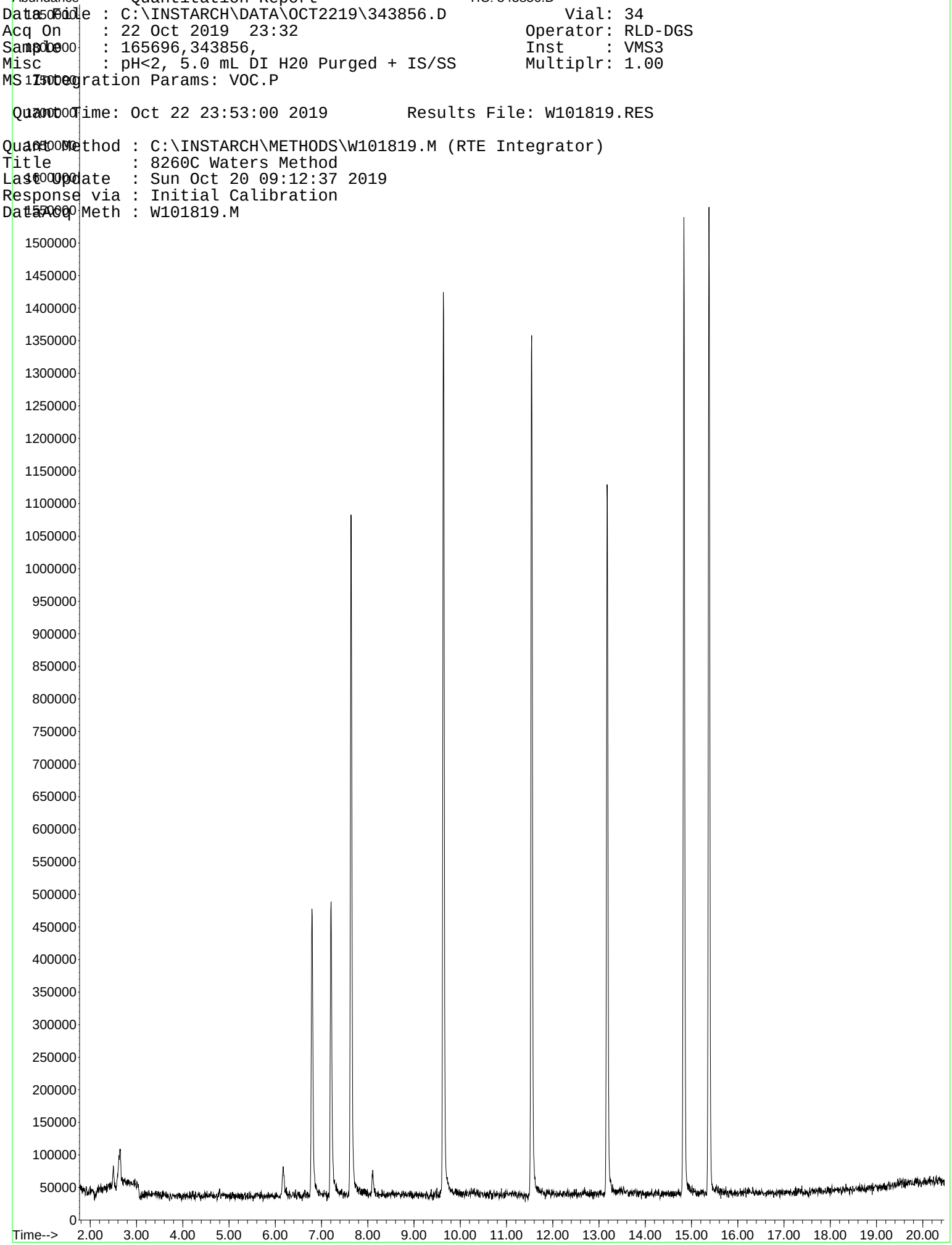
(#) = qualifier out of range (m) = manual integration

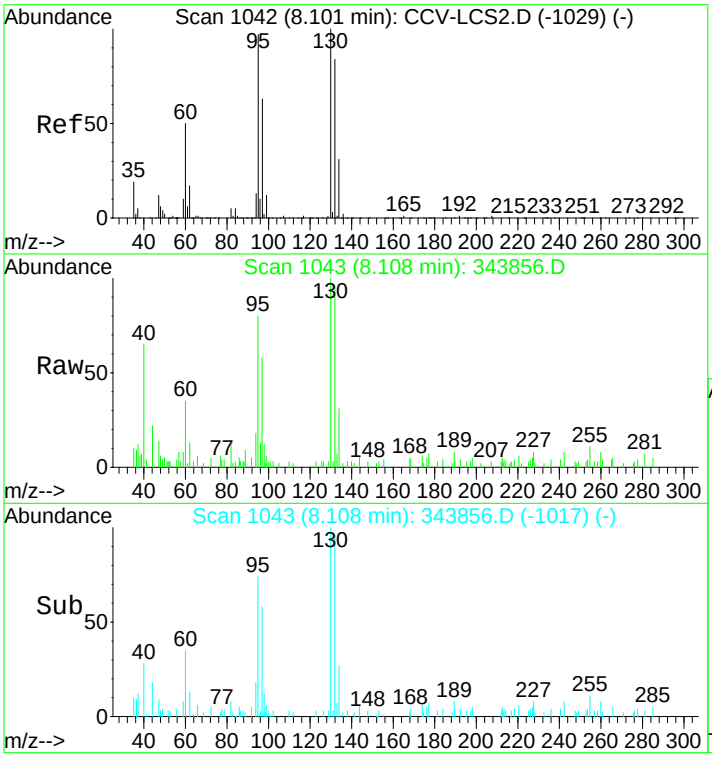
Abundance Quantitation Report TIC: 343856.D

Data File : C:\INSTARCH\DATA\OCT2219\343856.D Vial: 34
Acq On : 22 Oct 2019 23:32 Operator: RLD-DGS
Sample : 165696,343856, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 23:53:00 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

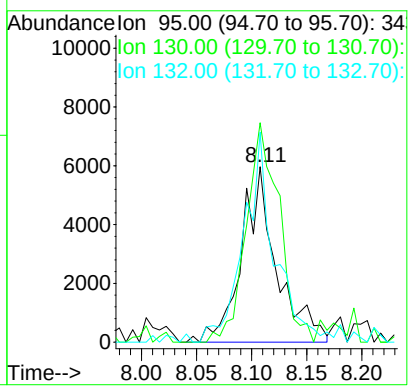




#49
trichloroete
Concen: 0.72 ug/L
RT: 8.11 min Scan# 1043
Delta R.T. 0.01 min
Lab File: 343856.D
Acq: 22 Oct 2019 23:32

Tgt Ion: 95 Resp: 13314

Ion	Ratio	Lower	Upper
95	100		
130	116.3	72.9	112.9#
132	108.1	64.8	104.8#



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343860.D Vial: 35
Acq On : 23 Oct 2019 00:02 Operator: RLD-DGS
Sample : 165696,343860, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:22:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1102981	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	916113	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	522070	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	312098	20.896	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.20	102	84732	21.274	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 106	%		
61) SURRd8Tolule	9.63	98	1172035	19.581	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.18	95	444976	19.237	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.67	94	3502	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	0.00	43	0	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.21	76	4170	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	4183	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343860.D Vial: 35
Acq On : 23 Oct 2019 00:02 Operator: RLD-DGS
Sample : 165696,343860, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:22:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.60	83	398314	12.1720 ug/L	96
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.06	119	1933082	89.2743 ug/L	91
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	7.31	62	13838	0.5654 ug/L #	75
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.10	95	272568	14.9782 ug/L	88
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.56	91	3341	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343860.D Vial: 35
Acq On : 23 Oct 2019 00:02 Operator: RLD-DGS
Sample : 165696,343860, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:22:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

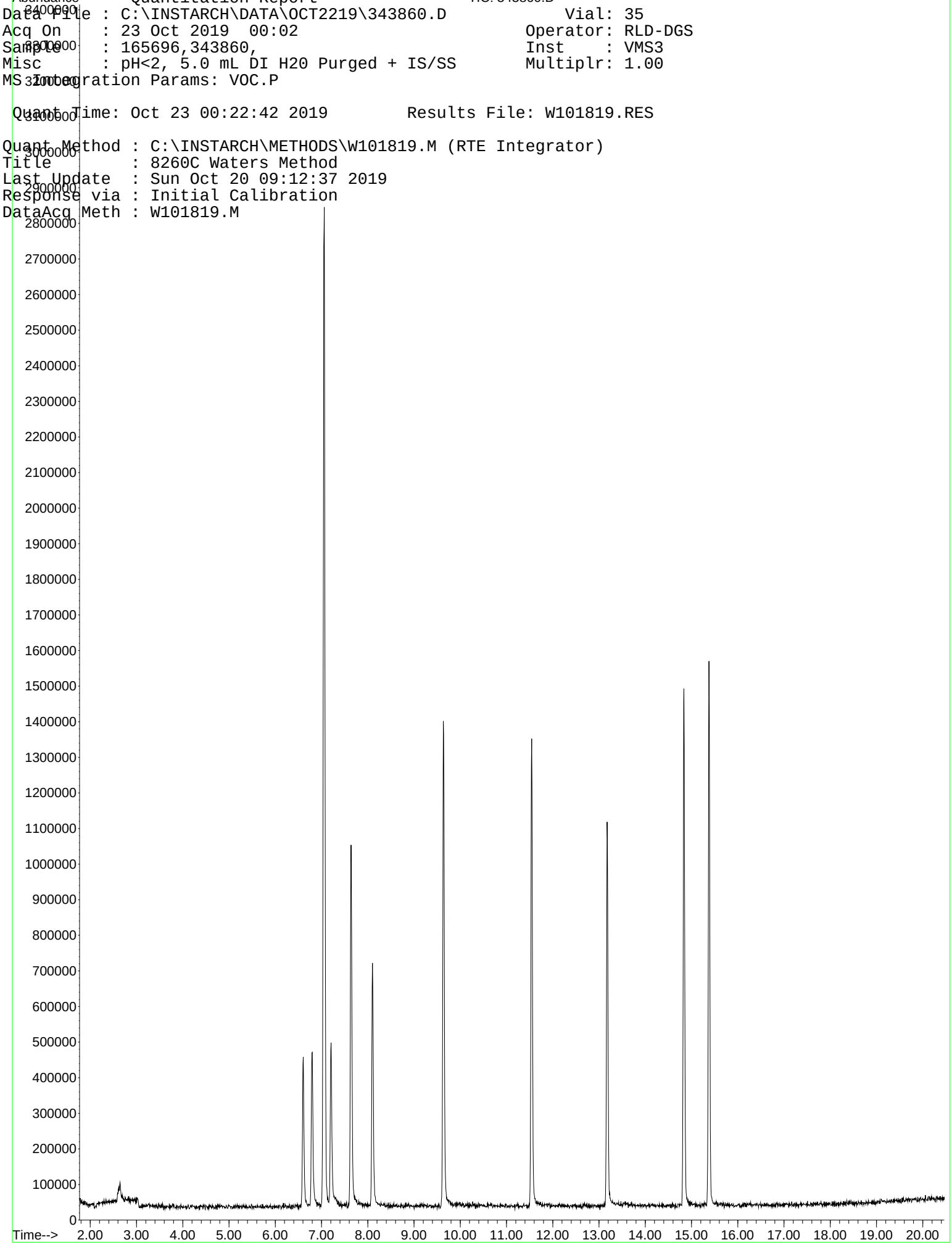
(#) = qualifier out of range (m) = manual integration

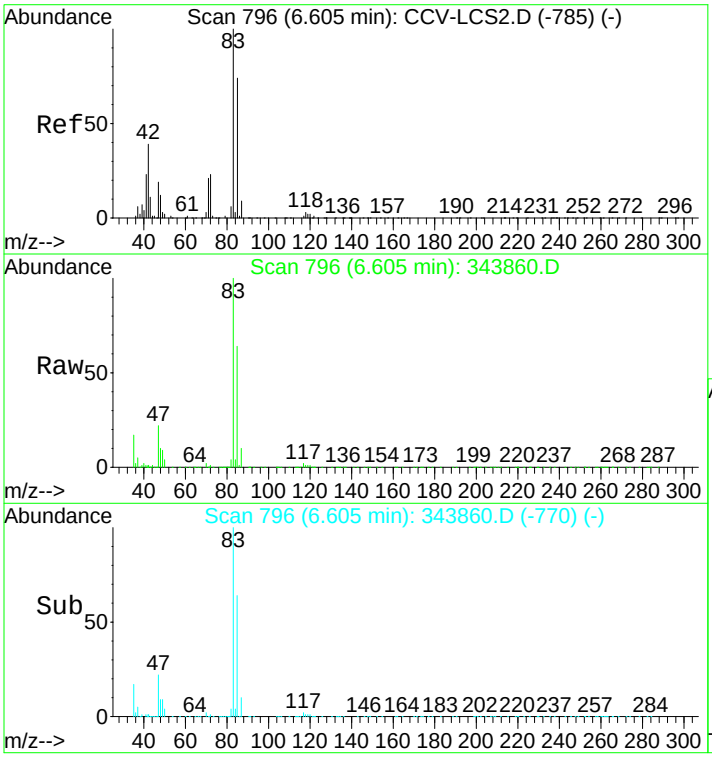
Quantitation Report (RTE Integrator)

Data File : C:\INSTARCH\DATA\OCT2219\343860.D Vial: 35
Acq On : 23 Oct 2019 00:02 Operator: RLD-DGS
Sample : 165696,343860, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:22:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

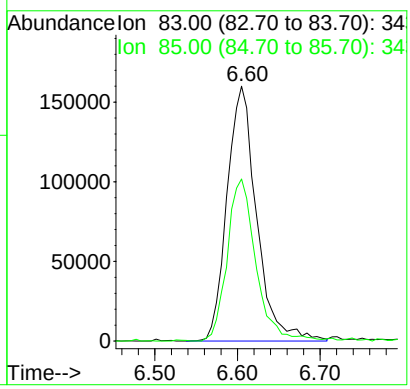


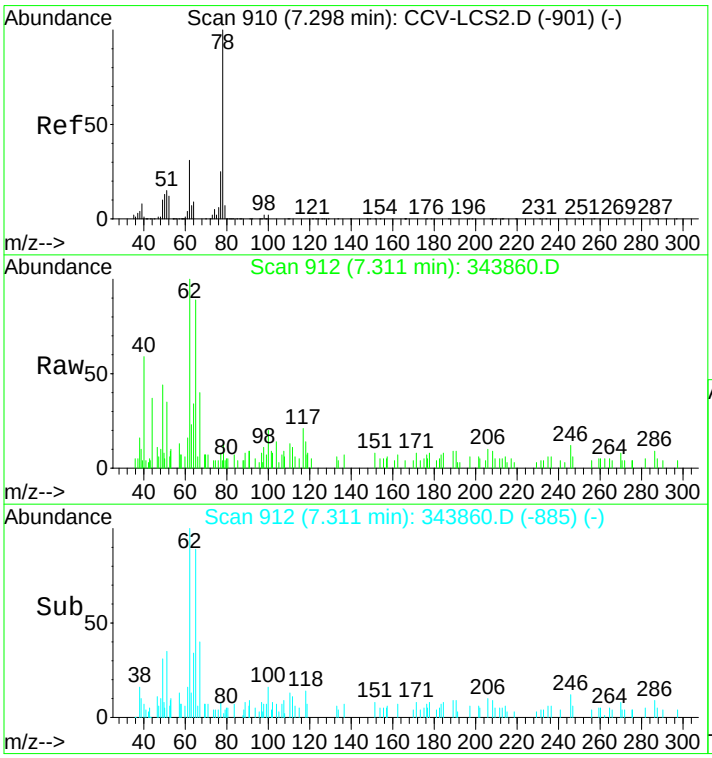


#39
Chloroform
Concen: 12.17 ug/L
RT: 6.60 min Scan# 796
Delta R.T. 0.01 min
Lab File: 343860.D
Acq: 23 Oct 2019 00:02

Tgt Ion: 83 Resp: 398314

Ion	Ratio	Lower	Upper
83	100		
85	61.9	45.4	85.4

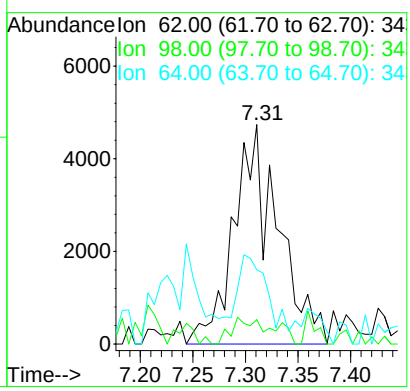


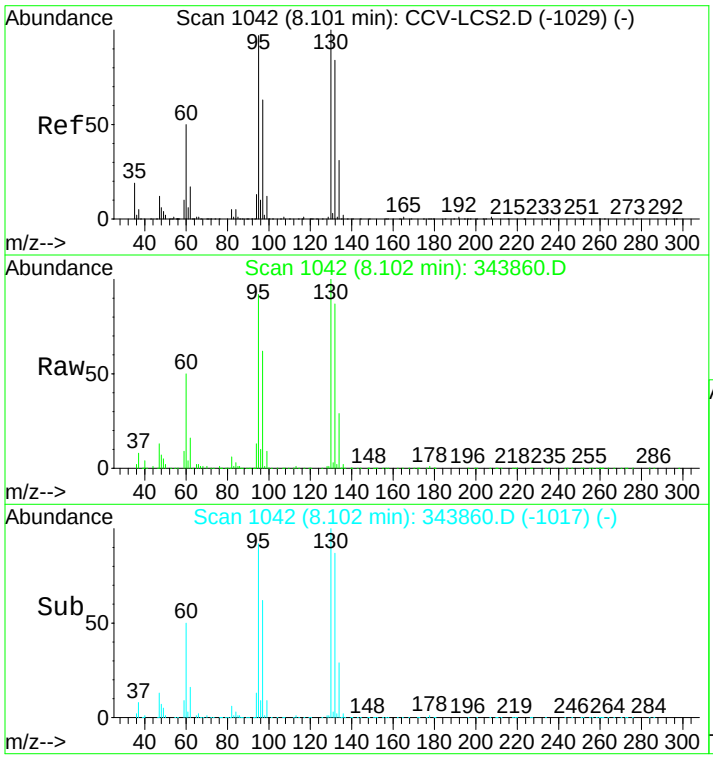


#47
12dichlorota
Concen: 0.57 ug/L
RT: 7.31 min Scan# 912
Delta R.T. 0.01 min
Lab File: 343860.D
Acq: 23 Oct 2019 00:02

Tgt Ion: 62 Resp: 13838

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	29.7
64	19.2	13.1	53.1

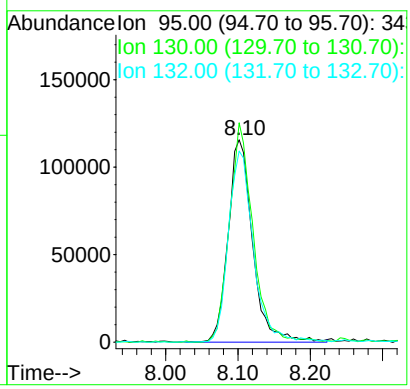




#49
trichloroete
Concen: 14.98 ug/L
RT: 8.10 min Scan# 1042
Delta R.T. 0.00 min
Lab File: 343860.D
Acq: 23 Oct 2019 00:02

Tgt Ion: 95 Resp: 272568

Ion	Ratio	Lower	Upper
95	100		
130	104.5	72.9	112.9
132	96.3	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343862.D Vial: 36
Acq On : 23 Oct 2019 00:32 Operator: RLD-DGS
Sample : 165696,343862, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:52:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1123854	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	929259	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	517461	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	318405	20.923	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 105 %			
45) SURR12DCAd4	7.21	102	79577	19.609	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98 %			
61) SURRd8Tolule	9.63	98	1183541	19.406	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97 %			
83) SURR4BrFBenz	13.18	95	451318	19.685	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98 %			

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	0.00	50	0	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	0.00	94	0	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	0.00	101	0	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	0.00	43	0	N.D.
16) Iodomethane	0.00	142	0	N.D.
17) Carbon Dislf	4.23	76	5825	N.D.
18) allylchloride	0.00	41	0	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	0.00	84	0	N.D.
21) tbutylalcohol	0.00	59	0	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	0.00	63	0	N.D.
27) Vinylacetate	0.00	43	0	N.D.
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	0.00	77	0	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	0.00	42	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343862.D Vial: 36
Acq On : 23 Oct 2019 00:32 Operator: RLD-DGS
Sample : 165696,343862, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:52:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.60	83	390818	11.7212 ug/L	98
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.06	119	1950934	88.4253 ug/L	93
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	7.31	62	14241	0.5710 ug/L #	49
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.10	95	283324	15.2801 ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.73	92	2857	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.54	91	4643	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.39	91	3298	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343862.D Vial: 36
Acq On : 23 Oct 2019 00:32 Operator: RLD-DGS
Sample : 165696,343862, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:52:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

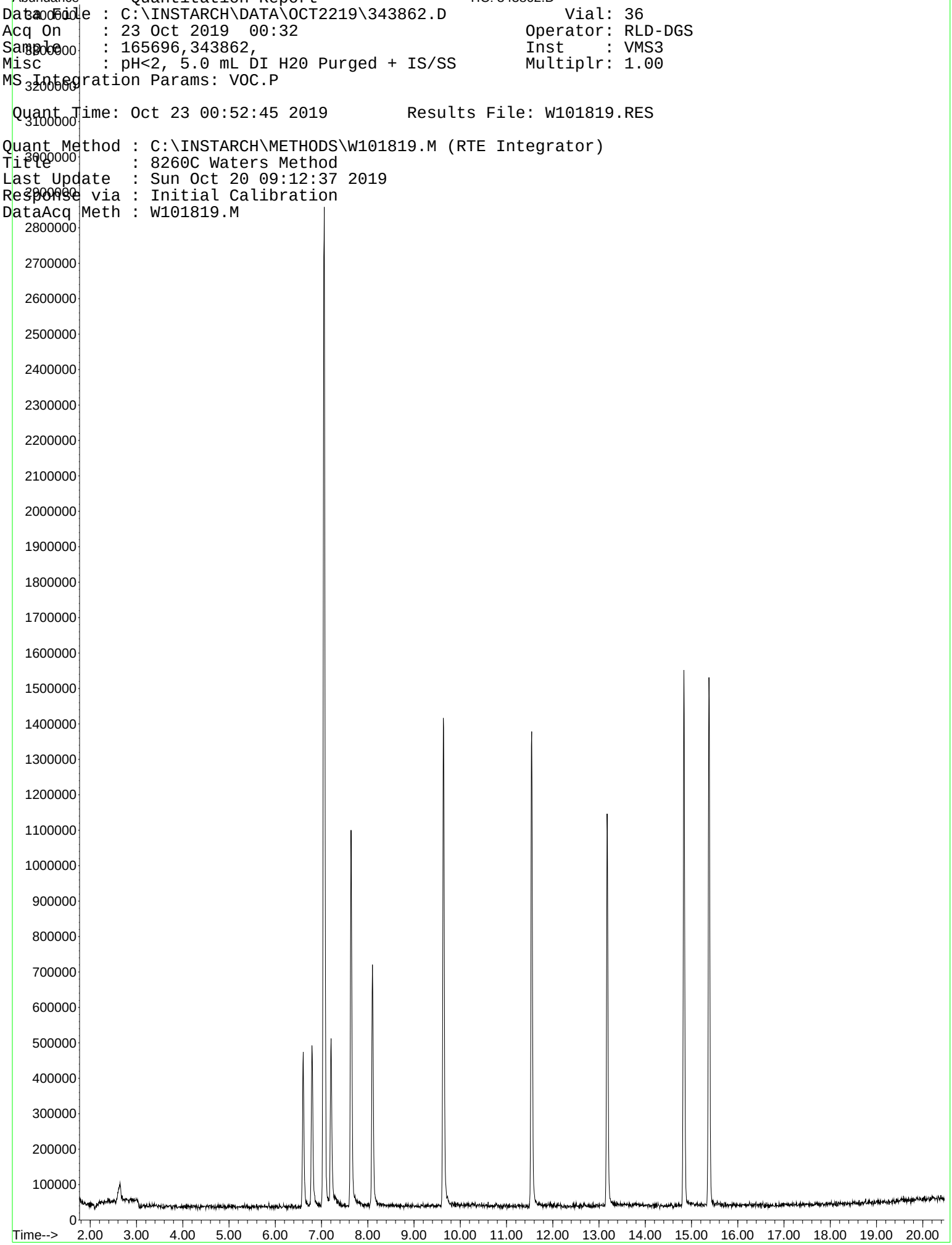
(#) = qualifier out of range (m) = manual integration

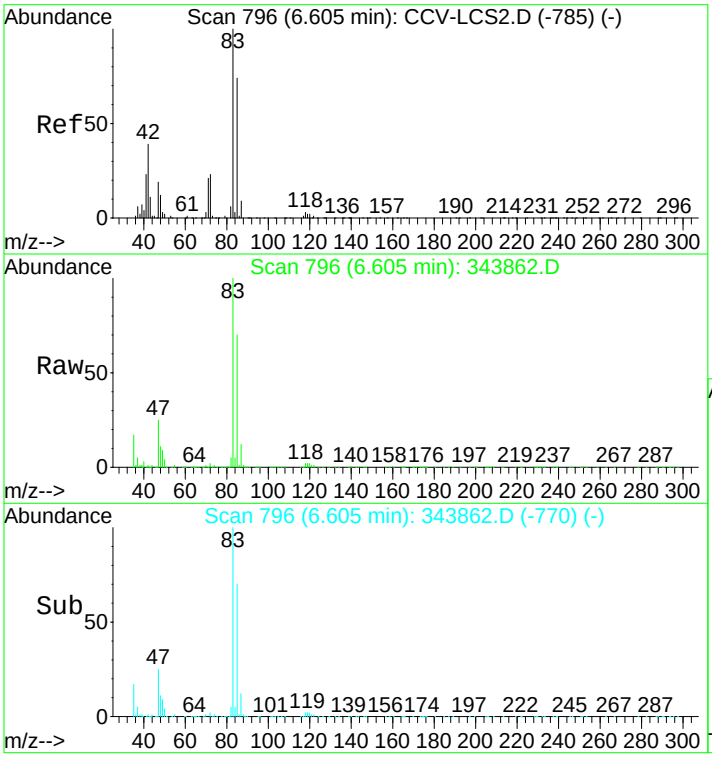
Abundance Quantitation Report TIC: 343862.D

Data File : C:\INSTARCH\DATA\OCT2219\343862.D Vial: 36
Acq On : 23 Oct 2019 00:32 Operator: RLD-DGS
Sample : 165696,343862, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 00:52:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

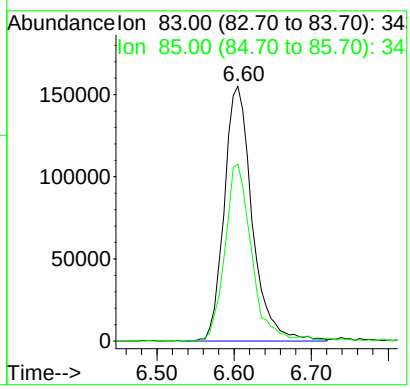


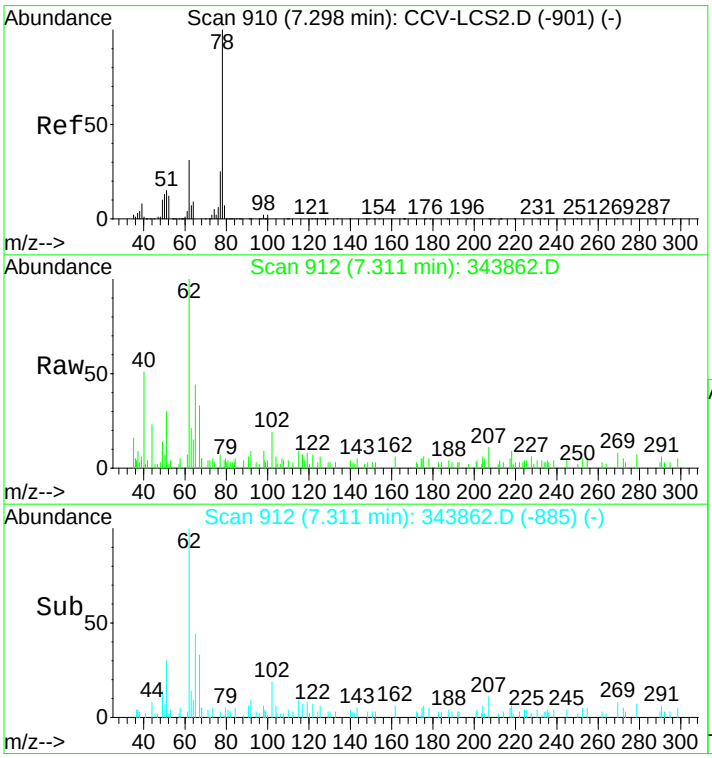


#39
Chloroform
Concen: 11.72 ug/L
RT: 6.60 min Scan# 796
Delta R.T. 0.01 min
Lab File: 343862.D
Acq: 23 Oct 2019 00:32

Tgt Ion: 83 Resp: 390818

Ion	Ratio	Lower	Upper
83	100		
85	66.8	45.4	85.4

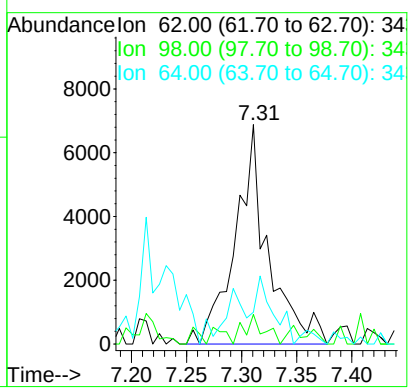


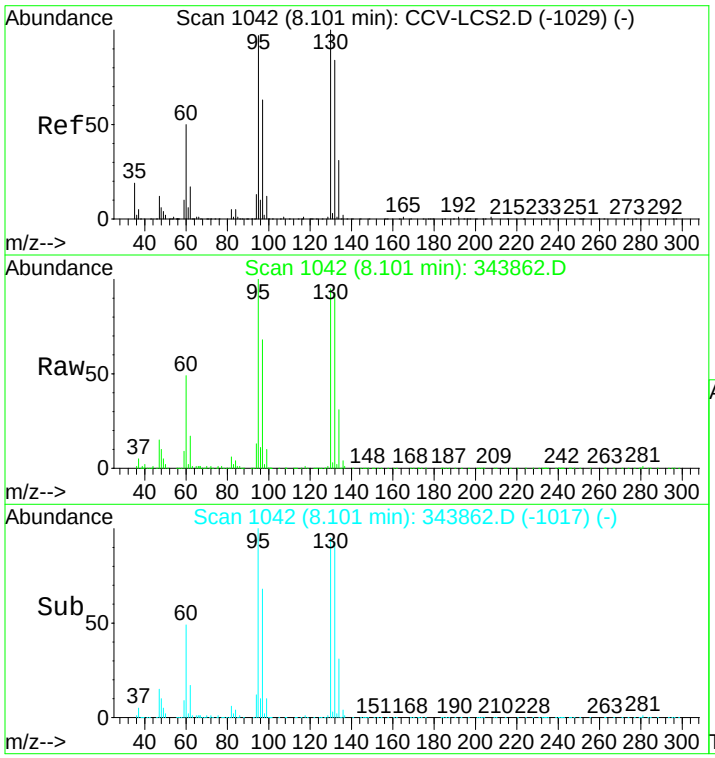


#47
12dichlorota
Concen: 0.57 ug/L
RT: 7.31 min Scan# 912
Delta R.T. 0.01 min
Lab File: 343862.D
Acq: 23 Oct 2019 00:32

Tgt Ion: 62 Resp: 14241

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	29.7
64	0.0	13.1	53.1#

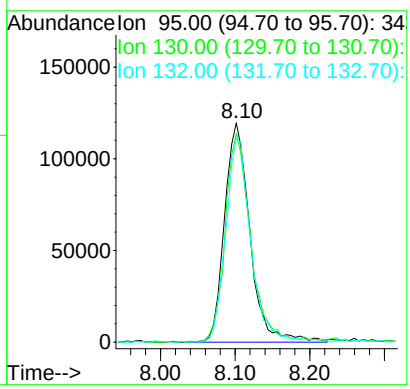




#49
trichloroete
Concen: 15.28 ug/L
RT: 8.10 min Scan# 1042
Delta R.T. 0.00 min
Lab File: 343862.D
Acq: 23 Oct 2019 00:32

Tgt Ion: 95 Resp: 283324

Ion	Ratio	Lower	Upper
95	100		
130	95.4	72.9	112.9
132	92.4	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343864.D Vial: 43
Acq On : 23 Oct 2019 9:19 Operator: RLD-DGS
Sample : 165696,343864, Inst : VMS3
Misc : pH 7, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:40:01 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1091053	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	920027	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	514008	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.80	113	321112	21.735 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 109 %		
45) SURR12DCAd4	7.21	102	80500	20.433 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %		
61) SURRd8Tolule	9.64	98	1149890	19.421 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97 %		
83) SURR4BrFBenz	13.18	95	445225	19.549 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.72	94	2935	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.21	76	3979	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.60	42	2741	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343864.D Vial: 43
Acq On : 23 Oct 2019 9:19 Operator: RLD-DGS
Sample : 165696,343864, Inst : VMS3
Misc : pH 7, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:40:01 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.71	92	2689	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.54	91	3077	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.92	106	3251	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343864.D Vial: 43
Acq On : 23 Oct 2019 9:19 Operator: RLD-DGS
Sample : 165696,343864, Inst : VMS3
Misc : pH 7, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:40:01 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

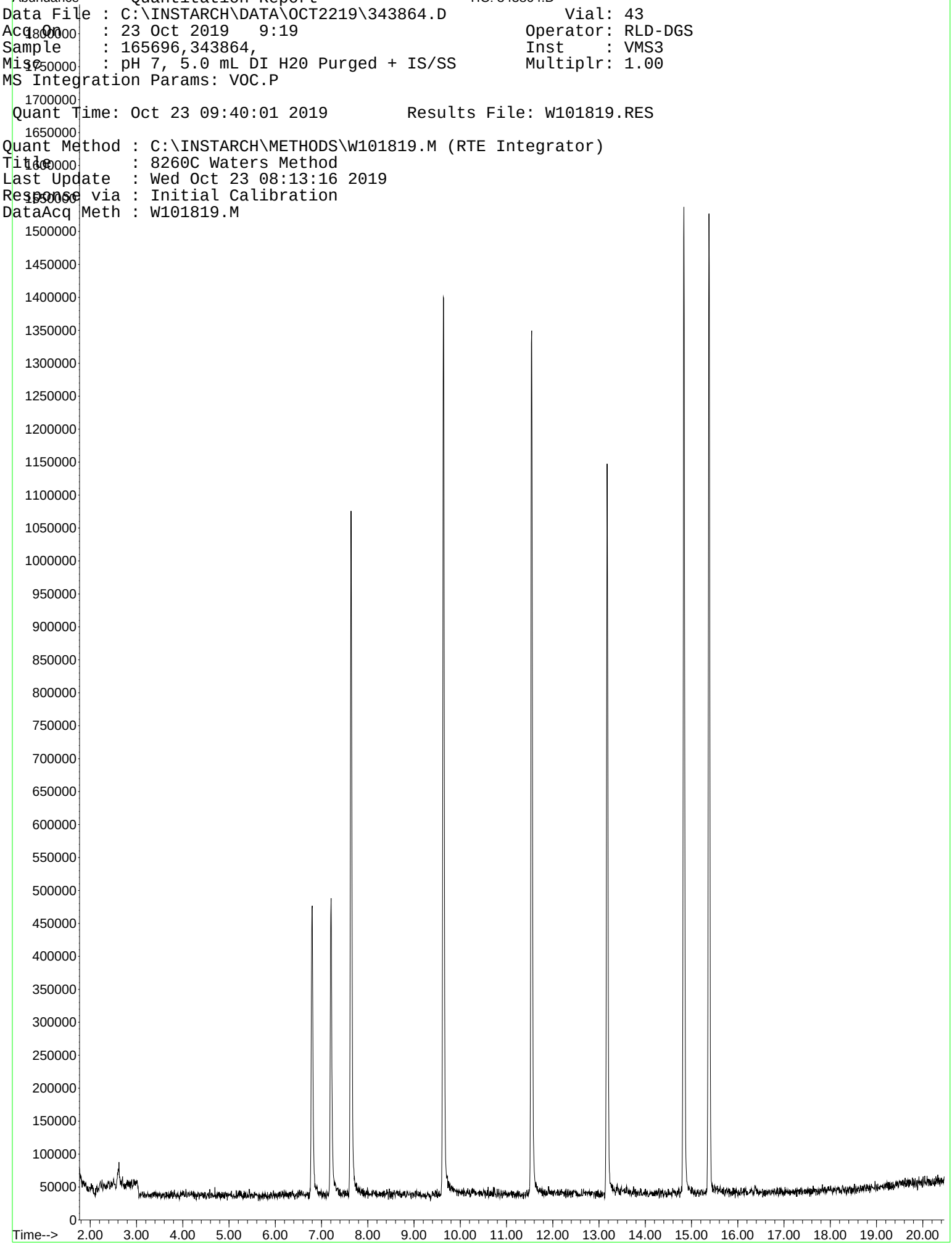
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 343864.D

Data File : C:\INSTARCH\DATA\OCT2219\343864.D Vial: 43
Acq On : 23 Oct 2019 9:19 Operator: RLD-DGS
Sample : 165696,343864, Inst : VMS3
Misc : pH 7, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:40:01 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343866.D Vial: 44
Acq On : 23 Oct 2019 9:49 Operator: RLD-DGS
Sample : 165696,343866, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:09:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1092168	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	917897	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	522661	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.80	113	317638	21.478 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 107 %		
45) SURR12DCAd4	7.21	102	82936	21.030 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 105 %		
61) SURRd8Tolule	9.64	98	1145195	19.322 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97 %		
83) SURR4BrFBenz	13.18	95	442700	19.117 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 96 %		
Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	3.69	67	5816	0.3141 ug/L #	85
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	3.95	96	3728	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.21	76	3418	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.49	63	23415	0.7554 ug/L	96
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	6.17	77	3158	N.D.	
32) c12dichlorte	6.23	96	10024	0.5491 ug/L #	86
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343866.D Vial: 44
Acq On : 23 Oct 2019 9:49 Operator: RLD-DGS
Sample : 165696,343866, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:09:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	6.84	97	7384	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.11	95	31142	1.7283	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	10.46	166	2798	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.73	91	3169	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	13.31	75	2840	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.38	91	2897	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\OCT2219\343866.D Vial: 44
Acq On : 23 Oct 2019 9:49 Operator: RLD-DGS
Sample : 165696,343866, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:09:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

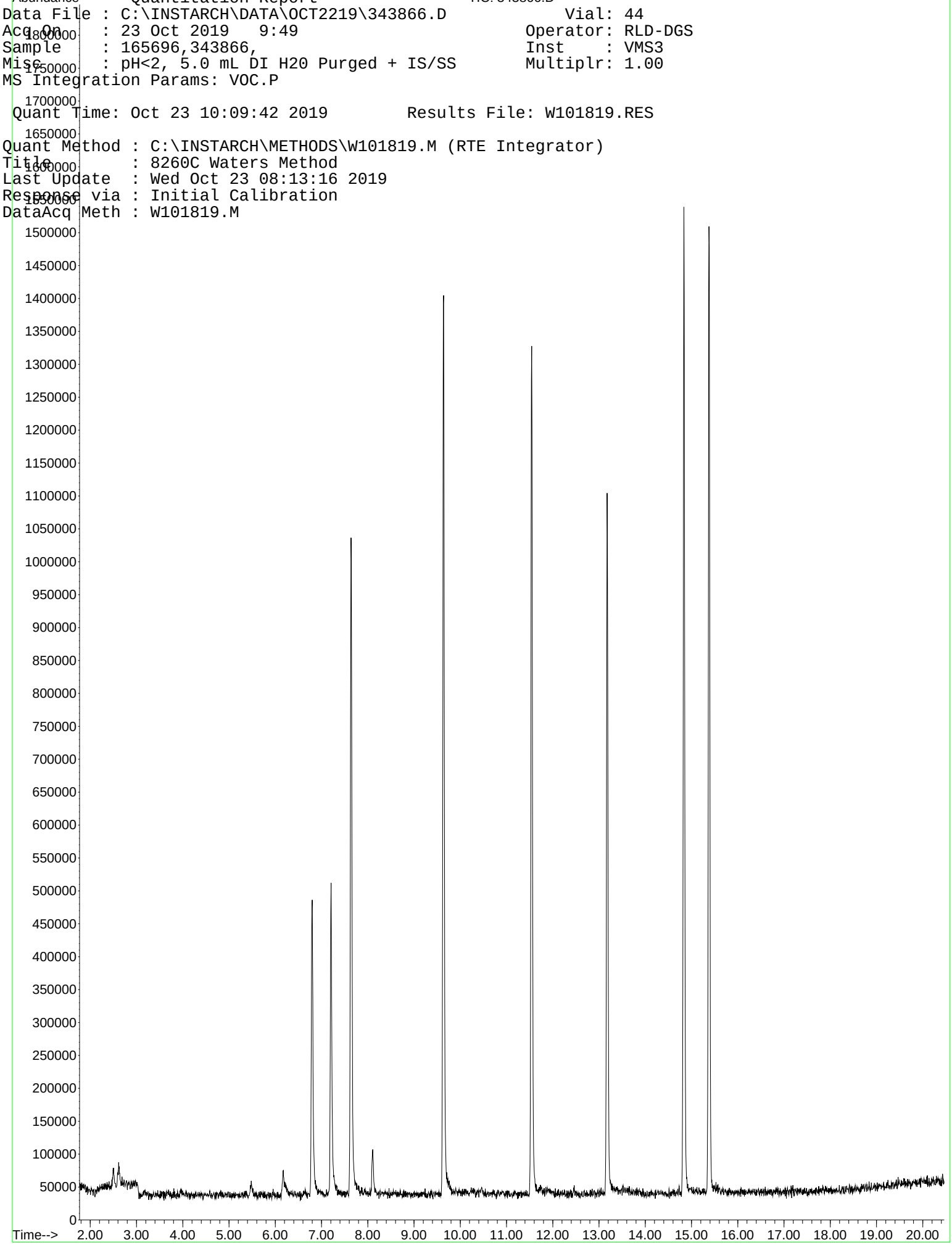
(#) = qualifier out of range (m) = manual integration

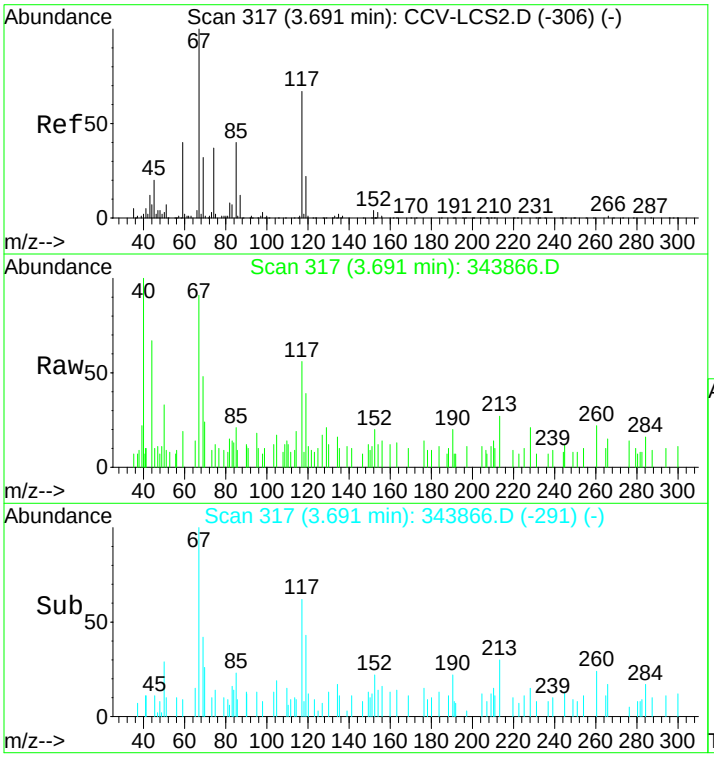
Abundance Quantitation Report TIC: 343866.D

Data File : C:\INSTARCH\DATA\OCT2219\343866.D Vial: 44
Acq On : 23 Oct 2019 9:49 Operator: RLD-DGS
Sample : 165696,343866, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:09:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

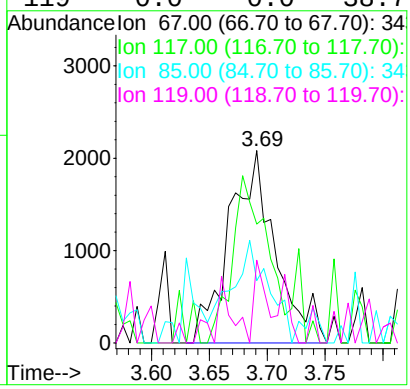


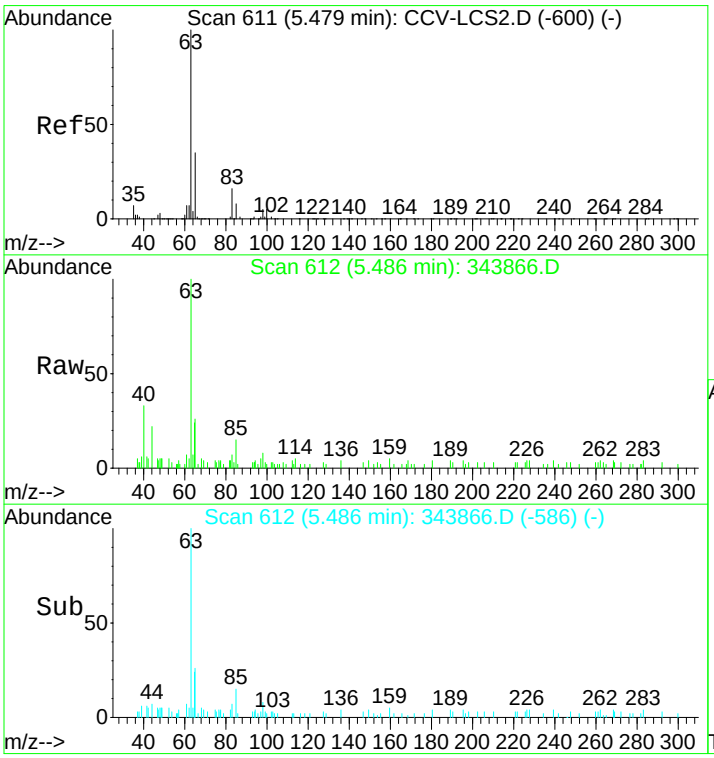


#10
dichlorotfluoroethan
Concen: 0.31 ug/L
RT: 3.69 min Scan# 317
Delta R.T. 0.01 min
Lab File: 343866.D
Acq: 23 Oct 2019 9:49

Tgt Ion: 67 Resp: 5816

Ion	Ratio	Lower	Upper
67	100		
117	75.0	45.0	85.0
85	43.1	19.6	59.6
119	0.0	0.0	38.7

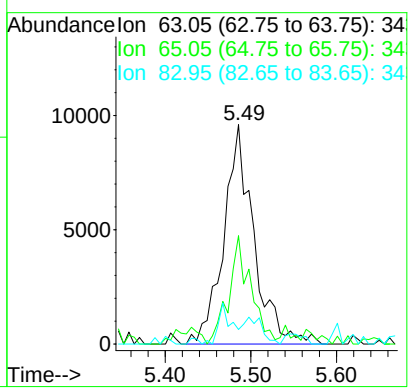


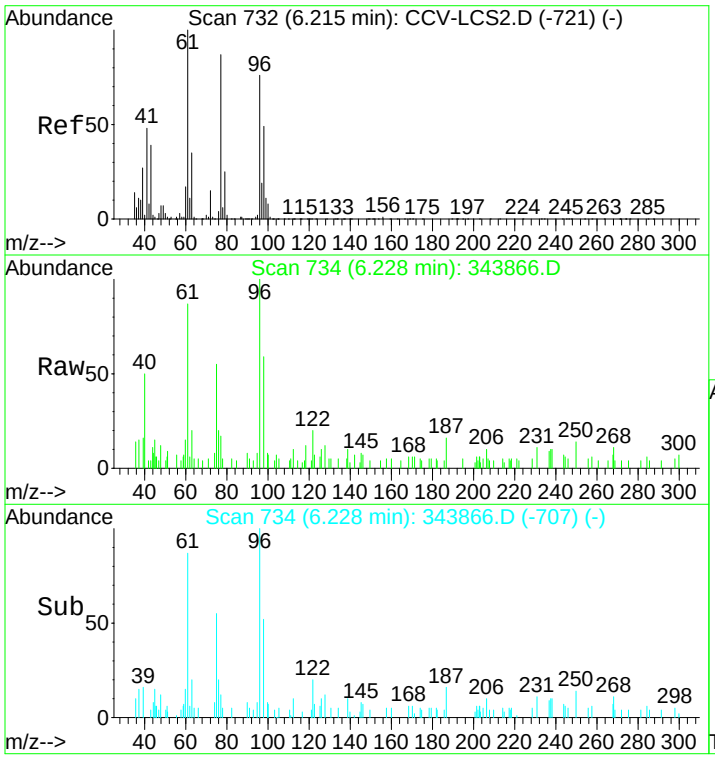


#26
11dichlorota
Concen: 0.76 ug/L
RT: 5.49 min Scan# 612
Delta R.T. 0.01 min
Lab File: 343866.D
Acq: 23 Oct 2019 9:49

Tgt Ion: 63 Resp: 23415

Ion	Ratio	Lower	Upper
63	100		
65	36.1	13.4	53.4
83	15.4	0.0	34.5

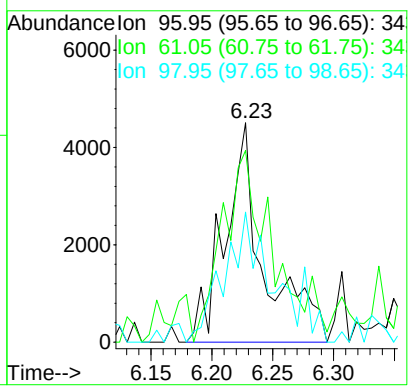


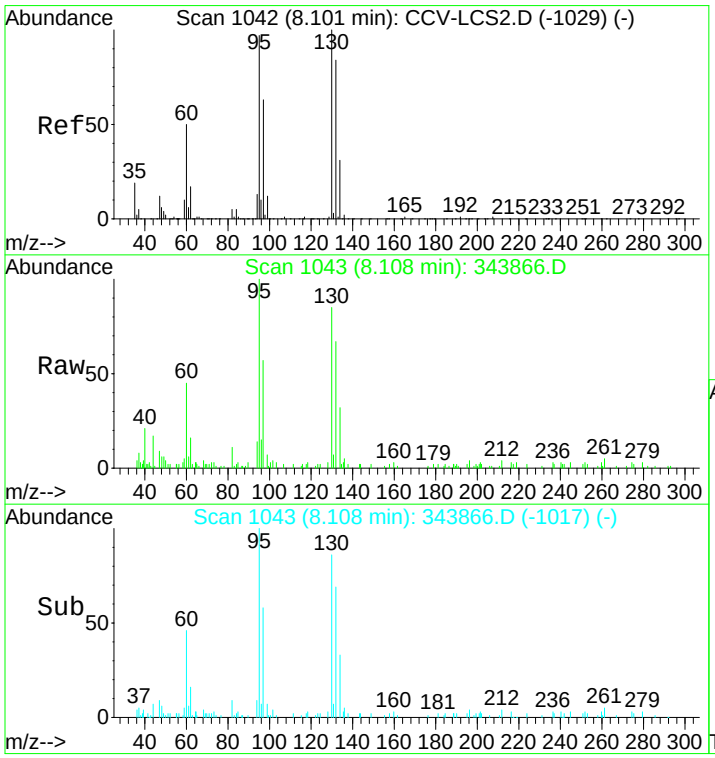


#32
c12dichlorte
Concen: 0.55 ug/L
RT: 6.23 min Scan# 734
Delta R.T. 0.01 min
Lab File: 343866.D
Acq: 23 Oct 2019 9:49

Tgt Ion: 96 Resp: 10024

Ion	Ratio	Lower	Upper
96	100		
61	112.9	117.7	157.7#
98	67.1	46.4	86.4

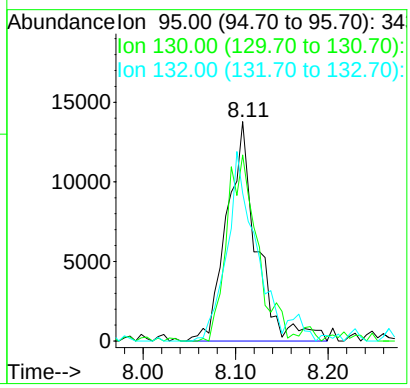




#49
trichloroete
Concen: 1.73 ug/L
RT: 8.11 min Scan# 1043
Delta R.T. 0.01 min
Lab File: 343866.D
Acq: 23 Oct 2019 9:49

Tgt Ion: 95 Resp: 31142

Ion	Ratio	Lower	Upper
95	100		
130	86.8	72.9	112.9
132	80.6	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343868.D Vial: 45
Acq On : 23 Oct 2019 10:18 Operator: RLD-DGS
Sample : 165696,343868, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:39:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1107478	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	928184	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	541000	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	326468	21.770	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 109	%		
45) SURR12DCAd4	7.21	102	82488	20.627	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103	%		
61) SURRd8Tolule	9.63	98	1186216	19.738	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.18	95	462303	19.287	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.69	67	22315	1.1883	ug/L	96
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	3.99	101	12694	1.0402	ug/L #	84
15) Acetone	0.00	43	0	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.22	76	3043	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343868.D Vial: 45
Acq On : 23 Oct 2019 10:18 Operator: RLD-DGS
Sample : 165696,343868, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:39:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.60	83	14581	0.4438 ug/L	85
40) 111trichlota	6.84	97	3347	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.06	119	76955	3.5395 ug/L	97
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	9.73	92	6417	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.54	91	3538	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	0.00	91	0	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343868.D Vial: 45
Acq On : 23 Oct 2019 10:18 Operator: RLD-DGS
Sample : 165696,343868, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:39:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

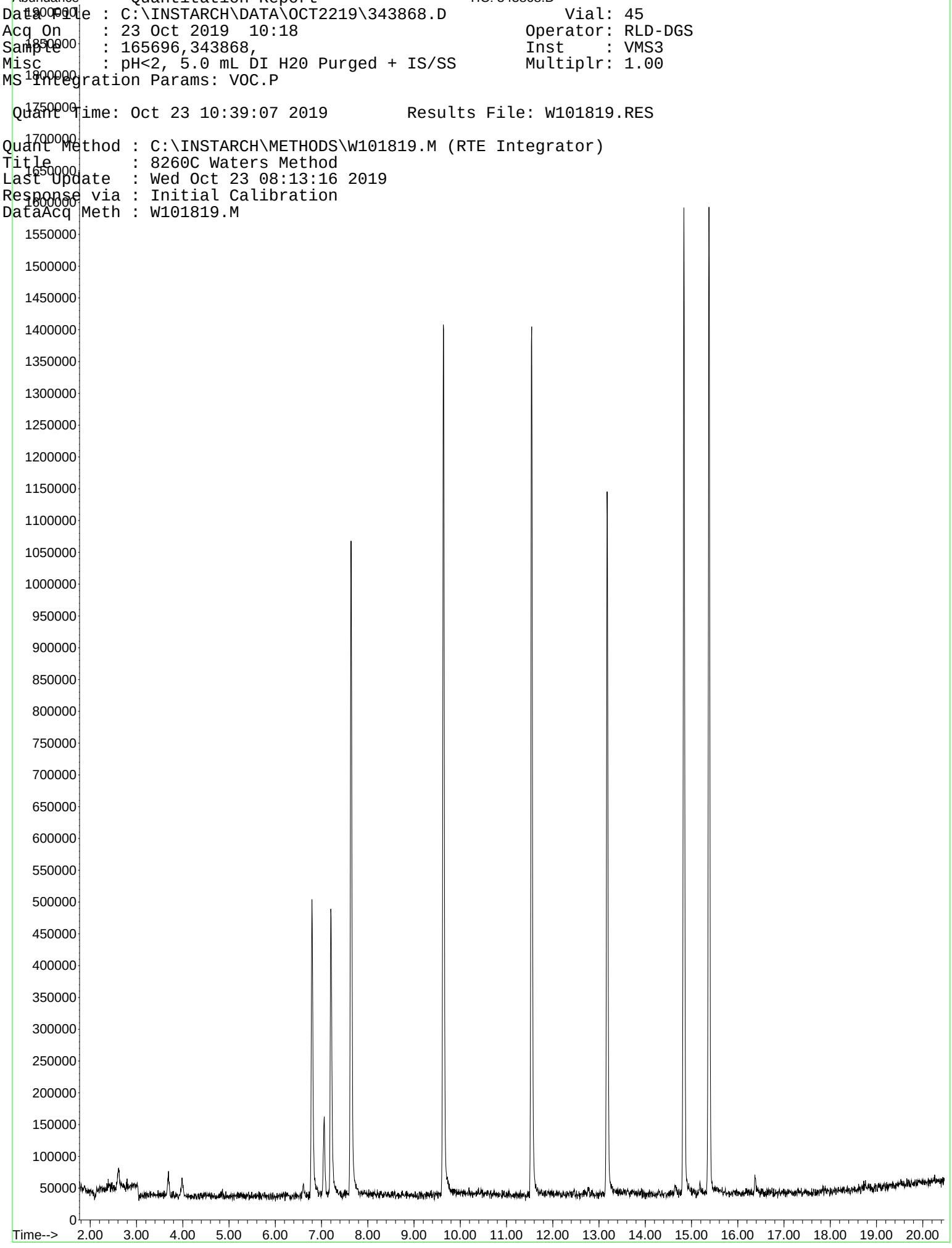
(#) = qualifier out of range (m) = manual integration

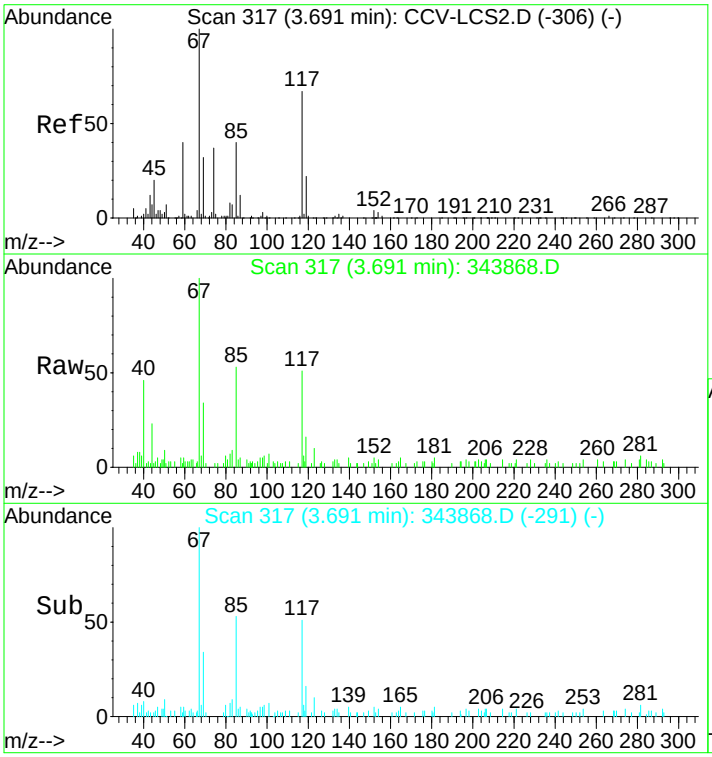
Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343868.D Vial: 45
Acq On : 23 Oct 2019 10:18 Operator: RLD-DGS
Sample : 165696,343868, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 10:39:07 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

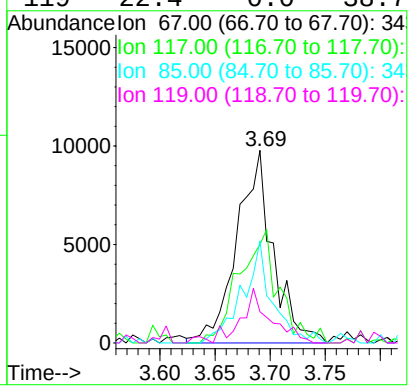


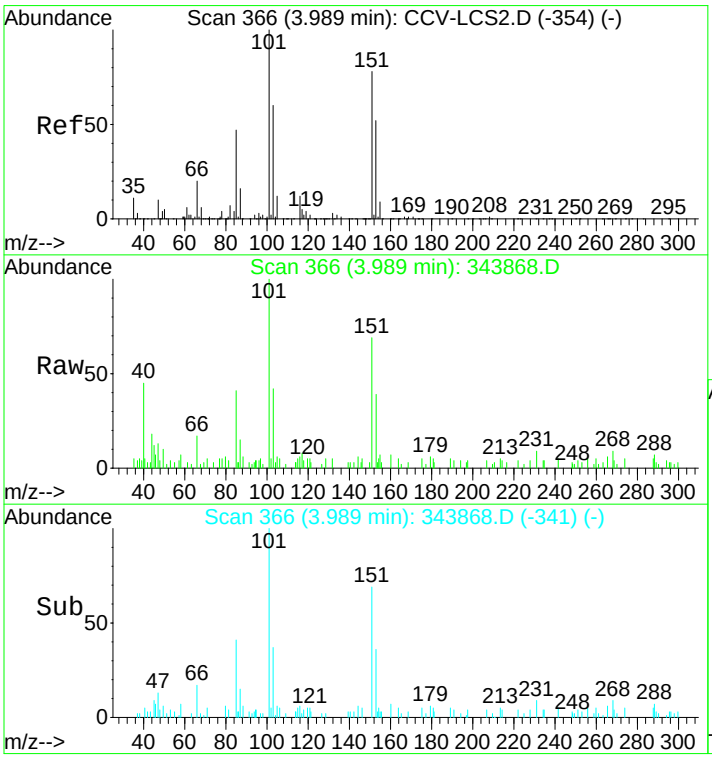


#10
dichlorotfluoroethan
Concen: 1.19 ug/L
RT: 3.69 min Scan# 317
Delta R.T. 0.01 min
Lab File: 343868.D
Acq: 23 Oct 2019 10:18

Tgt Ion: 67 Resp: 22315

Ion	Ratio	Lower	Upper
67	100		
117	64.6	45.0	85.0
85	43.6	19.6	59.6
119	22.4	0.0	38.7

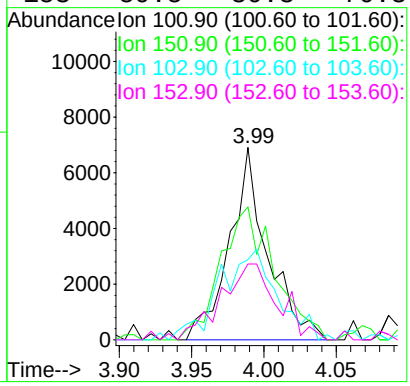


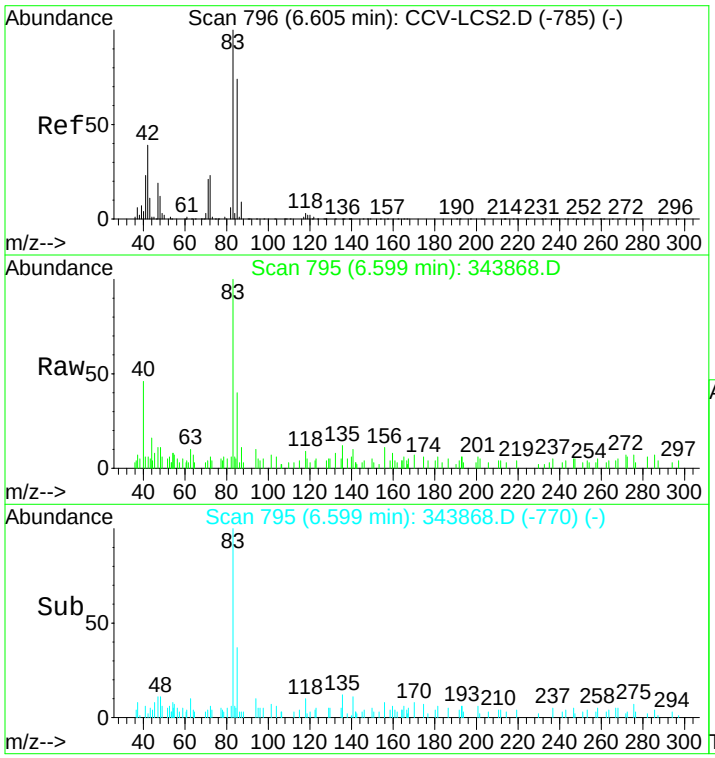


#14
Trichlorotfluoroeth
Concen: 1.04 ug/L
RT: 3.99 min Scan# 366
Delta R.T. 0.00 min
Lab File: 343868.D
Acq: 23 Oct 2019 10:18

Tgt Ion:101 Resp: 12694

Ion	Ratio	Lower	Upper
101	100		
151	97.5	57.2	97.2#
103	71.6	43.5	83.5
153	59.5	30.3	70.3

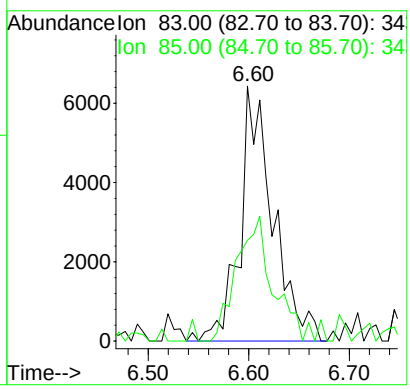


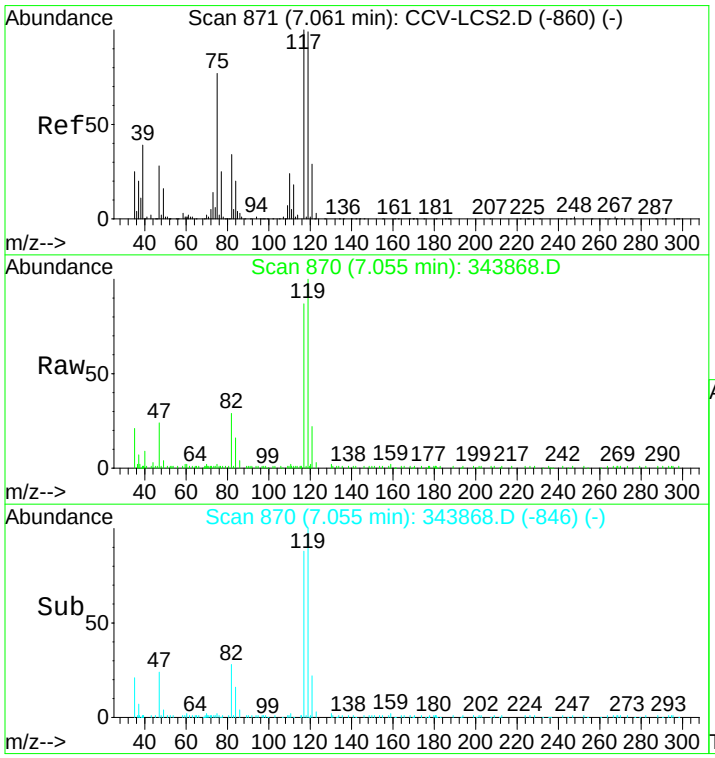


#39
Chloroform
Concen: 0.44 ug/L
RT: 6.60 min Scan# 795
Delta R.T. 0.00 min
Lab File: 343868.D
Acq: 23 Oct 2019 10:18

Tgt Ion: 83 Resp: 14581

Ion	Ratio	Lower	Upper
83	100		
85	53.3	45.4	85.4

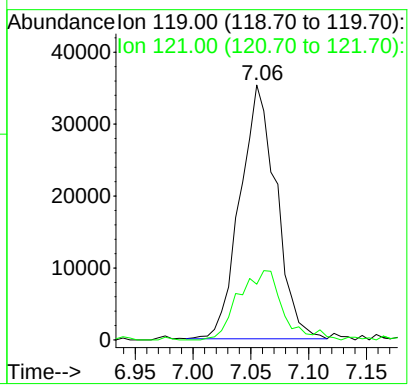




#43
Carbtetraclo
Concen: 3.54 ug/L
RT: 7.06 min Scan# 870
Delta R.T. -0.01 min
Lab File: 343868.D
Acq: 23 Oct 2019 10:18

Tgt Ion:119 Resp: 76955

Ion	Ratio	Lower	Upper
119	100		
121	33.2	11.5	51.5



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343870.D Vial: 46
Acq On : 23 Oct 2019 10:48 Operator: RLD-DGS
Sample : 165696,343870, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:08:57 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1098654	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	941416	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	540117	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.80	113	326239	21.929 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 110 %		
45) SURR12DCAd4	7.20	102	78286	19.733 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %		
61) SURRd8Tolule	9.63	98	1176596	19.735 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %		
83) SURR4BrFBenz	13.18	95	460819	19.256 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 96 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	3.23	101	3691	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	3.68	67	3316	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.23	76	3288	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.47	63	3849	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	6.21	96	4686	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343870.D Vial: 46
Acq On : 23 Oct 2019 10:48 Operator: RLD-DGS
Sample : 165696,343870, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:08:57 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.61	83	7657	N.D.	
40) 111trichlota	6.84	97	7207	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.06	119	43803	2.0309 ug/L	94
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	8.11	95	30100	1.6606 ug/L	97
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	9.73	92	3697	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	10.47	166	4500	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.54	91	3545	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	13.32	75	3308	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.38	91	2742	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343870.D Vial: 46
Acq On : 23 Oct 2019 10:48 Operator: RLD-DGS
Sample : 165696,343870, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:08:57 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

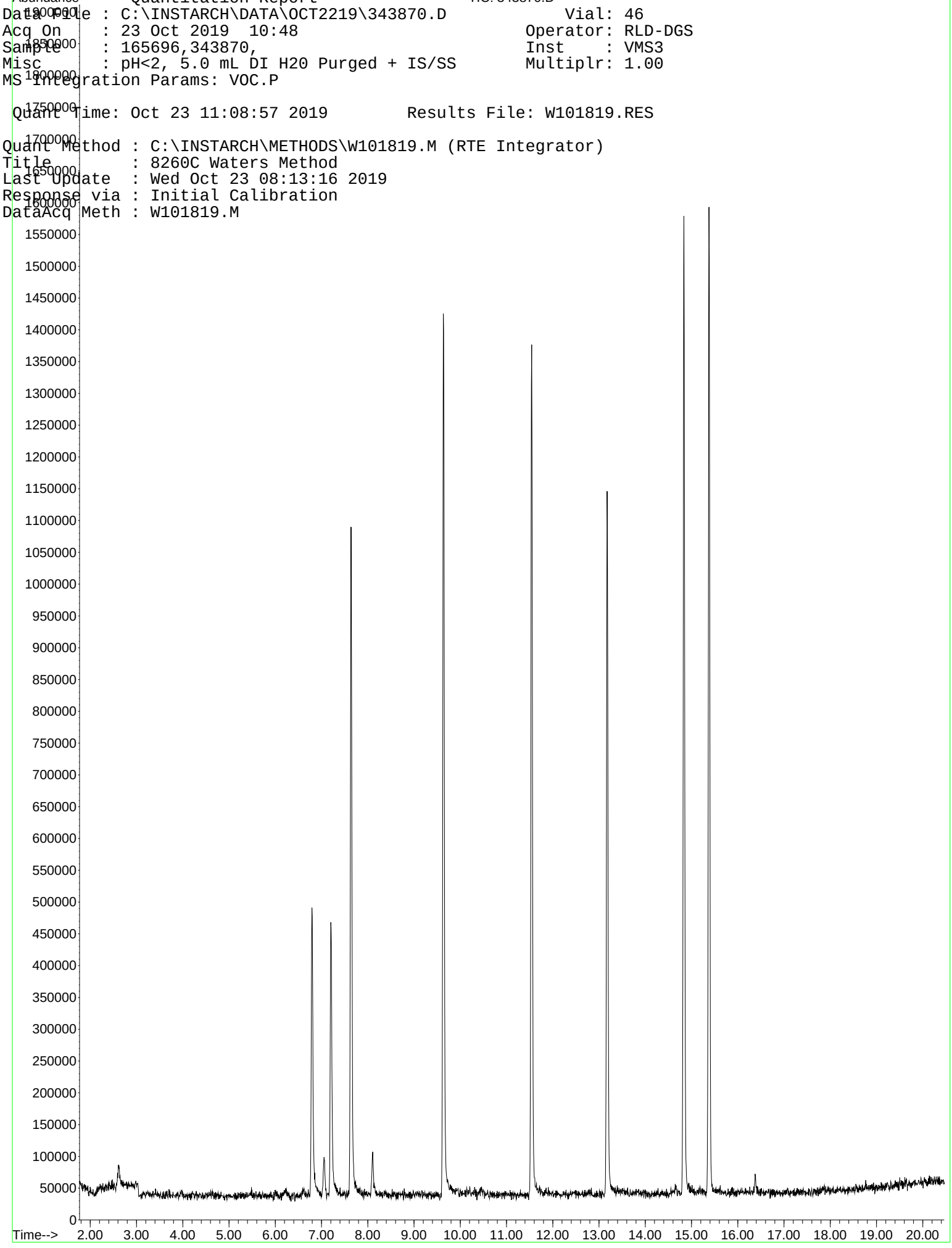
(#) = qualifier out of range (m) = manual integration

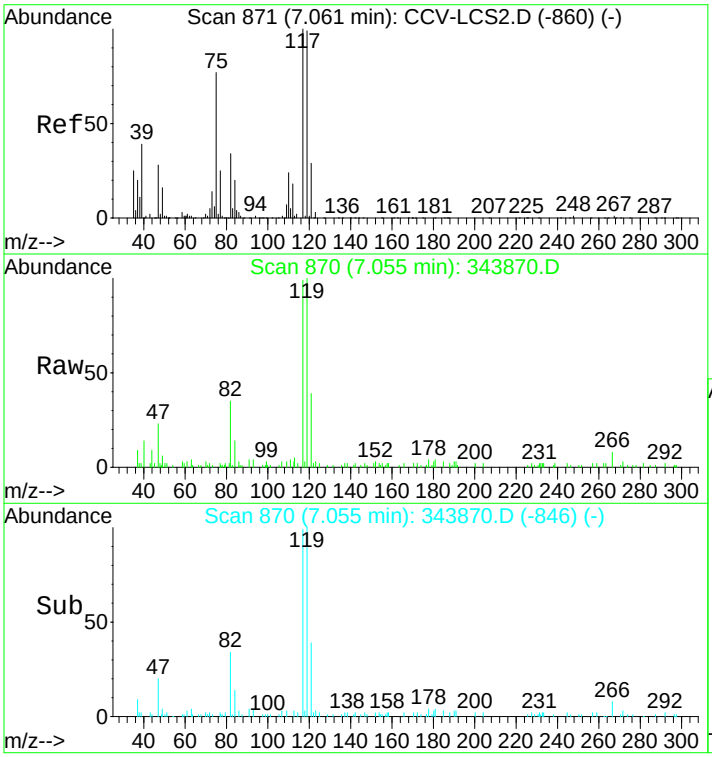
Abundance Quantitation Report TIC: 343870.D

Data File : C:\INSTARCH\DATA\OCT2219\343870.D Vial: 46
Acq On : 23 Oct 2019 10:48 Operator: RLD-DGS
Sample : 165696,343870, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:08:57 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

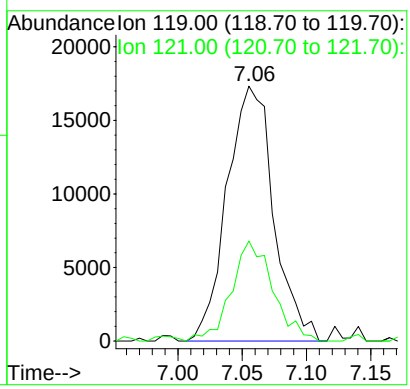


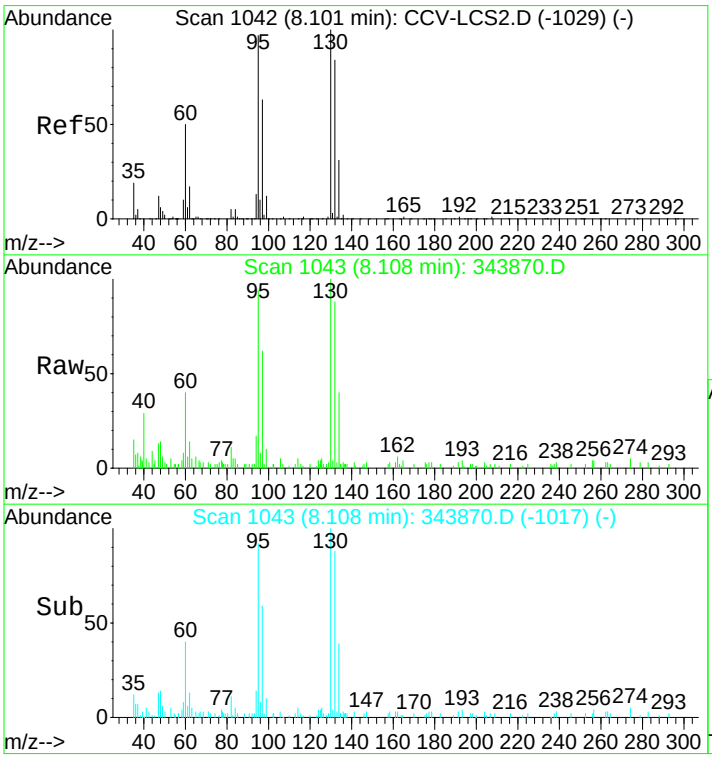


#43
Carbtetraclo
Concen: 2.03 ug/L
RT: 7.06 min Scan# 870
Delta R.T. -0.01 min
Lab File: 343870.D
Acq: 23 Oct 2019 10:48

Tgt Ion:119 Resp: 43803

Ion	Ratio	Lower	Upper
119	100		
121	34.8	11.5	51.5

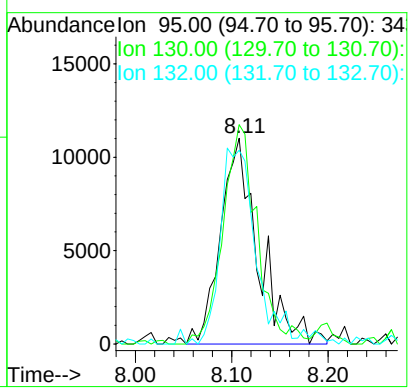




#49
trichloroete
Concen: 1.66 ug/L
RT: 8.11 min Scan# 1043
Delta R.T. 0.01 min
Lab File: 343870.D
Acq: 23 Oct 2019 10:48

Tgt Ion: 95 Resp: 30100

Ion	Ratio	Lower	Upper
95	100		
130	96.1	72.9	112.9
132	88.0	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343872.D Vial: 47
Acq On : 23 Oct 2019 11:18 Operator: RLD-DGS
Sample : 165696,343872, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:38:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	861978	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	746699	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	412593	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.80	113	252193	21.606 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 108 %		
45) SURR12DCAd4	7.21	102	63734	20.476 ug/L	0.01
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %		
61) SURRd8Tolule	9.63	98	945833	20.220 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.18	95	358752	19.624 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.22	76	2549	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343872.D Vial: 47
Acq On : 23 Oct 2019 11:18 Operator: RLD-DGS
Sample : 165696,343872, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:38:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	155353	6.0748	ug/L	97
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.06	119	1060786	62.6867	ug/L	95
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.10	95	92179	6.4817	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.54	91	2769	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343872.D Vial: 47
Acq On : 23 Oct 2019 11:18 Operator: RLD-DGS
Sample : 165696,343872, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:38:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

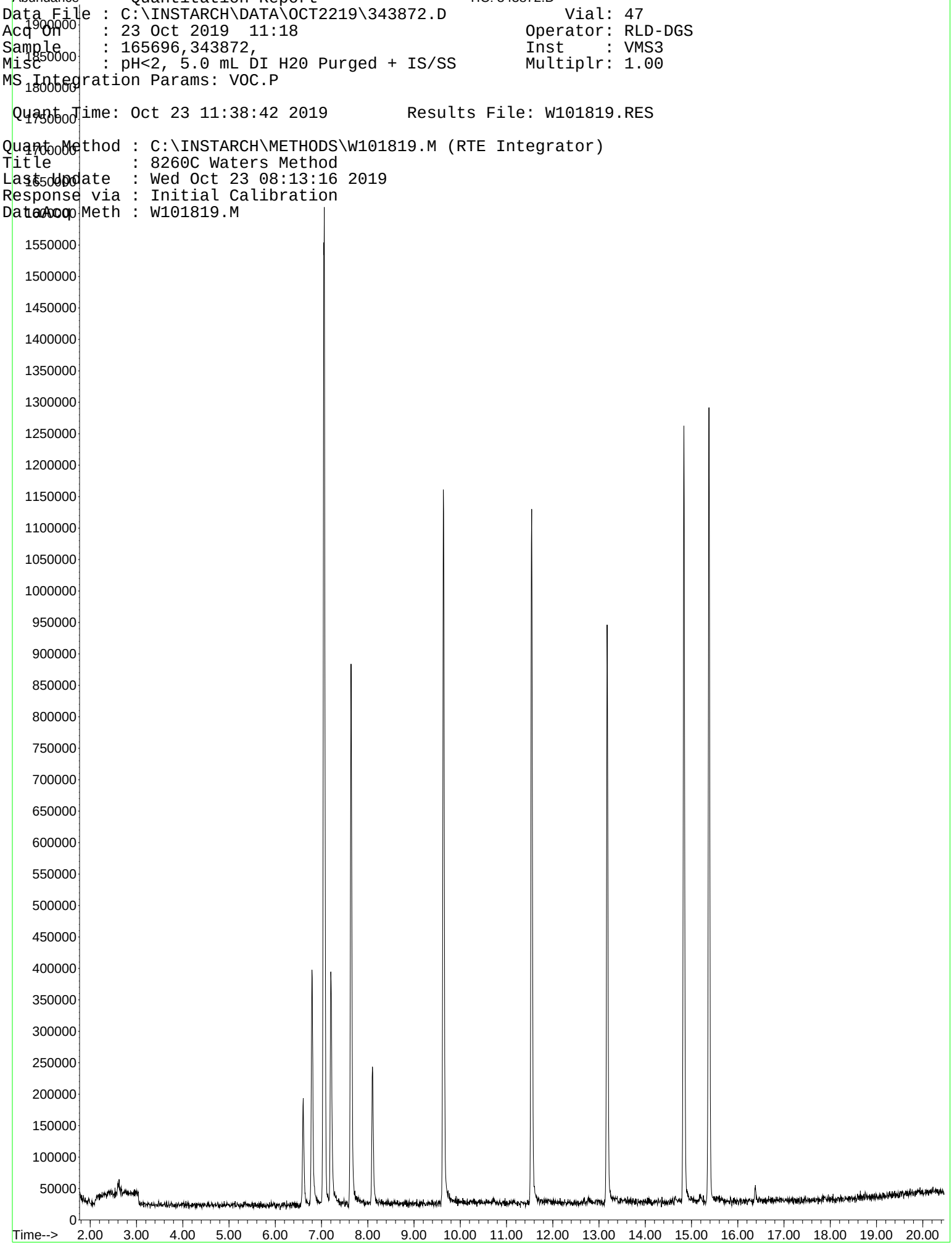
(#) = qualifier out of range (m) = manual integration

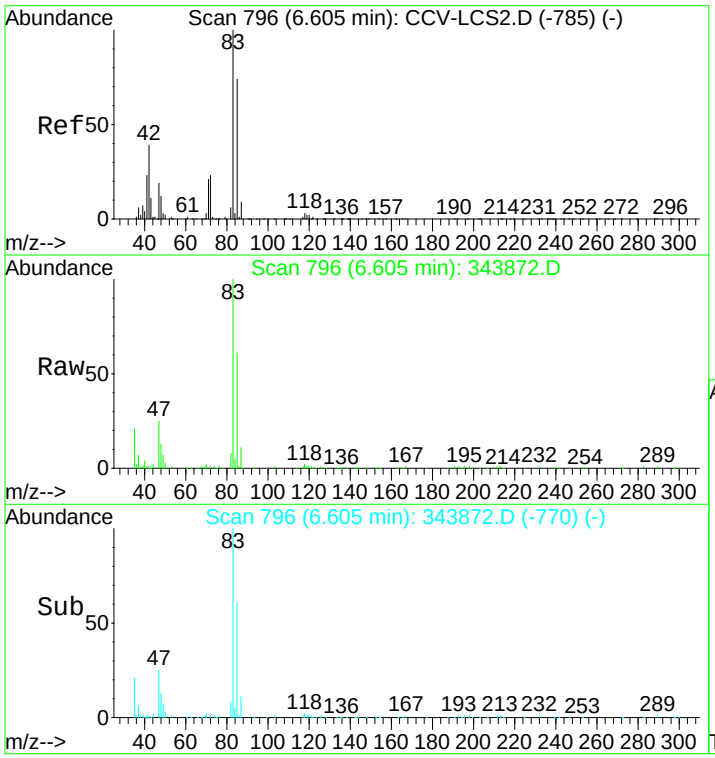
Abundance Quantitation Report TIC: 343872.D

Data File : C:\INSTARCH\DATA\OCT2219\343872.D Vial: 47
Acq On : 23 Oct 2019 11:18 Operator: RLD-DGS
Sample : 165696,343872, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 11:38:42 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

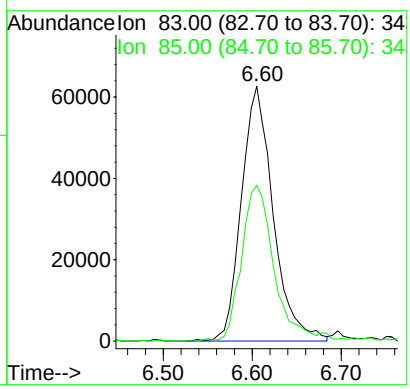


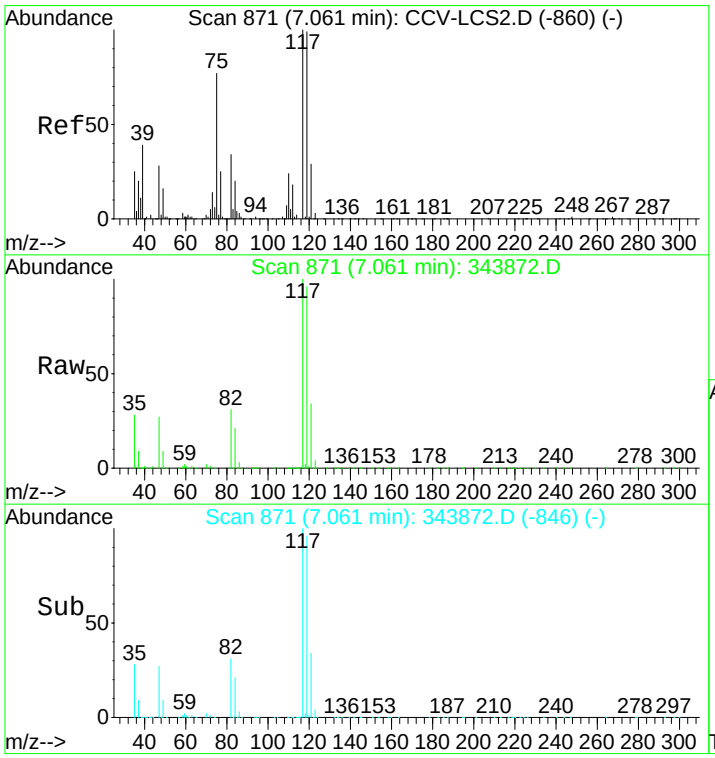


#39
Chloroform
Concen: 6.07 ug/L
RT: 6.60 min Scan# 796
Delta R.T. 0.01 min
Lab File: 343872.D
Acq: 23 Oct 2019 11:18

Tgt Ion: 83 Resp: 155353

Ion	Ratio	Lower	Upper
83	100		
85	63.4	45.4	85.4

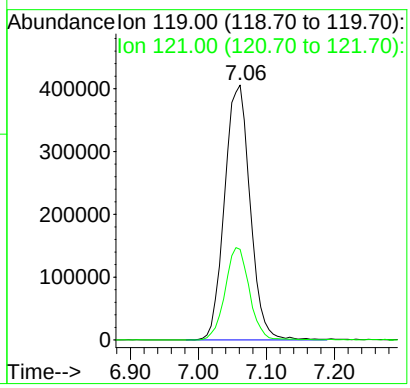


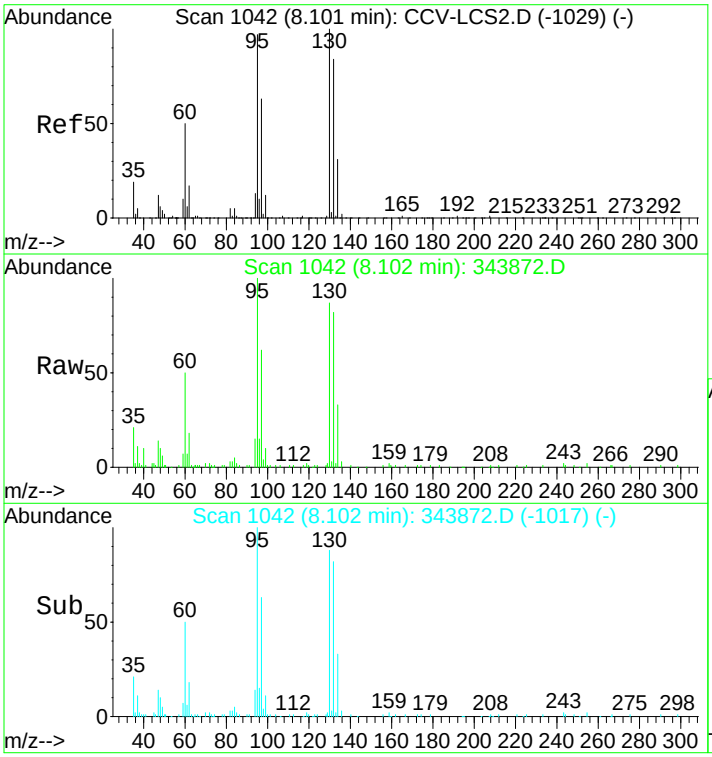


#43
Carbtetraclo
Concen: 62.69 ug/L
RT: 7.06 min Scan# 871
Delta R.T. 0.00 min
Lab File: 343872.D
Acq: 23 Oct 2019 11:18

Tgt Ion:119 Resp: 1060786

Ion	Ratio	Lower	Upper
119	100		
121	34.4	11.5	51.5

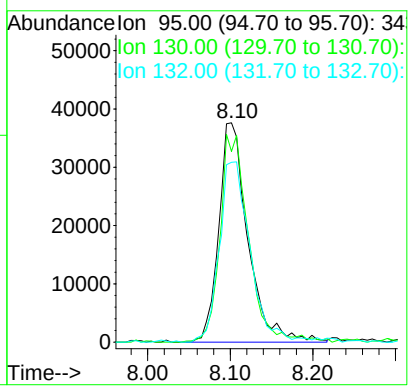




#49
trichloroete
Concen: 6.48 ug/L
RT: 8.10 min Scan# 1042
Delta R.T. 0.00 min
Lab File: 343872.D
Acq: 23 Oct 2019 11:18

Tgt Ion: 95 Resp: 92179

Ion	Ratio	Lower	Upper
95	100		
130	93.0	72.9	112.9
132	88.0	64.8	104.8



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\344267R.D Vial: 48
Acq On : 23 Oct 2019 11:47 Operator: RLD-DGS
Sample : 165700,344267, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:08:06 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1430457	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1208394	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	760002	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	403154	20.813	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.20	102	105258	20.378	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.63	98	1528055	19.685	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.18	95	605948	17.995	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 90	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.05	50	10103	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	2.88	64	3709	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.00	43	7290	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.21	76	6931	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.60	84	2994	Below	Cal #	4
21) tbutylalcohol	4.81	59	7667	N.D.		
22) Acrylonitrile	4.96	53	2977	3.6232	ug/L #	18
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	4.99	73	3842	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	16586	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\344267R.D Vial: 48
Acq On : 23 Oct 2019 11:47 Operator: RLD-DGS
Sample : 165700,344267, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:08:06 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	6.99	56	54742	2.1248 ug/L #	19
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.29	78	805981	9.0981 ug/L	95
47)	12dichlorota	7.29	62	7676	0.2418 ug/L #	49
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	8.33	83	78770	2.3295 ug/L #	42
51)	12dicloropra	8.31	63	3560	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	8.70	83	9030	N.D.	
57)	2Nitropropane	9.04	43	3294	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.40	43	2548	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	10.07	69	122106	4.4076 ug/L #	43
65)	112Triclotha	10.23	83	2662	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.53	43	11265	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	4626	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.77	91	5186	N.D.	
76)	m p-Xylene	11.91	106	4260	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	12.97	105	2898	N.D.	
81)	cyclohexanone	13.05	55	9748	12.3456 ug/L #	34
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	13.30	83	3579	N.D.	
86)	123Triclproa	13.47	75	2958	N.D.	
87)	14dichloro2butene	13.45	53	10279	1.4960 ug/L #	21
88)	n-Propylbenz	13.45	91	4103	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	13.81	91	2905	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	14.28	119	26835	0.4202 ug/L	95
93)	124Trimetben	14.36	105	3254	N.D.	
94)	sbutylbenzen	14.59	105	8221	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.82	119	2628	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.38	91	25796	0.3026 ug/L #	14
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\344267R.D Vial: 48
Acq On : 23 Oct 2019 11:47 Operator: RLD-DGS
Sample : 165700,344267, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:08:06 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.93	128	9537	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

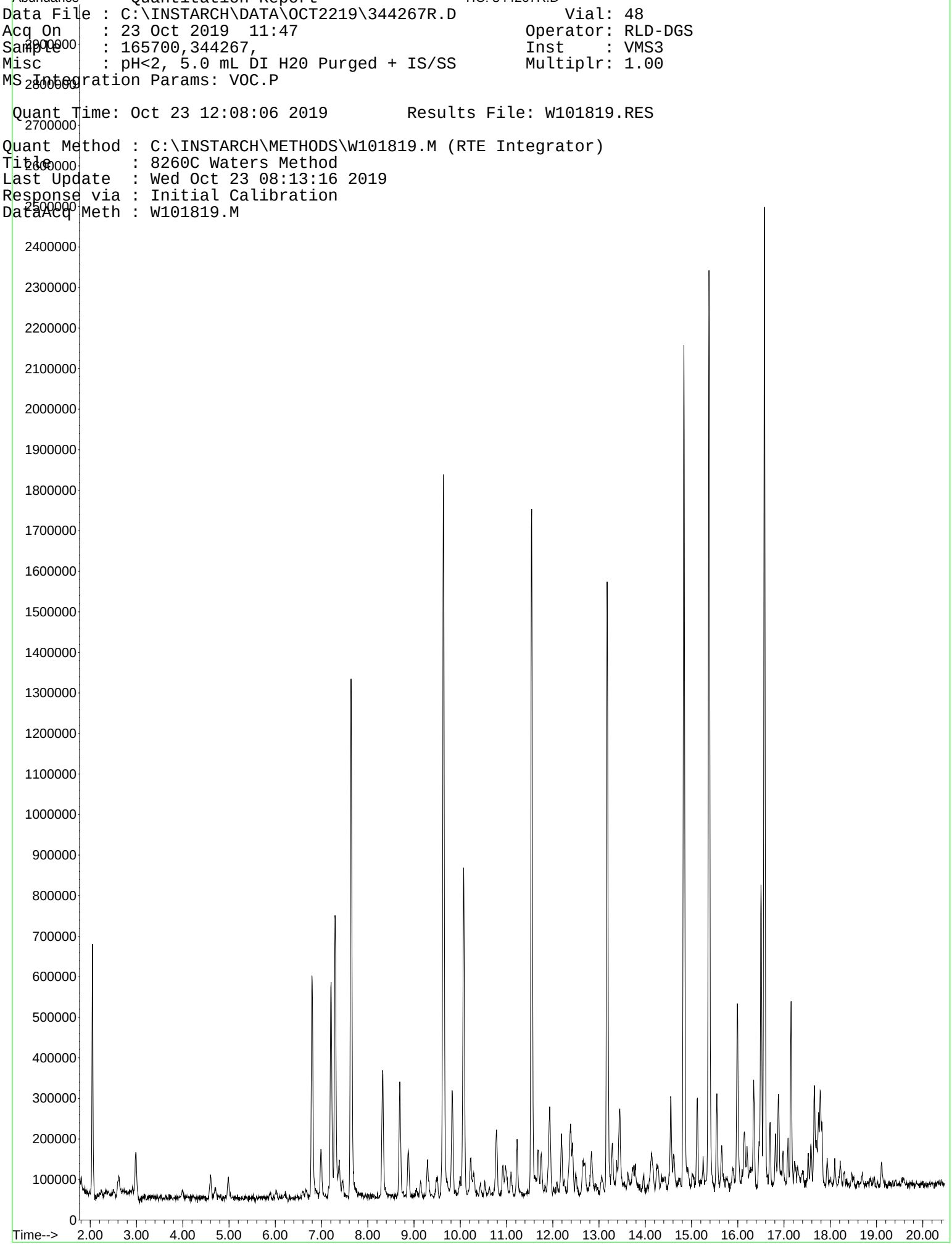
(#) = qualifier out of range (m) = manual integration

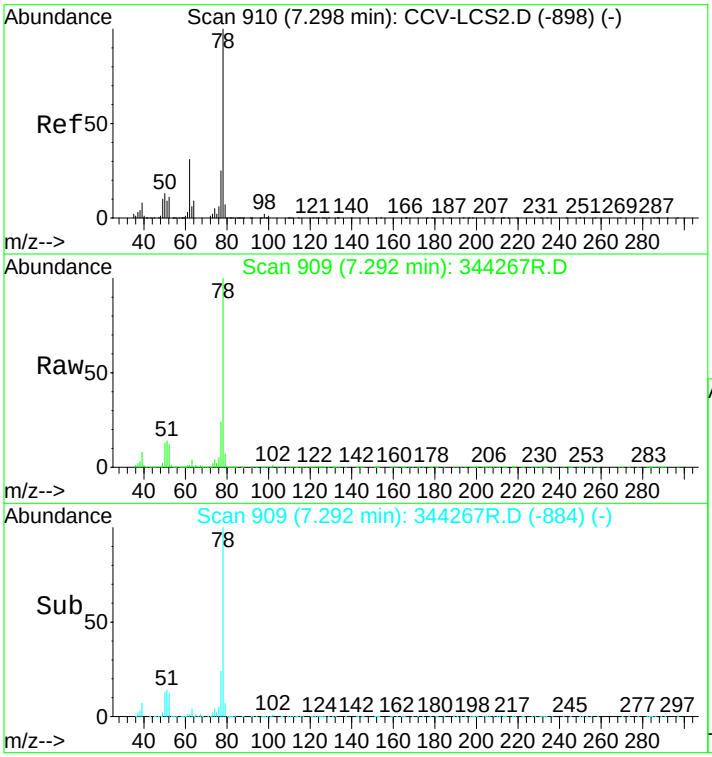
Abundance Quantitation Report TIC: 344267R.D

Data File : C:\INSTARCH\DATA\OCT2219\344267R.D Vial: 48
Acq On : 23 Oct 2019 11:47 Operator: RLD-DGS
Sample : 165700,344267, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:08:06 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

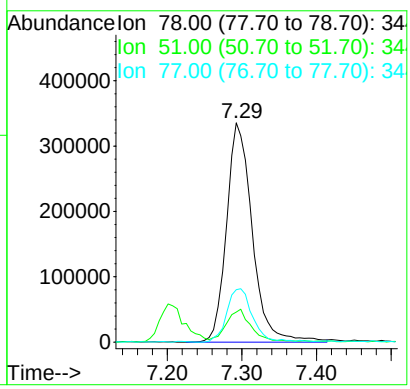


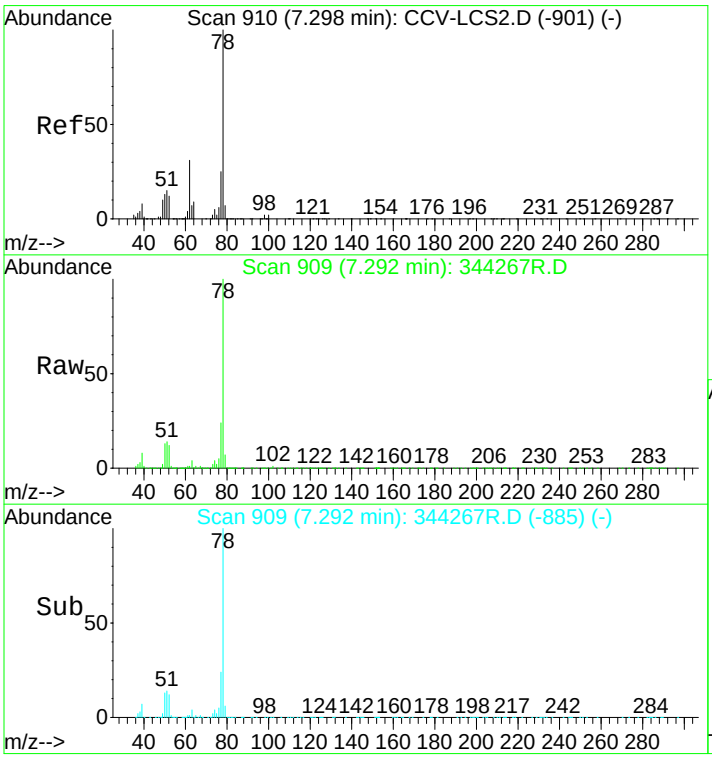


#46
Benzene
Concen: 9.10 ug/L
RT: 7.29 min Scan# 909
Delta R.T. 0.00 min
Lab File: 344267R.D
Acq: 23 Oct 2019 11:47

Tgt Ion: 78 Resp: 805981

Ion	Ratio	Lower	Upper
78	100		
51	13.9	0.0	39.1
77	24.7	5.1	45.1

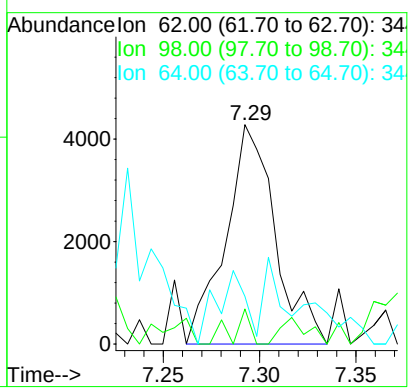


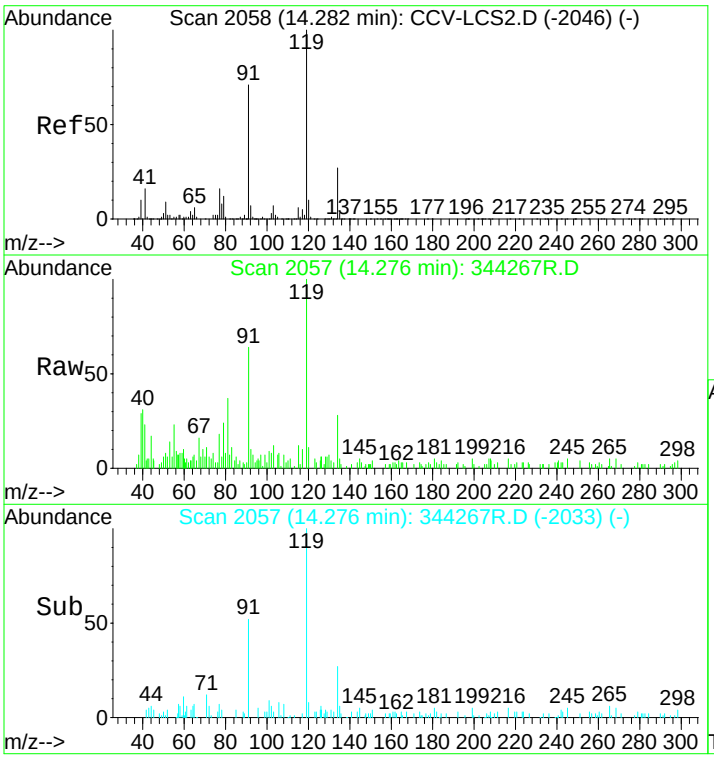


#47
12dichlorota
Concen: 0.24 ug/L
RT: 7.29 min Scan# 909
Delta R.T. -0.01 min
Lab File: 344267R.D
Acq: 23 Oct 2019 11:47

Tgt Ion: 62 Resp: 7676

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	29.7
64	0.0	13.1	53.1#

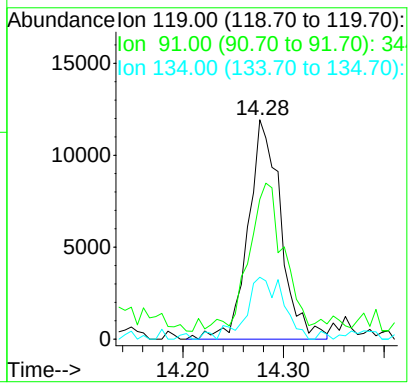


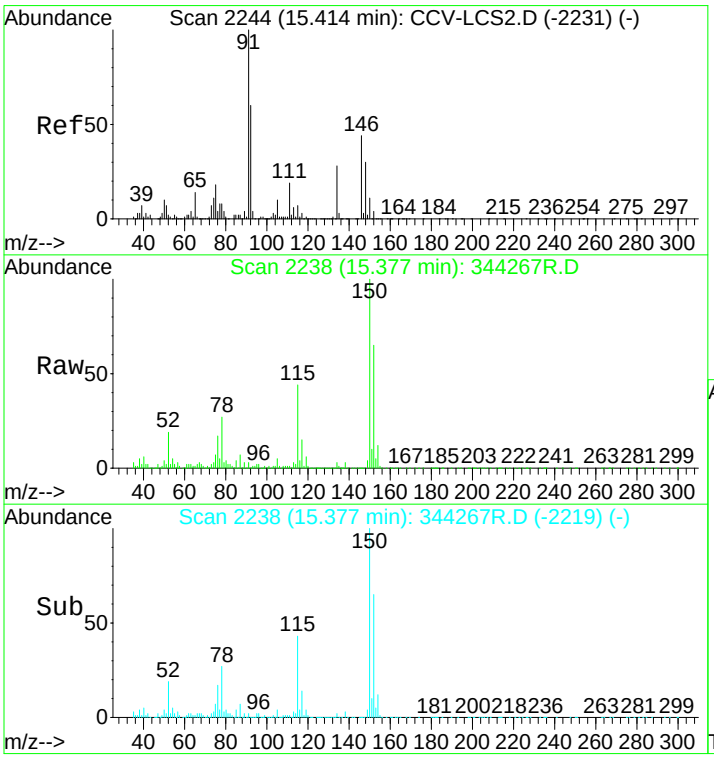


#92
tbutylbenzen
Concen: 0.42 ug/L
RT: 14.28 min Scan# 2057
Delta R.T. -0.01 min
Lab File: 344267R.D
Acq: 23 Oct 2019 11:47

Tgt Ion:119 Resp: 26835

Ion	Ratio	Lower	Upper
119	100		
91	69.7	50.8	90.8
134	32.7	4.5	44.5

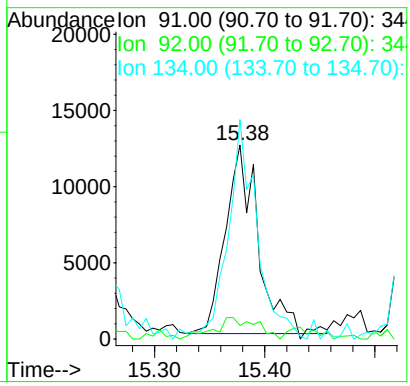




#99
nButylbenzen
Concen: 0.30 ug/L
RT: 15.38 min Scan# 2238
Delta R.T. -0.04 min
Lab File: 344267R.D
Acq: 23 Oct 2019 11:47

Tgt Ion: 91 Resp: 25796

Ion	Ratio	Lower	Upper
91	100		
92	14.5	35.0	75.0#
134	102.3	5.7	45.7#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343860R.D Vial: 49
Acq On : 23 Oct 2019 12:17 Operator: RLD-DGS
Sample : 165696,343860,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:38:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	905726	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	752795	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	412769	20.00 ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma		6.79	113	263372	21.474 ug/L	0.00
Spiked Amount	20.000	Range 90 - 110		Recovery = 107	%	
45) SURR12DCAd4		7.21	102	65814	20.123 ug/L	0.00
Spiked Amount	20.000	Range 89 - 111		Recovery = 101	%	
61) SURRd8Tolule		9.63	98	962547	19.584 ug/L	0.00
Spiked Amount	20.000	Range 93 - 107		Recovery = 98	%	
83) SURR4BrFBenz		13.18	95	374803	20.494 ug/L	0.00
Spiked Amount	20.000	Range 83 - 111		Recovery = 102	%	

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	0.00	50	0	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	0.00	94	0	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	0.00	101	0	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	0.00	43	0	N.D.
16) Iodomethane	0.00	142	0	N.D.
17) Carbon Dislf	0.00	76	0	N.D.
18) allylchloride	0.00	41	0	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	0.00	84	0	N.D.
21) tbutylalcohol	0.00	59	0	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	0.00	63	0	N.D.
27) Vinylacetate	0.00	43	0	N.D.
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	0.00	77	0	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	0.00	42	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343860R.D Vial: 49
Acq On : 23 Oct 2019 12:17 Operator: RLD-DGS
Sample : 165696,343860,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:38:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.61	83	65169	2.4252 ug/L	99
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.05	119	312094	17.5522 ug/L	97
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.11	95	45862	3.0691 ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343860R.D Vial: 49
Acq On : 23 Oct 2019 12:17 Operator: RLD-DGS
Sample : 165696,343860,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:38:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

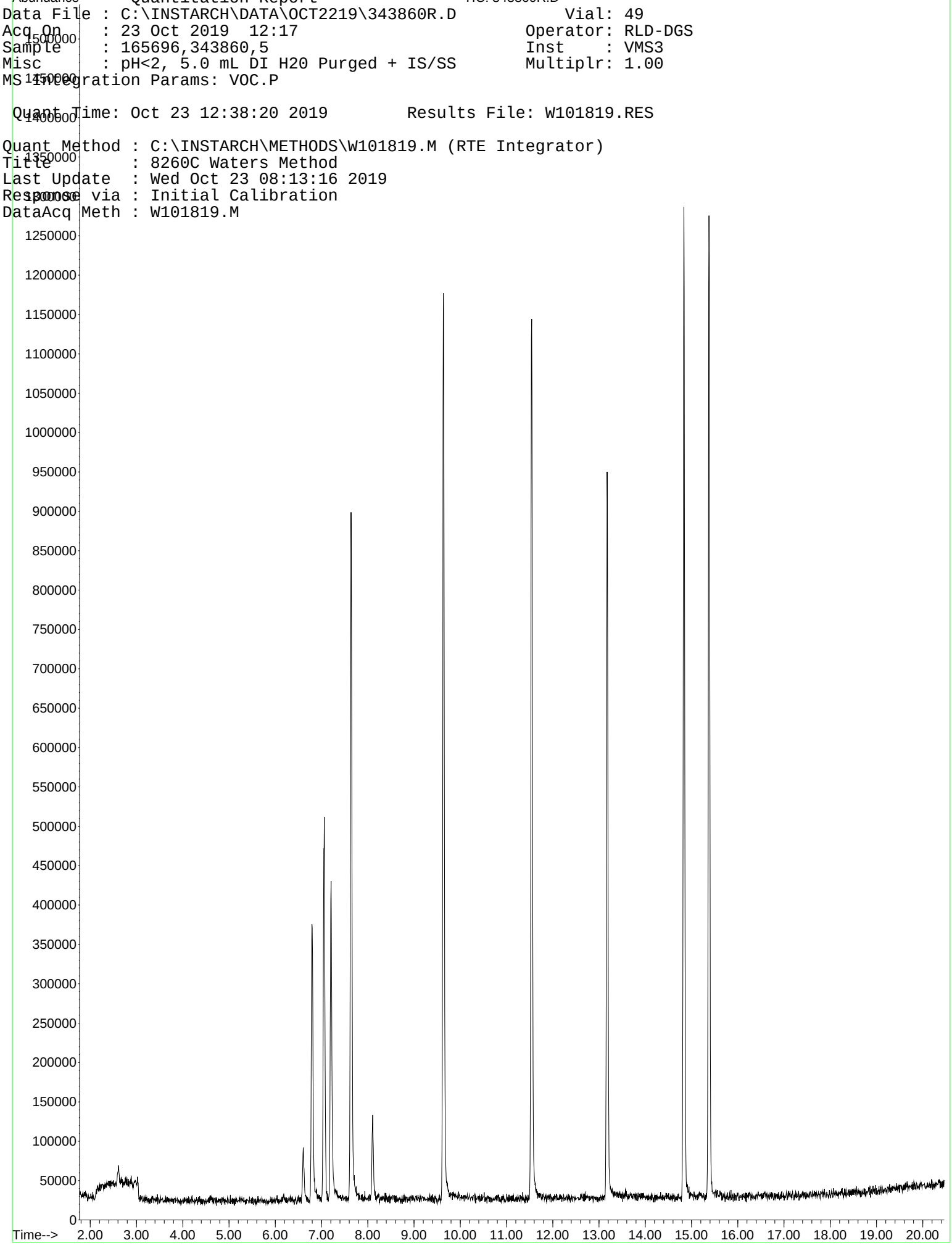
(#) = qualifier out of range (m) = manual integration

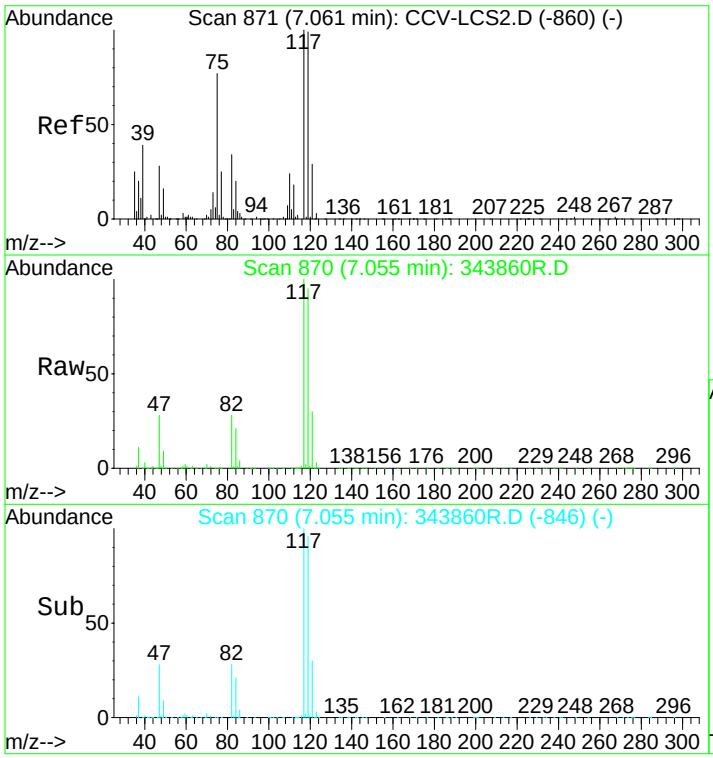
Abundance Quantitation Report TIC: 343860R.D

Data File : C:\INSTARCH\DATA\OCT2219\343860R.D Vial: 49
Acq On : 23 Oct 2019 12:17 Operator: RLD-DGS
Sample : 165696,343860,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 12:38:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

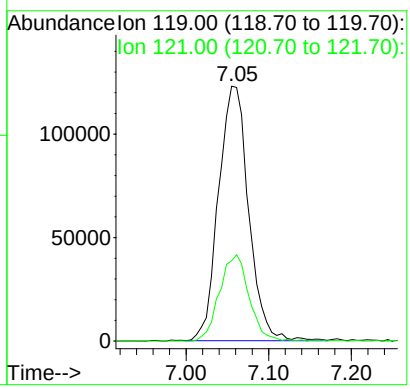




#43
Carbtetraclo
Concen: 17.55 ug/L
RT: 7.05 min Scan# 870
Delta R.T. -0.01 min
Lab File: 343860R.D
Acq: 23 Oct 2019 12:17

Tgt Ion:119 Resp: 312094

Ion	Ratio	Lower	Upper
119	100		
121	33.2	11.5	51.5



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343862R.D Vial: 50
Acq On : 23 Oct 2019 12:47 Operator: RLD-DGS
Sample : 165696,343862,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:07:35 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	956111	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	793366	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	437079	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	267874	20.690	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
45) SURR12DCAd4	7.21	102	70987	20.561	ug/L	0.01
Spiked Amount 20.000	Range 89 - 111		Recovery = 103	%		
61) SURRd8Tolule	9.63	98	1016270	19.587	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.18	95	387700	20.020	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.69	94	2510	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343862R.D Vial: 50
Acq On : 23 Oct 2019 12:47 Operator: RLD-DGS
Sample : 165696,343862,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:07:35 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.61	83	66646	2.3495 ug/L	94
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.06	119	341841	18.2121 ug/L	98
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.10	95	48449	3.0713 ug/L	96
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343862R.D Vial: 50
Acq On : 23 Oct 2019 12:47 Operator: RLD-DGS
Sample : 165696,343862,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:07:35 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

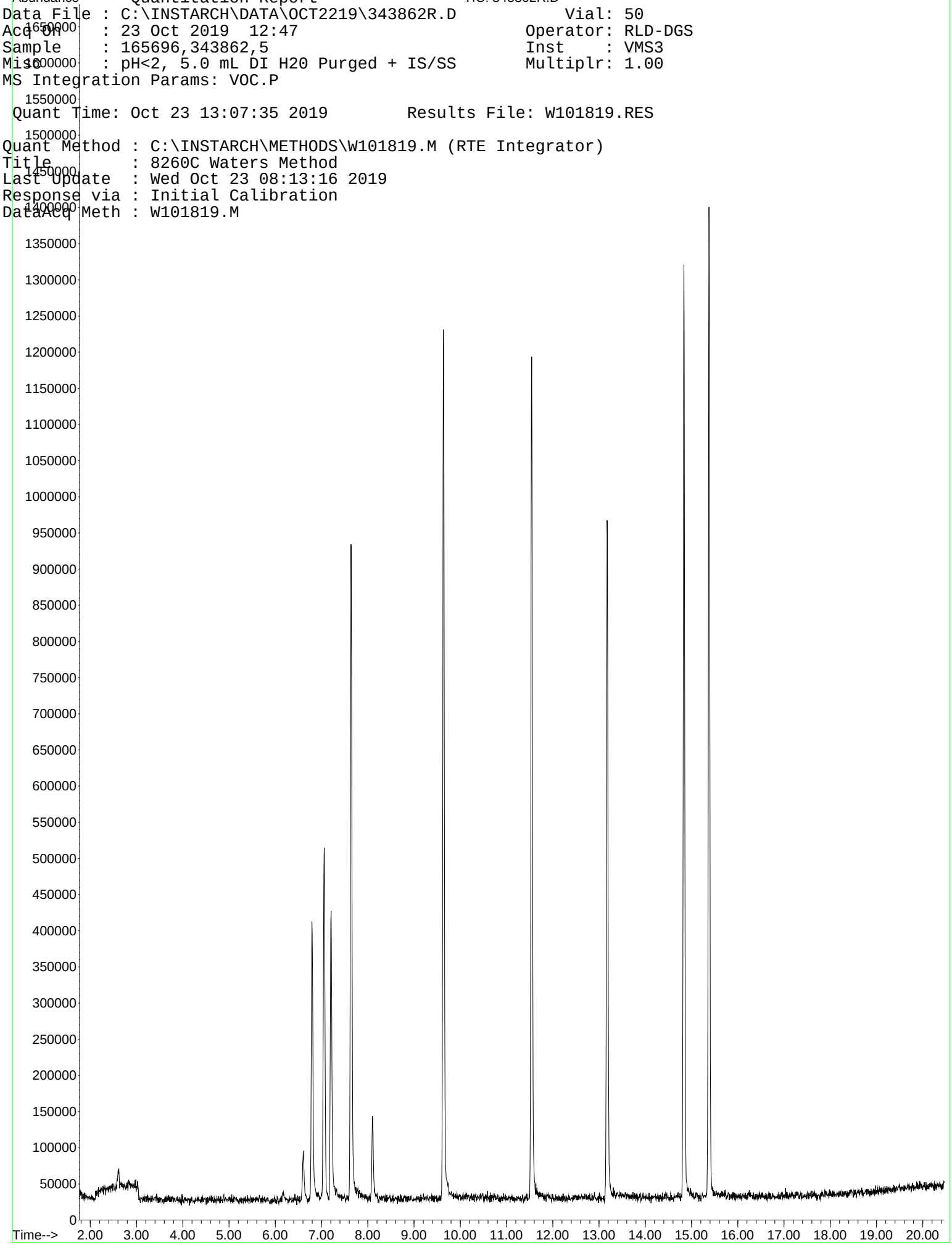
(#) = qualifier out of range (m) = manual integration

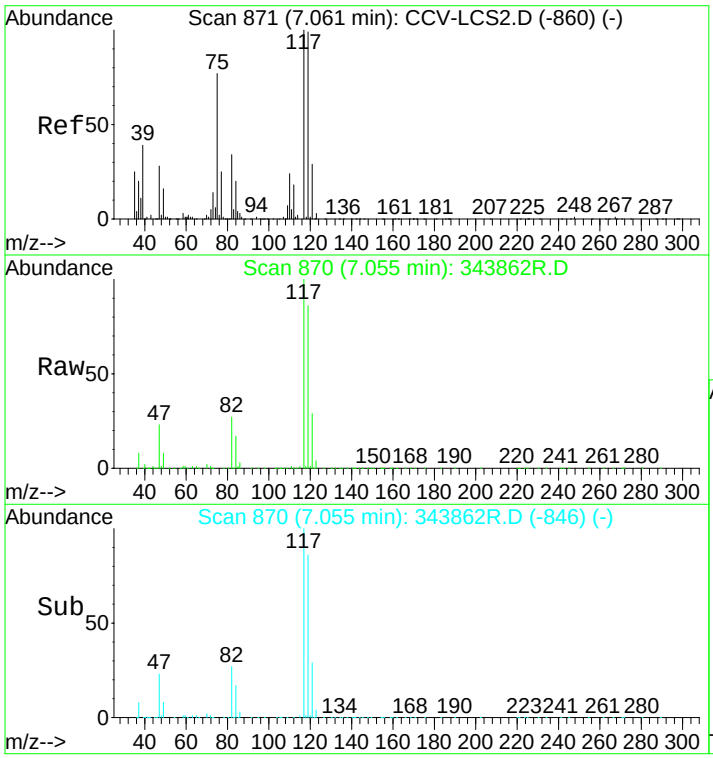
Abundance Quantitation Report TIC: 343862R.D

Data File : C:\INSTARCH\DATA\OCT2219\343862R.D Vial: 50
Acq On : 23 Oct 2019 12:47 Operator: RLD-DGS
Sample : 165696,343862,5 Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:07:35 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

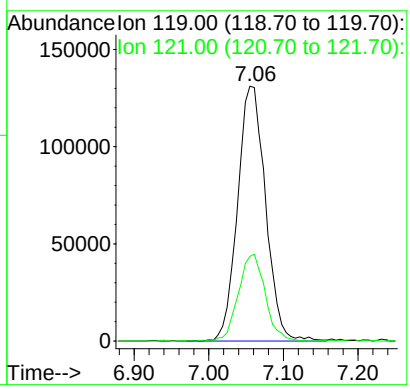




#43
Carbtetraclo
Concen: 18.21 ug/L
RT: 7.06 min Scan# 870
Delta R.T. -0.01 min
Lab File: 343862R.D
Acq: 23 Oct 2019 12:47

Tgt Ion:119 Resp: 341841

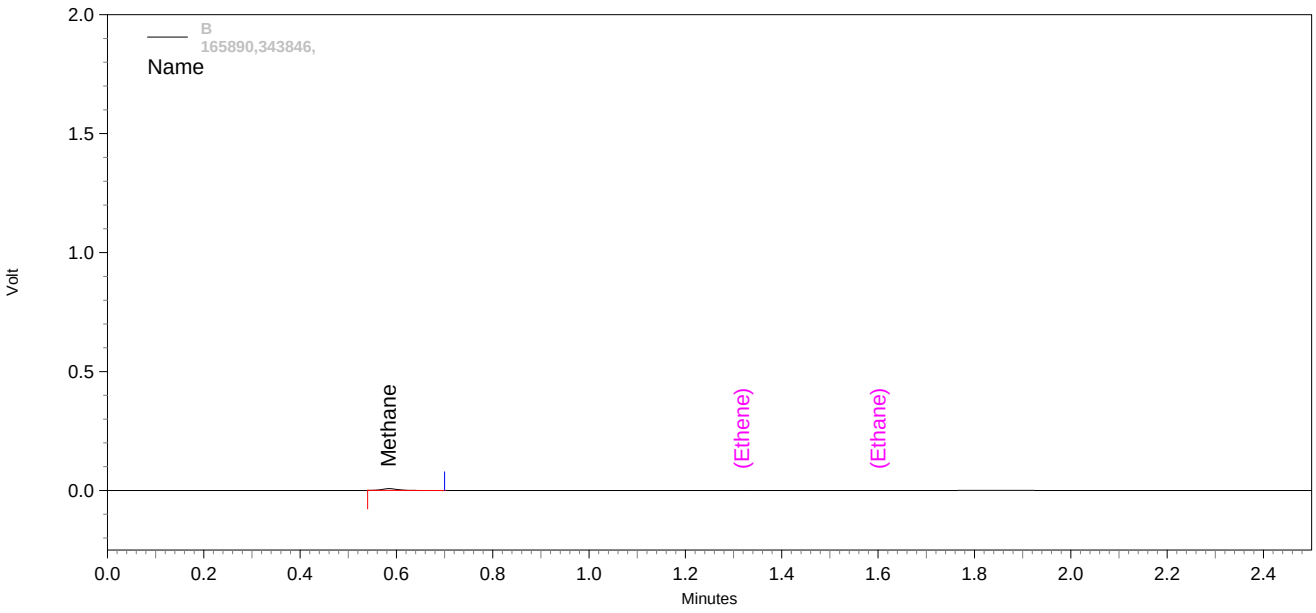
Ion	Ratio	Lower	Upper
119	100		
121	32.7	11.5	51.5



Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343846,
Acquired: Oct 24, 2019 10:57:59
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



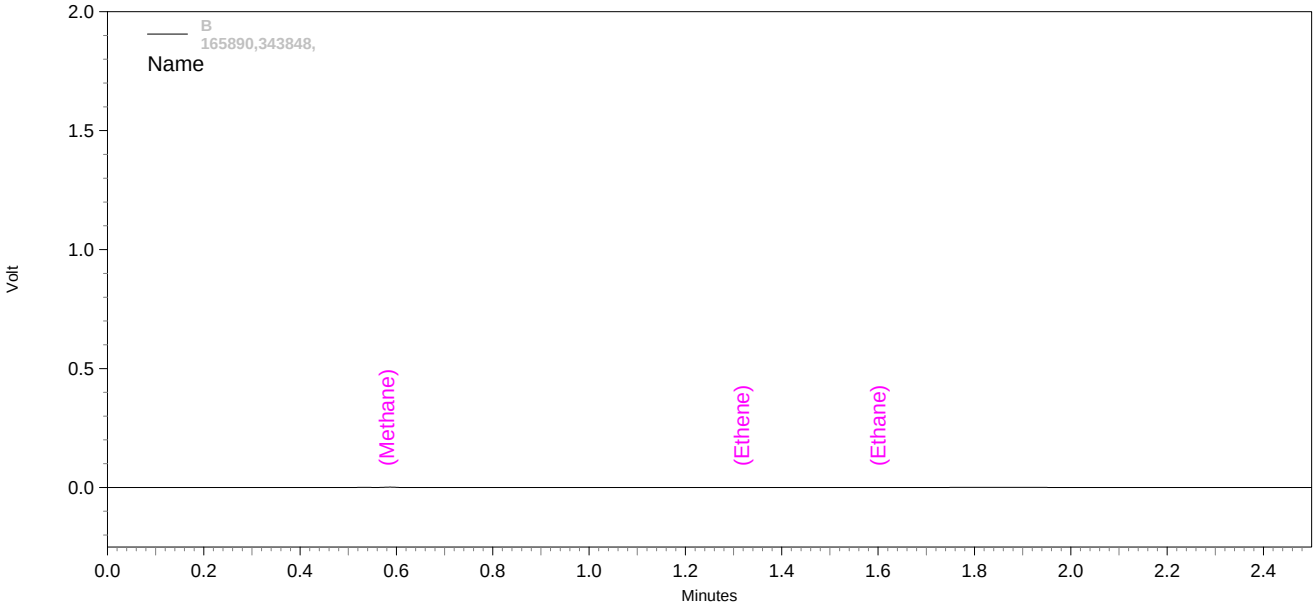
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.583**	**0.580**	**17176**	**2.547**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343848,
Acquired: Oct 24, 2019 11:01:22
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



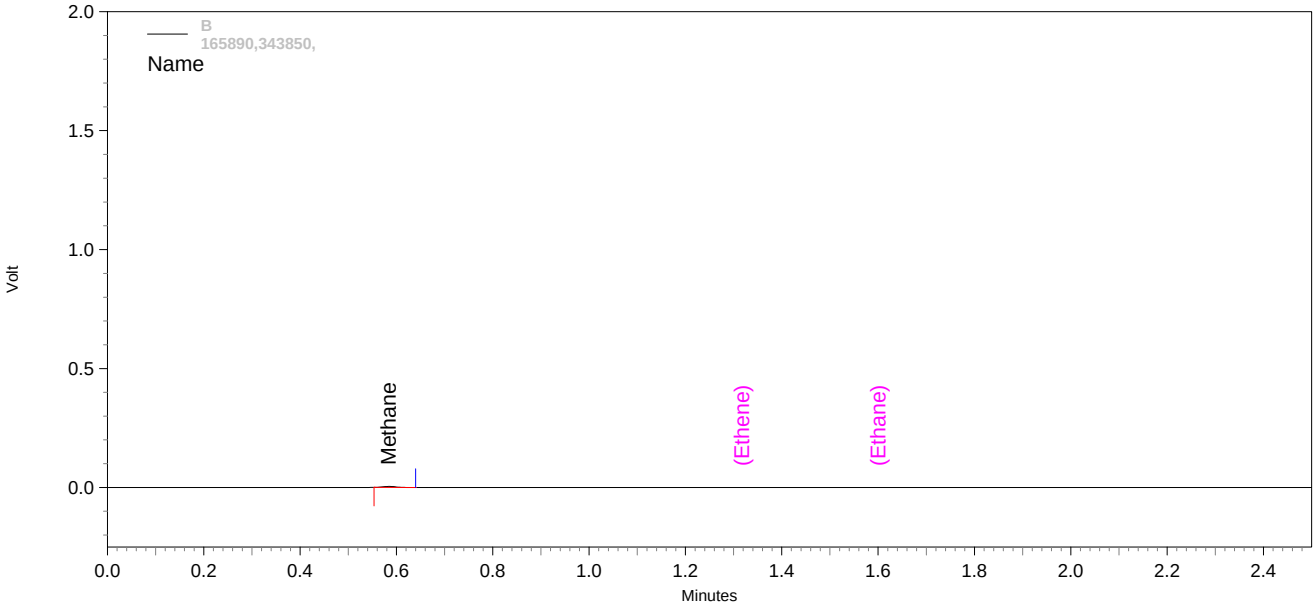
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.580**		**0.000 BDL**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343850,
Acquired: Oct 24, 2019 11:05:05
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



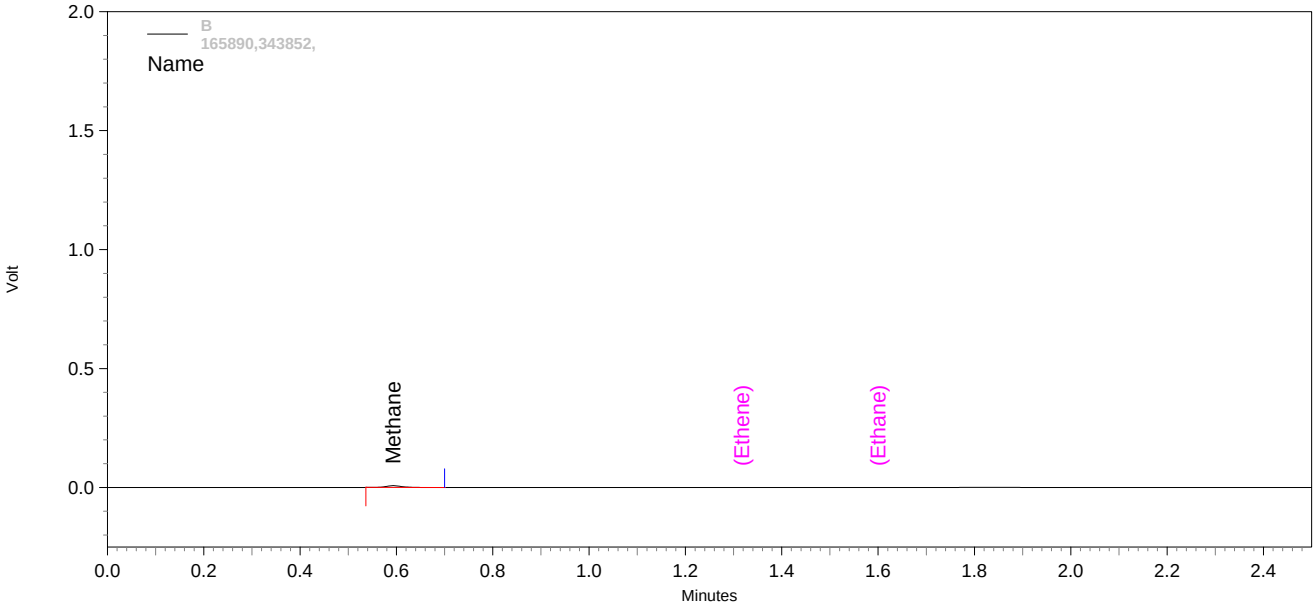
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.583**	**0.580**	**7707**	**1.274**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343852,
Acquired: Oct 24, 2019 11:08:49
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



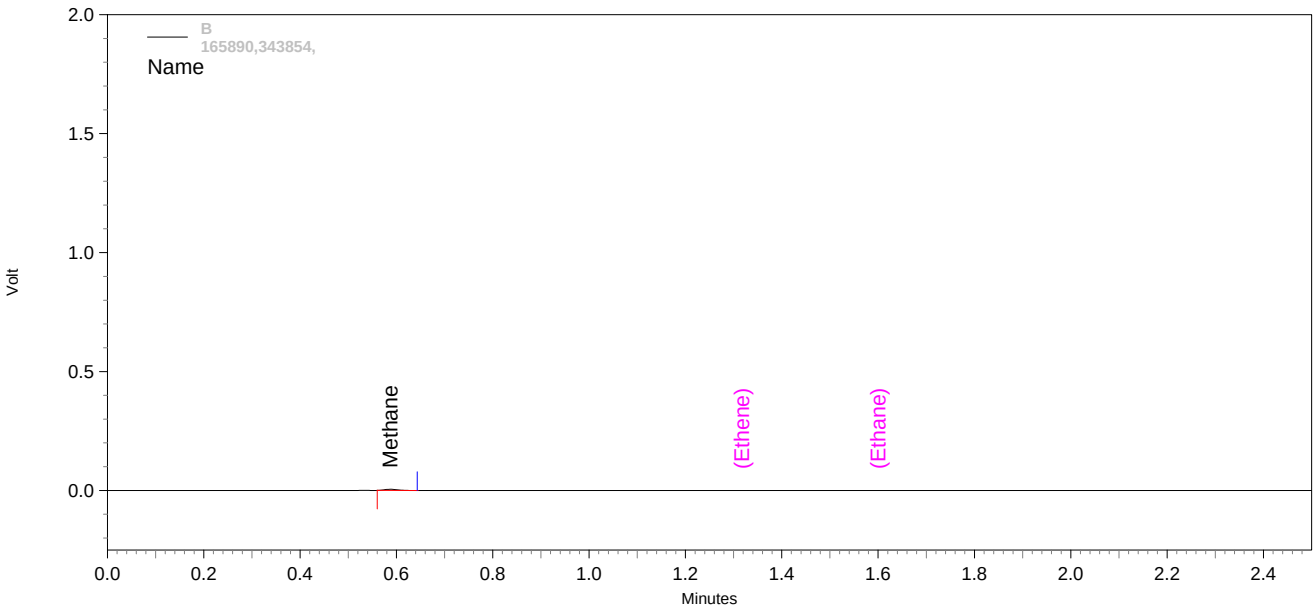
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.593**	**0.580**	**17314**	**2.565**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343854,
Acquired: Oct 24, 2019 11:12:07
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



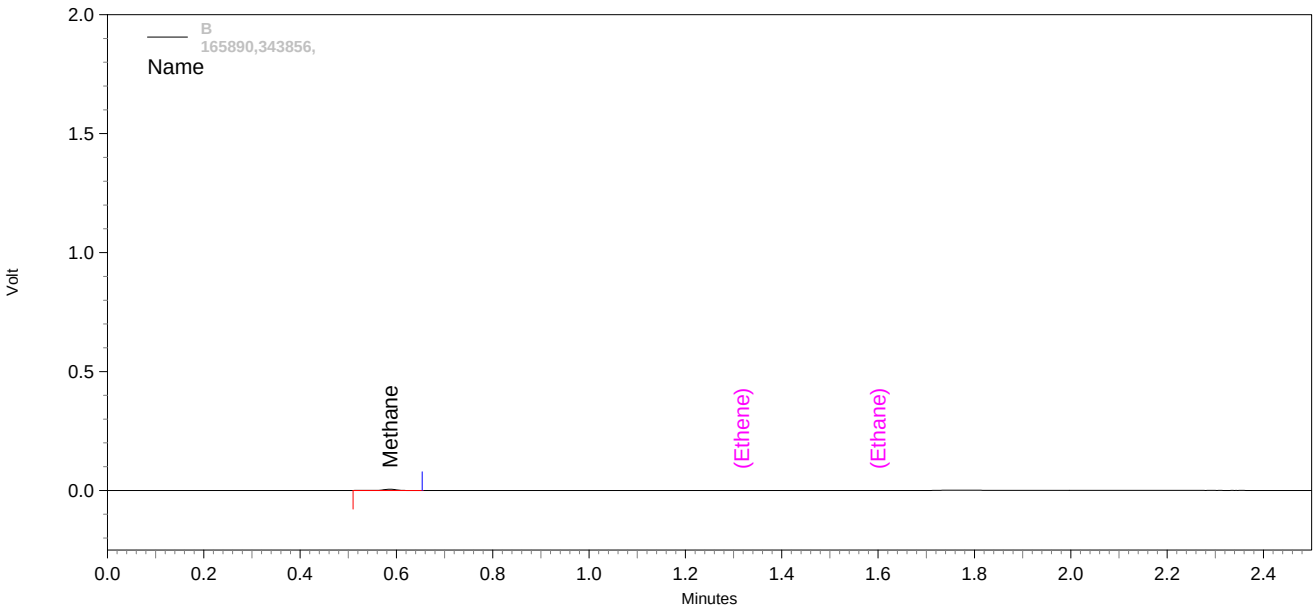
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.587**	**0.580**	**9374**	**1.498**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343856,
Acquired: Oct 24, 2019 11:17:24
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



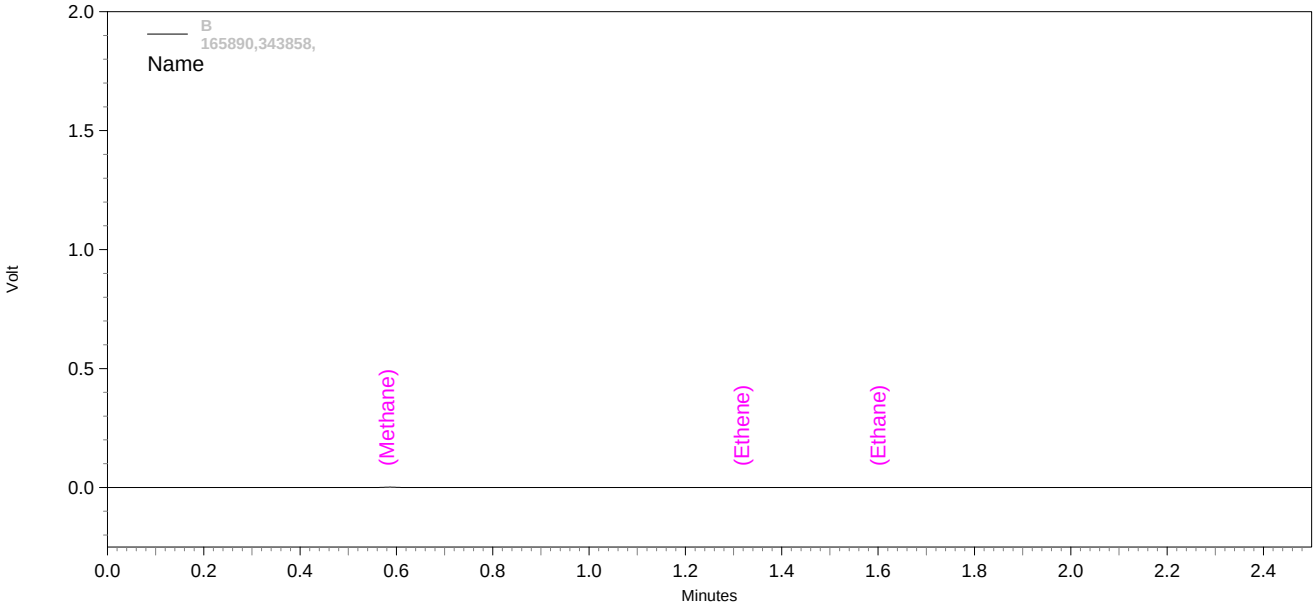
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.587**	**0.580**	**10407**	**1.637**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343858,
Acquired: Oct 24, 2019 11:20:54
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



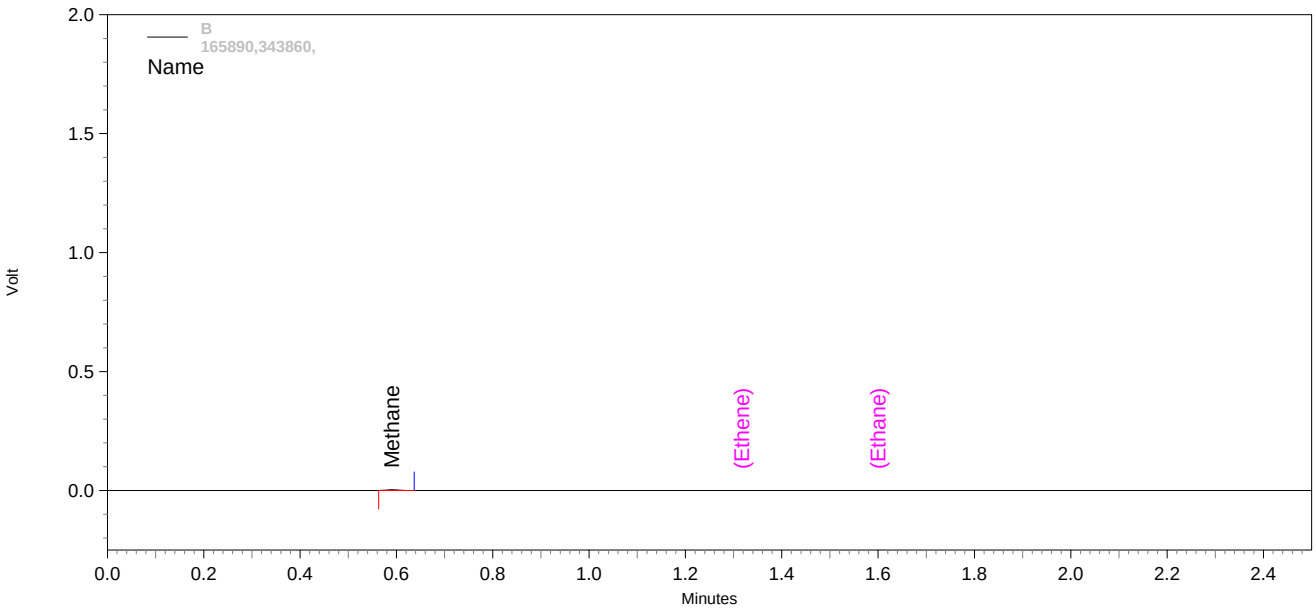
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.580**		**0.000 BDL**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343860,
Acquired: Oct 24, 2019 11:26:01
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



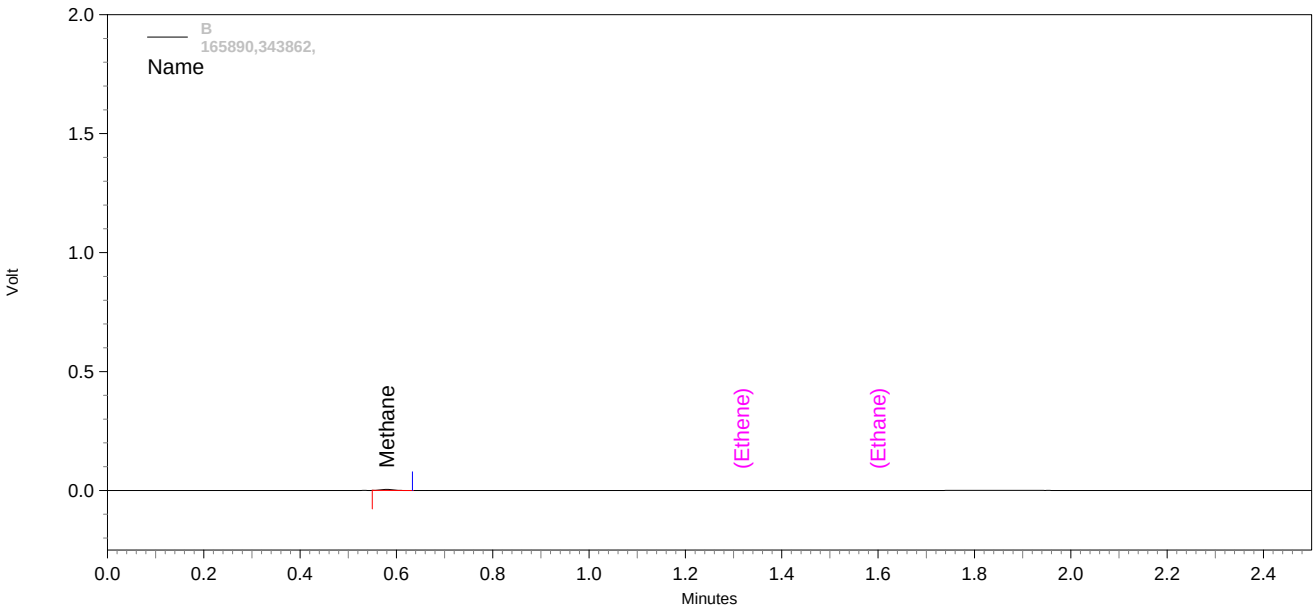
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.580**	**5065**	**0.919**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343862,
Acquired: Oct 24, 2019 11:29:28
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



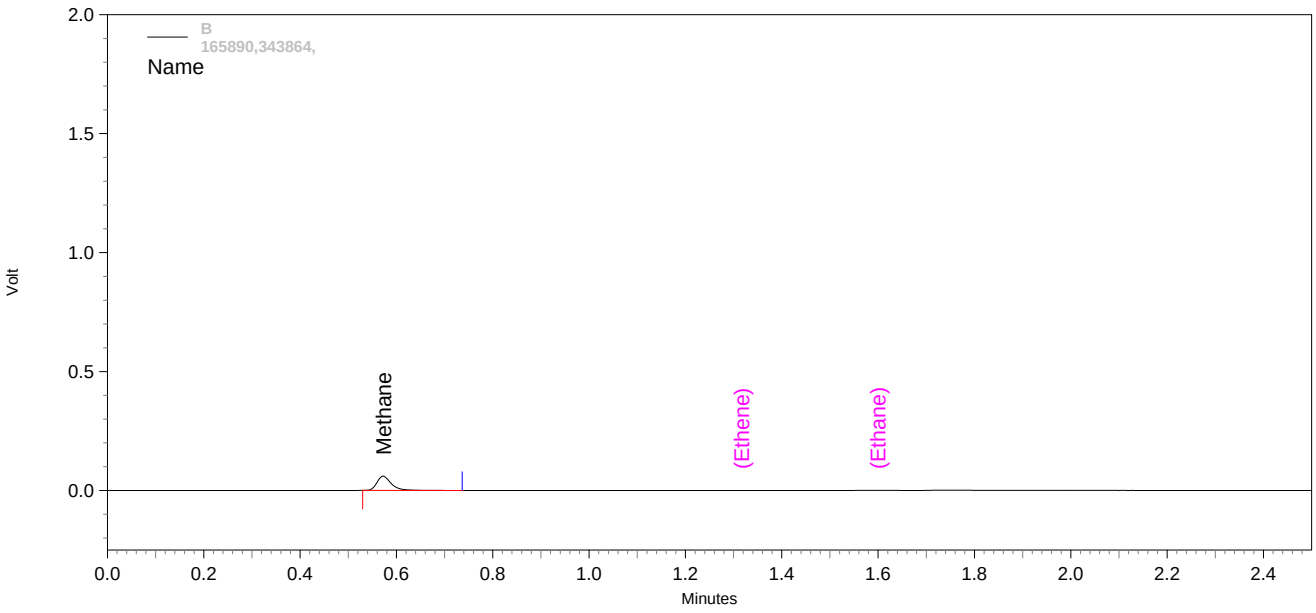
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.580**	**0.580**	**7841**	**1.292**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343864,
Acquired: Oct 24, 2019 11:34:47
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



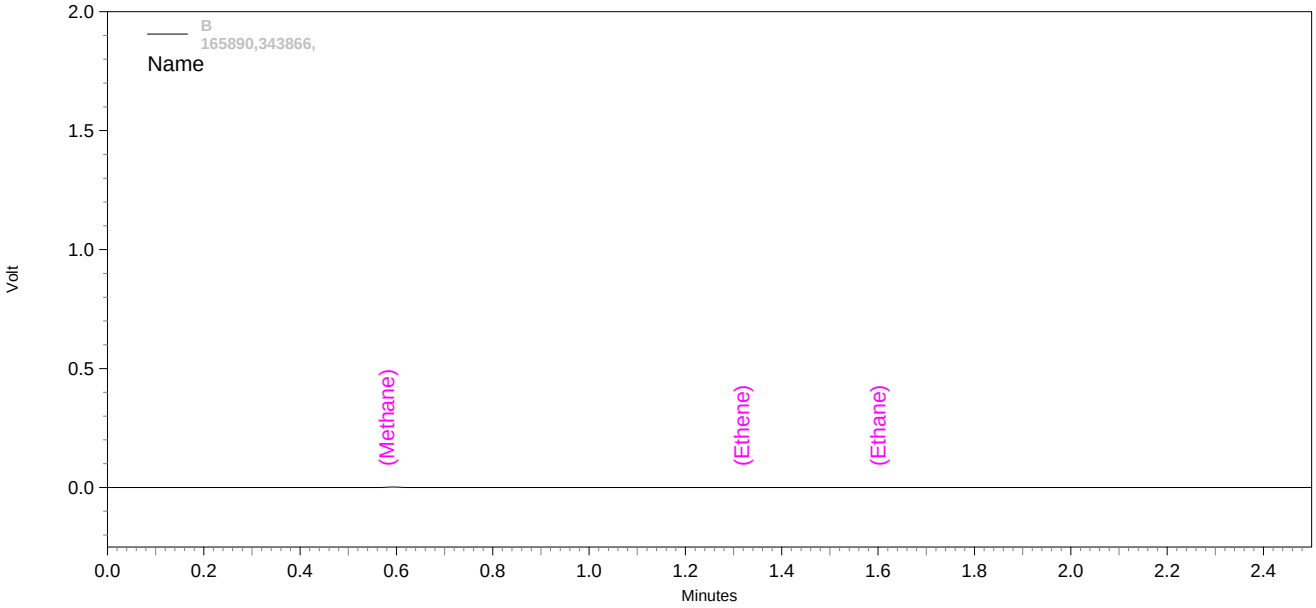
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.573**	**0.580**	**123423**	**16.823**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343866,
Acquired: Oct 24, 2019 11:58:14
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



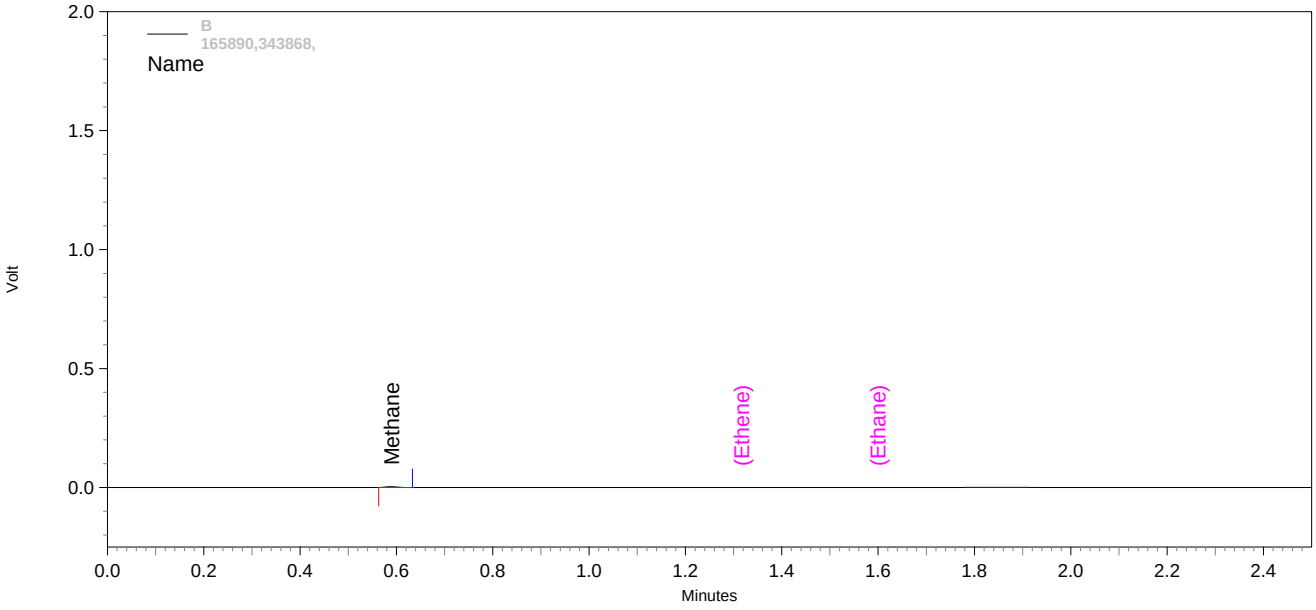
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.580**		**0.000 BDL**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343868,
Acquired: Oct 24, 2019 12:02:20
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



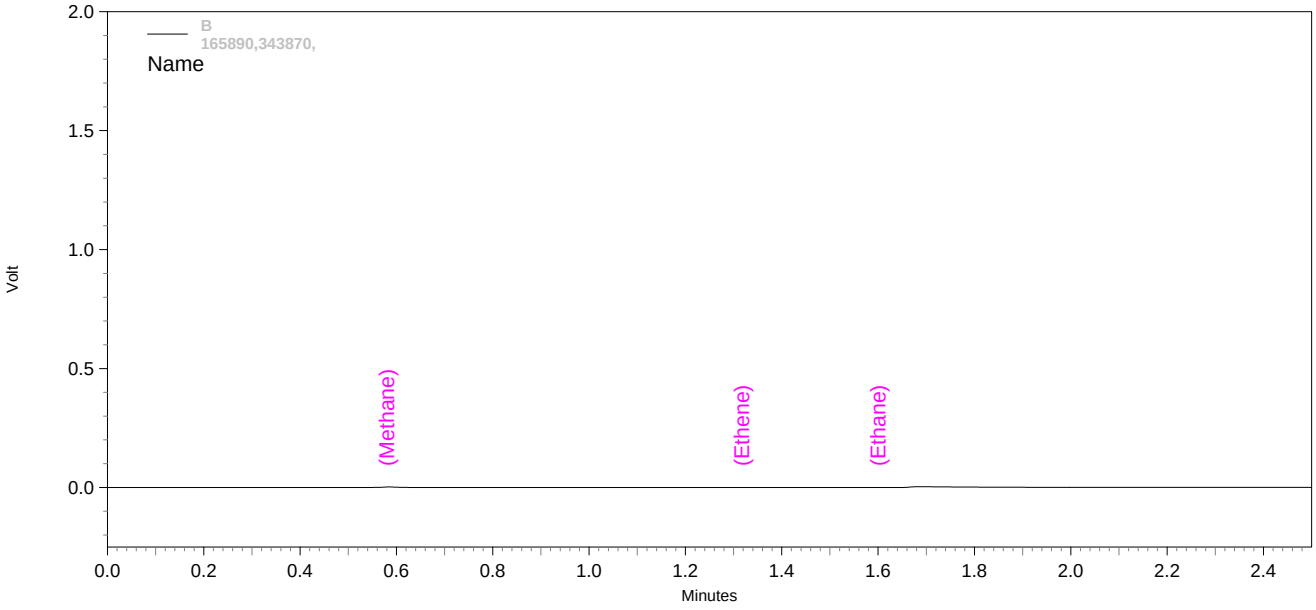
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.580**	**5372**	**0.961**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343870,
Acquired: Oct 24, 2019 12:07:23
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



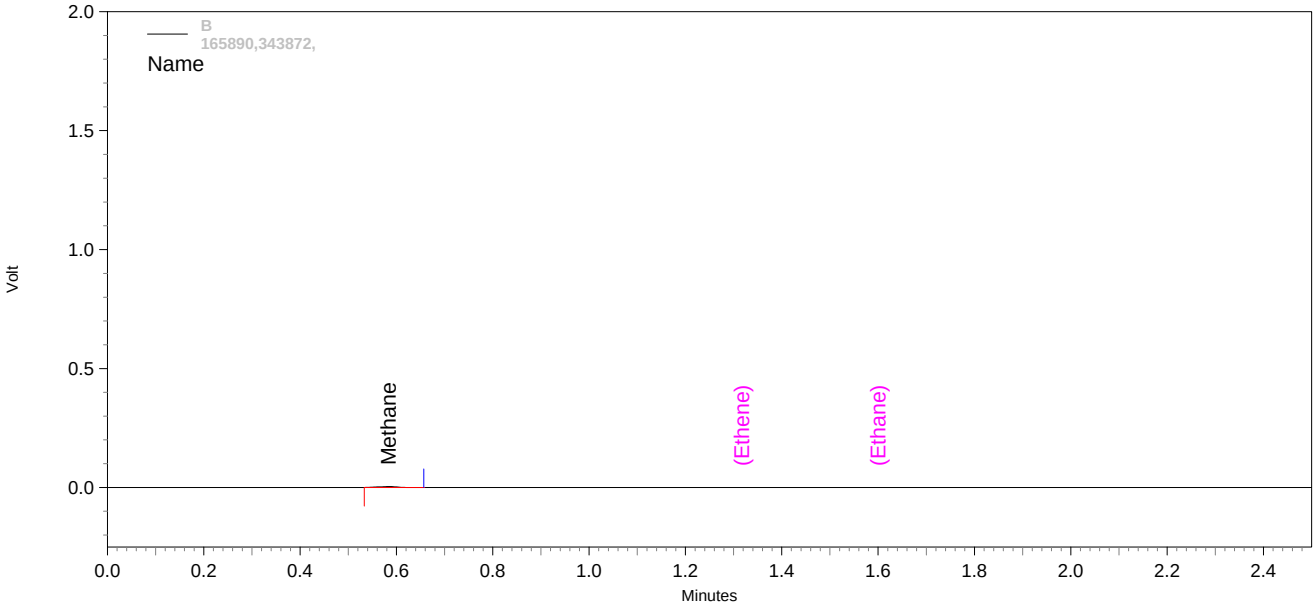
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.580**		**0.000 BDL**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,343872,
Acquired: Oct 24, 2019 12:10:53
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.583**	**0.580**	**10026**	**1.586**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W101819.M
Title : 8260C Waters Method
Last Update : Sat Oct 26 10:02:43 2019
Response Via : Initial Calibration

RJ 11/22/2019

Calibration Files ug/L
1 0.500/5.00 =WCAL1.D 2 1.00/10.00 =WCAL2.D 3 2.00/20.00 =WCAL3.D
4 5.00/50.00 =WCAL4.D 5 10.00/100 =WCAL5.D 6 20.00/200 =WCAL6.D
7 30.00/300 =WCAL7.D 8 40.00/400 =WCAL8.D 9 80.00/800 =WCAL9.D

		Compound	1	2	3	4	5	6	7	Avg	%RSD
			8	9							
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------								
2)	PT	Dichlorodi	0.304	0.305	0.407	0.268	0.401	0.377	0.320	0.336	14.90
			0.352	0.291							
3)	PT	Chloromethan	0.309	0.361	0.311	0.279	0.302	0.279	0.248	0.287	13.59
			0.265	0.230							
4)	PT	VinylChlorid	0.351	0.339	0.376	0.322	0.373	0.364	0.318	0.340	8.64
			0.336	0.285							
5)	PT	Bromomethane		0.117	0.130	0.140	0.150	0.160	0.146	0.147	12.38
			0.167	0.170							
6)	PT	Chloroethane		0.319	0.321	0.265	0.285	0.273	0.240	0.271	13.44
			0.253	0.217							
7)	T	Dichloroflmetha	0.719	0.626	0.615	0.594	0.601	0.573	0.510	0.581	12.86
			0.531	0.461							
8)	PT	Trichlorofma	0.438	0.413	0.514	0.390	0.499	0.492	0.419	0.446	10.56
			0.455	0.390							
9)	T	Ethylether	0.228	0.246	0.228	0.211	0.217	0.232	0.215	0.224	5.09
			0.225	0.211							
10)	T	dichlorotfluoro	0.333	0.312	0.386	0.303	0.365	0.363	0.334	0.339	8.30
			0.344	0.311							
11)	T	propyleneoxide		0.064	0.054	0.053	0.049	0.053	0.052	0.052	12.01
			0.047	0.043							
12)	T	Acrolein		0.035	0.034	0.043	0.040	0.043	0.038	0.038	9.65
			0.039	0.035							
13)	PT	11dichlorthe	0.290	0.247	0.274	0.227	0.276	0.281	0.250	0.263	7.93
			0.273	0.244							
14)	PT	Trichlorotfluor	0.190	0.191	0.240	0.192	0.253	0.251	0.221	0.220	11.79
			0.237	0.208							
15)	PT	Acetone	0.094	0.079	0.080	0.082	0.079	0.080	0.078	0.078#	10.72
			0.068	0.065							
16)	T	Iodomethane		0.039	0.039	0.034	0.067	0.109	0.121	-----	
			0.163	0.169							
								Q	A= 0.005	R=0.993	
									B= 0.132		
									C= -0.039		
17)	PT	Carbon Dislf	0.708	0.719	0.721	0.651	0.711	0.667	0.598	0.650	12.47
			0.596	0.478							
18)	T	allylchloride	0.371	0.412	0.408	0.434	0.409	0.416	0.394	0.399	6.36
			0.395	0.349							
19)	PT	methylacetate		0.147	0.136	0.142	0.126	0.137	0.131	0.134	5.53
			0.129	0.127							
20)	PT	Methylchlorid	0.494	0.348	0.357	0.341	0.316	0.329	0.293	-----	
			0.313	0.278							
								Q	A= -0.012	R=0.999	
									B= 0.327		
									C= 0.002		
21)	T	tbutylalcohol	0.028	0.029	0.027	0.028	0.026	0.027	0.026	0.026#	11.86
			0.022	0.020							
22)	T	Acrylonitrile		0.042	0.050	0.078	0.078	0.088	0.087	-----	
			0.080	0.078							
								Q	A= -0.001	R=0.999	
									B= 0.090		
									C= -0.014		

```
23) PT  t12dichlorte    0.316 0.344 0.281 0.297 0.305 0.318 0.287 0.303   7.12
                        0.305 0.274
24) PT  MtBE            0.792 0.834 0.801 0.809 0.812 0.829 0.759 0.789   5.91
                        0.781 0.681
25) T   Hexane          0.294 0.259 0.378 0.334 0.443 0.434 0.419 -----
                        0.411 0.363
                                                    Q  A= -0.013 R=1.000
                                                       B=  0.467
                                                       C= -0.023
26) PT  11dichlorota    0.683 0.648 0.603 0.586 0.543 0.543 0.516 0.568  12.10
                        0.519 0.467
27) T   Vinylacetate    0.354 0.331 0.351 0.439 0.361 0.341 0.329 0.345  14.46
                        0.257
28) T   chloroprene     0.368 0.368 0.395 0.420 0.440 0.434 0.414 0.402   7.07
                        0.410 0.367
29) T   Diisopether     0.775 0.776 0.852 0.919 0.848 0.846 0.841 0.823   6.52
                        0.807 0.741
30) T   ETBE            0.729 0.771 0.764 0.762 0.733 0.755 0.739 0.740   3.98
                        0.738 0.673
31) T   22dichloropr    0.514 0.478 0.471 0.459 0.477 0.484 0.459 0.472   4.47
                        0.468 0.437
32) PT  c12dichlorte    0.309 0.330 0.351 0.337 0.342 0.350 0.325 0.334   4.42
                        0.345 0.317
33) PT  2Butanone             0.028 0.029 0.034 0.036 0.041 0.040 0.035# 13.28
                        0.035 0.034
34) T   propionitrile         0.026 0.001 0.038 0.037 0.040 0.040 -----
                        0.036 0.036
                                                    Q  A= -0.000 R=0.998
                                                       B=  0.041
                                                       C= -0.015
35) T   Ethylacetate          0.009 0.011 0.013 0.012 0.012 0.013 0.012# 10.38
                        0.012 0.012
36) T   methacrylonitri       0.095 0.128 0.139 0.135 0.147 0.149 0.134  12.57
                        0.138 0.138
37) T   Bromochlorma    0.195 0.182 0.164 0.156 0.145 0.155 0.141 0.158  12.00
                        0.152 0.137
38) T   Tetrahydofur    0.079 0.075 0.075 0.094 0.078 0.082 0.083 0.078  10.77
                        0.069 0.065
39) PT  Chloroform      0.688 0.672 0.604 0.612 0.584 0.578 0.546 0.593  10.01
                        0.556 0.501
40) PT  111trichlota    0.558 0.528 0.570 0.480 0.514 0.514 0.489 0.514   6.67
                        0.501 0.468
41) S   SURRDibrflma    0.275 0.276 0.279 0.269 0.269 0.269 0.259 0.271   2.15
                        0.272 0.269
42) PT  Cyclohexane     0.333 0.298 0.401 0.340 0.454 0.467 0.468 -----
                        0.462 0.448
                                                    Q  A= -0.009 R=1.000
                                                       B=  0.487
                                                       C= -0.013
43) PT  Carbtetraclo    0.381 0.359 0.379 0.362 0.420 0.418 0.404 0.393   6.11
                        0.419 0.391
44) T   11dicloprope          0.150 0.122 0.123 0.145 0.150 0.142 0.142   8.65
                        0.152 0.149
45) S   SURR12DCAd4     0.073 0.071 0.075 0.072 0.073 0.075 0.072 0.072   2.88
                        0.070 0.069
46) PT  Benzene         1.439 1.476 1.340 1.282 1.246 1.213 1.146 1.239  14.22
                        1.096 0.907
47) PT  12dichlorota    0.468 0.471 0.469 0.501 0.415 0.417 0.430 0.444   7.62
                        0.421 0.403
48) T   TAME            0.759 0.721 0.755 0.777 0.738 0.786 0.788 0.756   3.67
                        0.770 0.711
49) PT  trichloroete    0.355 0.354 0.313 0.333 0.331 0.325 0.317 0.330   4.87
                        0.331 0.311
50) PT  methylcyclohexa 0.468 0.331 0.495 0.443 0.615 0.623 0.612 -----
                        0.625 0.582
                                                    Q  A= -0.019 R=1.000
                                                       B=  0.664
                                                       C= -0.022
51) PT  12dicloropra    0.312 0.306 0.345 0.348 0.327 0.342 0.338 0.331   4.40
                        0.334 0.326
```

```
52) T   23Dicl1propene        0.457 0.447 0.490 0.459 0.491 0.475 0.470   3.85
                      0.489 0.455
53) T   Dibromometha          0.198 0.199 0.212 0.208 0.208 0.203 0.204   2.47
                      0.206 0.199
54) T   methylmethacryl       0.146 0.203 0.221 0.201 0.223 0.233 0.209  13.19
                      0.218 0.224
55) T   14dioxane             0.003 0.003 0.004 0.004 0.004 0.004 0.004#  4.92
                      0.004 0.004
56) PT  Bromodiclrma    0.505 0.445 0.480 0.503 0.432 0.444 0.436 0.455   7.16
                      0.433 0.417
57) T   2Nitropropane   0.081 0.092 0.082 0.104 0.088 0.095 0.099 0.089  10.26
                      0.082 0.077
58) T   2CLEVE              0.131 0.134 0.146 0.144 0.157 0.175 0.146   9.60
                      0.144 0.139
59) PT  c13dicloproe    0.495 0.436 0.496 0.546 0.498 0.523 0.520 0.501   6.22
                      0.516 0.484
60) PT  4Meth2Pentan    0.234 0.257 0.258 0.305 0.249 0.229 0.224 0.251  10.85

61) S   SURRd8Tolule    1.070 1.064 1.074 1.133 1.076 1.075 1.098 1.085   2.04
                      1.074 1.105
62) PT  Toluene         0.921 0.877 0.875 0.927 0.844 0.840 0.815 0.843   8.39
                      0.793 0.697
63) PT  t13Dicloprop    0.399 0.434 0.457 0.472 0.434 0.478 0.475 0.454   5.98
                      0.479 0.455
64) T   ethylmethacryla       0.347 0.357 0.421 0.385 0.412 0.428 0.387   8.00
                      0.390 0.359
65) PT  112Triclotha          0.322 0.259 0.279 0.251 0.247 0.253 0.262  10.25
                      0.246 0.239
66) PT  Tetrachlorte    0.394 0.339 0.320 0.330 0.348 0.356 0.339 0.346   6.05
                      0.352 0.337
67) T   13Diclorpropa   0.580 0.586 0.513 0.614 0.525 0.521 0.526 0.537   8.75
                      0.497 0.468

68) I   d5-CHLOROBENZENE**IST ----------------ISTD--------------------
69) PT  2Hexanone             0.201 0.221 0.250 0.231 0.223 0.219 0.217  10.74
                      0.176
70) PT  Clorodibrmta    0.445 0.369 0.378 0.384 0.372 0.376 0.364 0.380   6.76
                      0.376 0.357
71) PT  12Dibrometha    0.374 0.404 0.343 0.366 0.330 0.362 0.342 0.353   7.23
                      0.339 0.321
72) PT  Chlorobenzen    1.163 1.163 1.132 1.038 1.024 1.022 0.969 1.033  10.78
                      0.969 0.816
73) T   1Clhexane       0.462 0.432 0.515 0.436 0.511 0.540 0.541 0.499   8.83
                      0.542 0.511
74) T   1112Tetclota           0.395 0.359 0.372 0.369 0.376 0.369 0.371   3.34
                      0.375 0.354
75) PT  Ethylbenzene    1.853 1.708 1.814 1.781 1.778 1.763 1.646 1.683  11.19
                      1.567 1.239
76) PT  m p-Xylene      0.642 0.605 0.653 0.659 0.678 0.677 0.632 0.632   7.76
                      0.625 0.518
77) PT  o-Xylene        0.642 0.531 0.603 0.604 0.646 0.660 0.664 0.625   7.16
                      0.671 0.601
78) PT  Styrene         0.937 0.792 0.976 0.990 1.053 1.095 1.077 0.989   9.93
                      1.069 0.913
79) PT  Bromoform             0.291 0.244 0.263 0.273 0.278 0.271 0.271   4.96
                      0.276 0.274
80) PT  Isopropylben    1.393 1.338 1.421 1.438 1.576 1.577 1.529 1.436   8.61
                      1.466 1.188
81) T   cyclohexanone         0.011 0.012 0.013 0.013 0.014 0.014 0.013#  7.53
                      0.013 0.013

82) I   d4-1,4-DICHLOROBENZEN ----------------ISTD--------------------
83) S   SURR4BrFBenz    0.868 0.897 0.889 0.907 0.890 0.887 0.888 0.886   1.44
                      0.866 0.883
84) T   Bromobenzene    0.874 0.715 0.837 0.719 0.696 0.719 0.672 0.727  10.83
                      0.680 0.631
85) PT  1122Tetrclta    1.082 0.915 1.023 0.985 0.841 0.840 0.825 0.881  14.86
                      0.726 0.696
86) T   123Triclproa          1.098 1.075 1.056 1.011 1.032 1.035 1.022   5.98
                      0.936 0.929
```

```
 87) T   14dichloro2bute       0.217 0.151 0.174 0.169 0.189 0.187 0.181  11.27
                         0.178
 88) T   n-Propylbenz    2.953 2.906 3.359 3.231 3.343 3.197 2.945 2.958  14.03
                         2.643 2.044
 89) T   2chlorotolue    2.134 1.988 2.062 2.001 1.995 1.964 1.849 1.915  10.19
                         1.758 1.485
 90) T   4chlorotolue    2.188 2.097 2.319 2.453 2.371 2.283 2.156 2.175  10.49
                         2.026 1.685
 91) T   135Trimebenz    1.799 2.137 2.144 2.192 2.308 2.276 2.135 2.071  10.60
                         2.003 1.647
 92) T   tbutylbenzen    1.356 1.563 1.752 1.632 1.888 1.894 1.808 1.680  10.96
                         1.741 1.491
 93) T   124Trimetben    2.112 1.905 2.053 2.231 2.317 2.262 2.120 2.073   9.86
                         2.011 1.650
 94) T   sbutylbenzen    2.104 2.138 2.623 2.495 2.786 2.708 2.571 2.408  12.73
                         2.359 1.888
 95) PT  13Diclorbenz    1.521 1.274 1.395 1.319 1.330 1.321 1.249 1.301   9.31
                         1.219 1.081
 96) T   pIsopropylto    2.118 1.824 2.144 2.195 2.411 2.404 2.217 2.124  11.05
                         2.098 1.706
 97) PT  14dichlorobe    1.631 1.498 1.469 1.432 1.400 1.367 1.293 1.383  11.10
                         1.262 1.098
 98) PT  12dichlorobe    1.625 1.602 1.331 1.297 1.260 1.259 1.190 1.310  14.55
                         1.185 1.044
 99) T   nButylbenzen    2.491 2.182 2.508 2.240 2.409 2.364 2.234 2.243  11.22
                         2.062 1.699
100) PT  12dibromo3cl          0.164 0.207 0.186 0.176 0.177 0.175 0.176   8.74
                         0.158 0.165
101) T   135Trichloroben 1.169 1.060 1.043 0.945 0.938 0.967 0.934 0.978  10.12
                         0.923 0.826
102) PT  124Trichlobe    0.807 0.799 0.895 0.779 0.798 0.858 0.844 0.815   5.45
                         0.811 0.745
103) T   Hexachlorobu    0.517 0.478 0.453 0.417 0.470 0.463 0.462 0.460   6.45
                         0.458 0.422
104) T   Naphthalene     1.670 1.806 1.806 1.795 1.783 1.938 1.940 1.754   9.42
                         1.646 1.403
105) T   123Trichlben    0.915 0.759 0.830 0.753 0.793 0.819 0.803 0.791   7.78
                         0.755 0.697
 ------------------------------------------------------------------------------
                                                 Total Average %RSD   8.80
 ------------------------------------------------------------------------------
 L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
 (#) = Out of Range

           W101819.M         Fri Nov 22 09:39:06 2019
```

BFB

Data File : C:\Instarch\Data\OCT1819\BFB1.D Vial: 1
Acq On : 18 Oct 2019 7:37 Operator: RLD-DGS
Sample : BFB Injection Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.591 to 4.603 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.3	13743	PASS
75	95	30	60	55.1	37245	PASS
95	95	100	100	100.0	67573	PASS
96	95	5	9	7.1	4771	PASS
173	174	0.00	2	1.6	901	PASS
174	95	50	100	84.6	57133	PASS
175	174	5	9	7.5	4264	PASS
176	174	95	101	98.0	55994	PASS
177	176	5	9	7.1	3975	PASS

W101819.M Fri Nov 22 09:28:54 2019

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL1.D Vial: 4
Acq On : 18 Oct 2019 8:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:25:28 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:15:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1178829	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	962186	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	547547	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.79	113	324486	20.328 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %		
45) SURR12DCAd4	7.20	102	86200	20.250 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101 %		
61) SURRd8Tolule	9.63	98	1261409	19.719 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %		
83) SURR4BrFBenz	13.18	95	475529	19.601 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98 %		
Target Compounds					Qvalue
2) Dichlorodi	1.85	85	8947	0.4519 ug/L	84
3) Chloromethan	2.09	50	9111	0.5382 ug/L	89
4) VinylChlorid	2.24	62	10350	0.5160 ug/L	98
5) Bromomethane	2.69	94	4668	0.5370 ug/L #	44
6) Chloroethane	2.86	64	9396	0.5874 ug/L	85
7) Dichloroflmethane	3.16	67	21186	0.6184 ug/L	93
8) Trichlorofma	3.23	101	12906	0.4913 ug/L	96
9) Ethylether	3.68	59	6725	0.5104 ug/L #	78
10) dichlorotfluoroethan	3.68	67	9825	0.4915 ug/L	84
11) propyleneoxide	3.74	58	14294	4.6661 ug/L #	76
12) Acrolein	3.88	56	4606	2.0366 ug/L #	48
13) 11dichlorthe	3.96	96	8539	0.5518 ug/L	89
14) Trichlorotfluoroeth	3.98	101	11226	0.8643 ug/L	92
15) Acetone	4.06	43	27777	6.0209 ug/L	92
16) Iodomethane	4.11	142	1272	0.2268 ug/L #	11
17) Carbon Dislf	4.21	76	41709	1.0891 ug/L	95
18) allylchloride	4.44	41	21896	0.9318 ug/L	84
19) methylacetate	4.51	74	1621	0.2049 ug/L	71
20) Methylchlorid	4.59	84	14544	0.7088 ug/L	92
21) tbutylalcohol	4.81	59	41513	27.1201 ug/L	99
22) Acrylonitrile	4.93	53	1055	0.2648 ug/L #	21
23) t12dichlorte	4.96	96	9313	0.5215 ug/L #	84
24) MtBE	5.00	73	23345	0.5023 ug/L	93
25) Hexane	5.35	57	17340	0.7938 ug/L #	87
26) 11dichlorota	5.48	63	20138	0.6019 ug/L	87
27) Vinylacetate	5.61	43	104329m	5.4894 ug/L	90
28) chloroprene	5.61	53	21714	0.9168 ug/L #	32
29) Diisopether	5.62	45	22835	0.4709 ug/L	99
30) ETBE	6.09	59	21476	0.4921 ug/L	94
31) 22dichloropr	6.22	77	15157	0.5447 ug/L	91
32) c12dichlorte	6.23	96	9117	0.4627 ug/L #	88
33) 2Butanone	6.26	72	6411	3.1422 ug/L	99
34) propionitrile	6.28	54	902	0.5373 ug/L #	1
35) Ethylacetate	6.37	88	1391	2.0148 ug/L #	75
36) methacrylonitrile	6.49	67	7446	0.9458 ug/L #	39
37) Bromochlorma	6.50	128	5734	0.6138 ug/L #	60
38) Tetrahydofur	6.60	42	23335	5.0835 ug/L #	59

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL1.D Vial: 4
Acq On : 18 Oct 2019 8:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:25:28 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:15:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.60	83	20284	0.5800 ug/L		93
40)	111trichlota	6.84	97	16447	0.5434 ug/L		96
42)	Cyclohexane	6.92	56	9828	0.4086 ug/L		94
43)	Carbtetraclo	7.06	119	11243	0.4858 ug/L		83
44)	11dicloprope	7.06	110	4204	0.5039 ug/L	#	82
46)	Benzene	7.29	78	42422	0.5811 ug/L	#	75
47)	12dichlorota	7.31	62	13798	0.5275 ug/L		96
48)	TAME	7.46	73	22373	0.5022 ug/L		91
49)	trichloroete	8.11	95	10463	0.5380 ug/L		96
50)	methylcyclohexane	8.36	83	13785	0.4390 ug/L		94
51)	12dicloropra	8.36	63	9198	0.4715 ug/L		91
52)	23Dicl1propene	8.42	75	15679	0.5655 ug/L		95
53)	Dibromometha	8.51	93	9309	0.7739 ug/L	#	58
54)	methylmethacrylate	8.51	69	623	0.0507 ug/L	#	1
55)	14dioxane	8.55	88	2915	13.6921 ug/L	#	40
56)	Bromodiclrma	8.69	83	14896	0.5553 ug/L		96
57)	2Nitropropane	8.97	43	23939	4.5709 ug/L	#	72
58)	2CLEVE	9.11	63	16234	1.8843 ug/L		88
59)	c13dicloproe	9.29	75	14580	0.4933 ug/L		99
60)	4Meth2Pentan	9.48	43	68904m	5.1151 ug/L		97
62)	Toluene	9.72	92	27139	0.5460 ug/L		97
63)	t13Dicloprop	10.00	75	11748	0.4394 ug/L	#	74
64)	ethylmethacrylate	10.14	69	19236	0.8426 ug/L		88
65)	112Triclotha	10.22	83	7556	0.4893 ug/L	#	80
66)	Tetrachlorte	10.45	166	11597	0.5687 ug/L		94
67)	13Diclorpropa	10.46	76	17093	0.5403 ug/L		69
69)	2Hexanone	10.57	43	50621	5.0683 ug/L		89
70)	Clorodibrmta	10.75	129	10709	0.5855 ug/L		96
71)	12Dibrometha	10.91	107	8991	0.5289 ug/L		87
72)	Chlorobenzen	11.59	112	27987	0.5631 ug/L	#	62
73)	1Clhexane	11.56	91	11116	0.4633 ug/L	#	20
74)	1112Tetclota	11.69	131	10194	0.5710 ug/L	#	83
75)	Ethylbenzene	11.75	91	44567	0.5504 ug/L		93
76)	m p-Xylene	11.91	106	30881	1.0155 ug/L		94
77)	o-Xylene	12.45	106	15446	0.5140 ug/L		91
78)	Styrene	12.47	104	22543	0.4738 ug/L		94
79)	Bromoform	12.71	173	9986	0.7653 ug/L		86
80)	Isopropylben	12.97	105	33506	0.4849 ug/L		89
81)	cyclohexanone	13.08	55	6260	9.9568 ug/L	#	70
84)	Bromobenzene	13.39	156	11969	0.6013 ug/L		93
85)	1122Tetrclta	13.35	83	14810	0.5811 ug/L		84
86)	123Triclproa	13.42	75	17160	0.6136 ug/L		87
87)	14dichloro2butene	13.45	53	1826	0.4078 ug/L	#	64
88)	n-Propylbenz	13.56	91	40417	0.4991 ug/L		98
89)	2chlorotolue	13.67	91	29207	0.5571 ug/L		90
90)	4chlorotolue	13.82	91	29950	0.5029 ug/L		98
91)	135Trimebenz	13.82	105	24620	0.4342 ug/L		80
92)	tbutylbenzen	14.28	119	18558	0.4034 ug/L		83
93)	124Trimetben	14.35	105	28908	0.5092 ug/L		84
94)	sbutylbenzen	14.60	105	28796	0.4368 ug/L		94
95)	13Diclorbenz	14.76	146	20820	0.5846 ug/L		88
96)	pIsopropylto	14.81	119	28988	0.4985 ug/L		99
97)	14dichlorobe	14.88	146	22321	0.5894 ug/L	#	61
98)	12dichlorobe	15.40	146	22243	0.6200 ug/L	#	70
99)	nButylbenzen	15.42	91	34098	0.5552 ug/L		95
100)	12dibromo3cl	16.50	157	2960	0.6138 ug/L	#	59
101)	135Trichlorobenzene	16.84	180	15996	0.5973 ug/L		88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL1.D Vial: 4
Acq On : 18 Oct 2019 8:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:25:28 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:15:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.64	180	11040	0.4947 ug/L	88
103) Hexachlorobu	17.90	225	7077	0.5621 ug/L #	82
104) Naphthalene	17.96	128	22861	0.4760 ug/L	87
105) 123Trichlben	18.27	180	12524	0.5780 ug/L	84

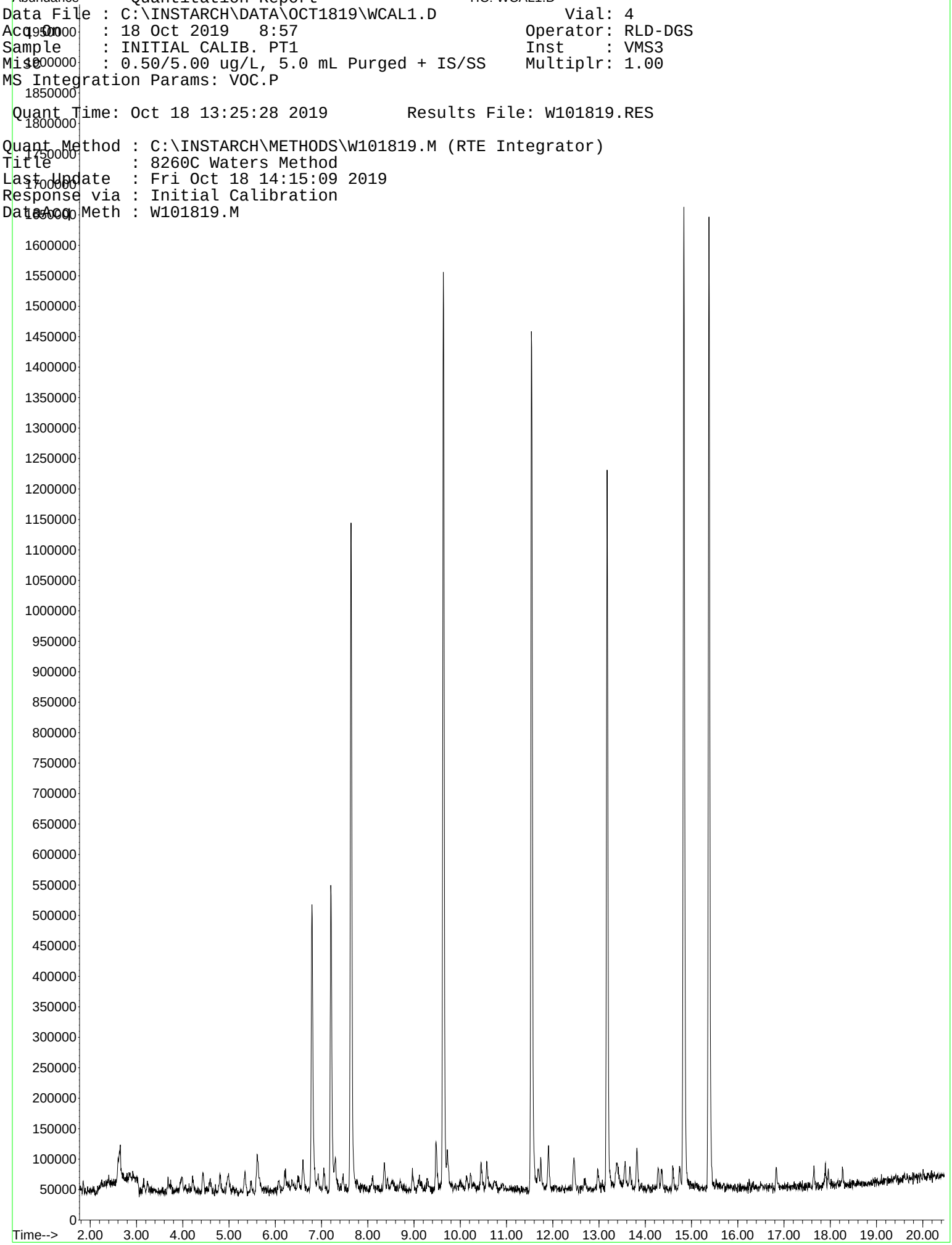
(#) = qualifier out of range (m) = manual integration

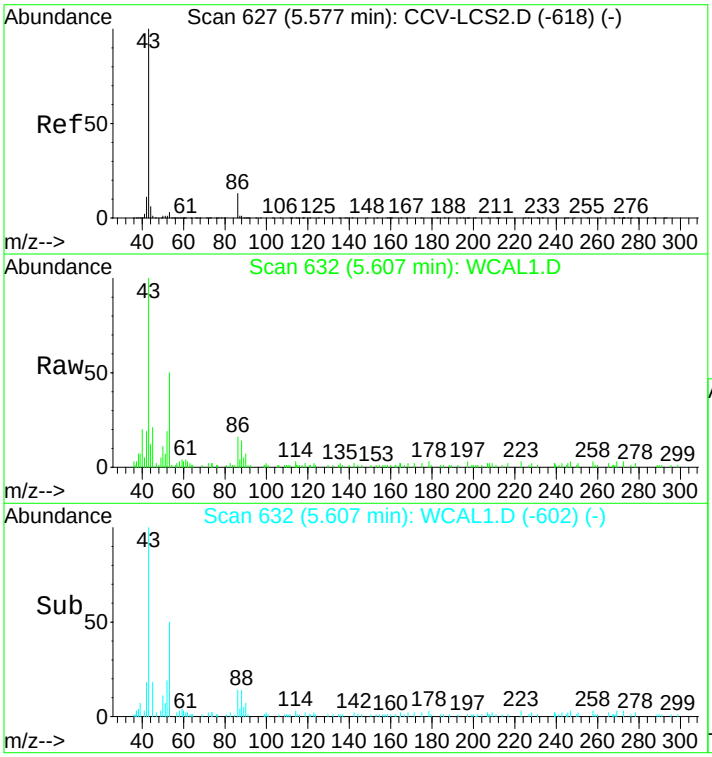
Abundance Quantitation Report TIC: WCAL1.D

Data File : C:\INSTARCH\DATA\OCT1819\WCAL1.D Vial: 4
Acq On : 18 Oct 2019 8:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:25:28 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:15:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

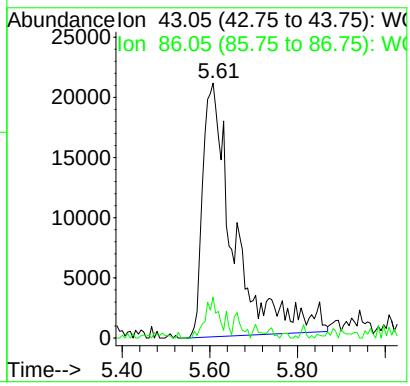




#27
Vinylacetate
Concen: 5.49 ug/L m
RT: 5.61 min Scan# 632
Delta R.T. 0.03 min
Lab File: WCAL1.D
Acq: 18 Oct 2019 8:57

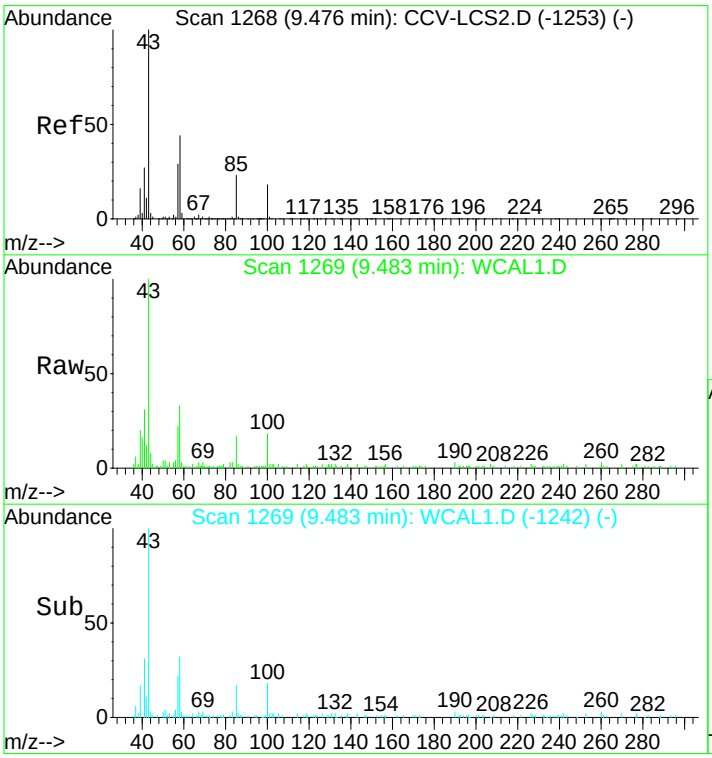
Tgt Ion: 43 Resp: 104329

Ion	Ratio	Lower	Upper
43	100		
86	6.6	0.0	31.6



After Manual Integration

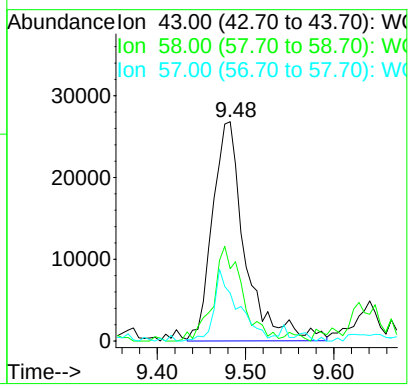
RJ 11/22/2019



#60
4Meth2Pentan
Concen: 5.12 ug/L m
RT: 9.48 min Scan# 1269
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 18 Oct 2019 8:57

Tgt Ion: 43 Resp: 68904

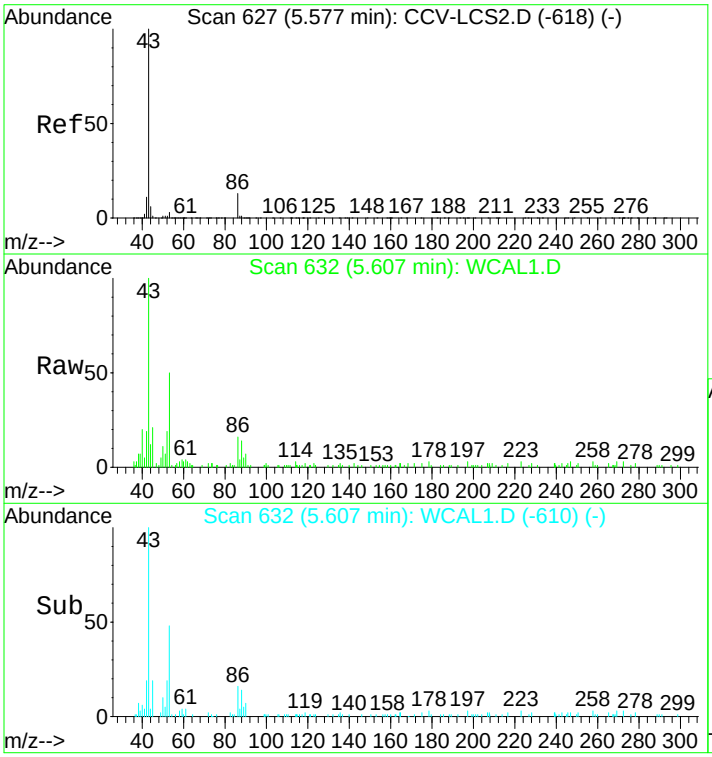
Ion	Ratio	Lower	Upper
43	100		
58	39.0	21.7	61.7
57	24.2	7.3	47.3



BMS 11/22/2019

Before Manual Integration

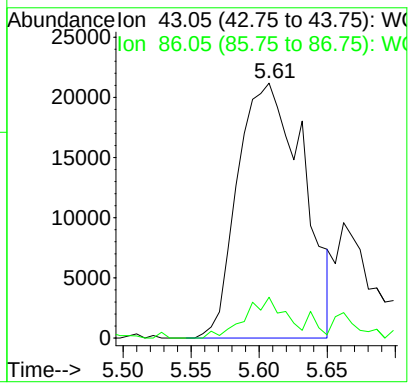
11/22/2019



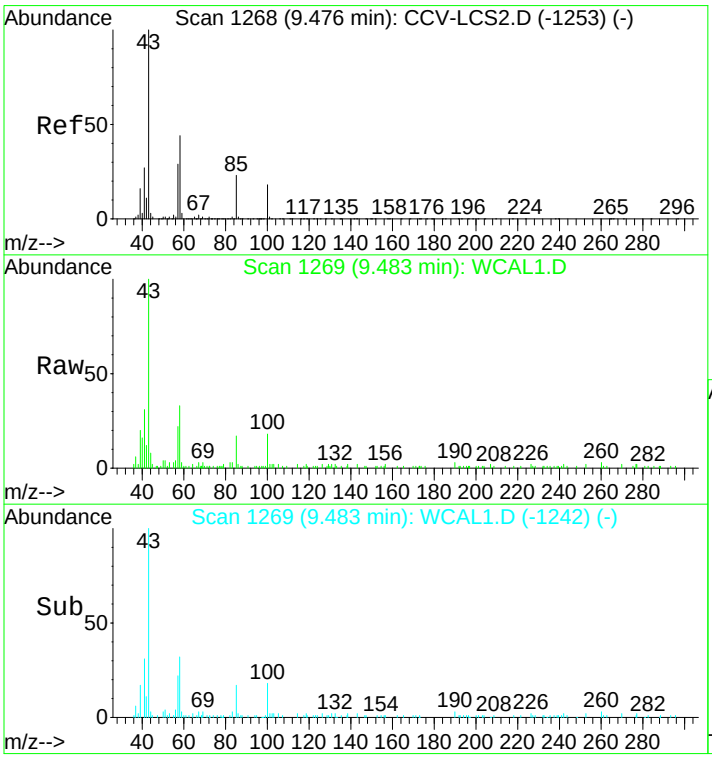
#27
Vinylacetate
Concen: 3.50 ug/L
RT: 5.61 min Scan# 632
Delta R.T. 0.03 min
Lab File: WCAL1.D
Acq: 18 Oct 2019 8:57

Tgt Ion: 43 Resp: 71133

Ion	Ratio	Lower	Upper
43	100		
86	9.7	0.0	31.6



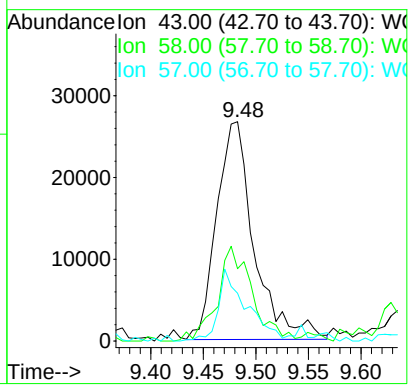
REASON # 2



#60
4Meth2Pentan
Concen: 4.47 ug/L
RT: 9.48 min Scan# 1269
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 18 Oct 2019 8:57

Tgt Ion: 43 Resp: 66040

Ion	Ratio	Lower	Upper
43	100		
58	40.7	21.7	61.7
57	25.3	7.3	47.3



REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL2.D Vial: 5
Acq On : 18 Oct 2019 9:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:18:50 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:16:34 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1223115	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	986014	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	571244	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.80	113	337360	20.369	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.21	102	86316	19.543	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.63	98	1301803	19.613	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.18	95	512121	20.234	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	18648	0.9078	ug/L	87
3) Chloromethan	2.09	50	22094	1.2579	ug/L	96
4) VinylChlorid	2.24	62	20711	0.9952	ug/L	93
5) Bromomethane	2.69	94	7167	0.7946	ug/L	84
6) Chloroethane	2.86	64	19519	1.1761	ug/L	95
7) Dichloroflmethane	3.17	67	38296	1.0774	ug/L	95
8) Trichlorofma	3.25	101	25263	0.9268	ug/L	96
9) Ethylether	3.68	59	15016	1.0984	ug/L	99
10) dichlorotfluoroethan	3.68	67	19103	0.9211	ug/L	91
11) propyleneoxide	3.74	58	39431	12.4057	ug/L	86
12) Acrolein	3.85	56	10581	4.5092	ug/L	85
13) 11dichlorthe	3.96	96	15131	0.9425	ug/L	98
14) Trichlorotfluoroeth	3.99	101	23354	1.7329	ug/L	98
15) Acetone	4.04	43	48259	10.0819	ug/L	96
16) Iodomethane	4.13	142	4817	0.8279	ug/L #	90
17) Carbon Dislf	4.21	76	87908	2.2122	ug/L	97
18) allylchloride	4.44	41	50383	2.0664	ug/L	98
19) methylacetate	4.50	74	8976	1.0937	ug/L #	60
20) Methylchlorid	4.59	84	21275m	0.9992	ug/L	99
21) tbutylalcohol	4.80	59	88872	55.9572	ug/L	90
22) Acrylonitrile	4.96	53	12919m	3.1257	ug/L #	32
23) t12dichlorte	4.97	96	21036	1.1353	ug/L #	85
24) MtBE	5.00	73	50982	1.0572	ug/L	96
25) Hexane	5.35	57	31712	1.3992	ug/L #	95
26) 11dichlorota	5.48	63	39652	1.1423	ug/L	96
27) Vinylacetate	5.59	43	202152	10.2513	ug/L	97
28) chloroprene	5.62	53	45043	1.8329	ug/L	92
29) Diisopether	5.63	45	47431	0.9426	ug/L	95
30) ETBE	6.08	59	47146	1.0412	ug/L	96
31) 22dichloropr	6.22	77	29248	1.0131	ug/L	96
32) c12dichlorte	6.23	96	20199	0.9881	ug/L	85
33) 2Butanone	6.26	72	17306	8.1749	ug/L	96
34) propionitrile	6.36	54	16135m	9.2632	ug/L	1
35) Ethylacetate	6.36	88	2791	3.8963	ug/L #	73
36) methacrylonitrile	6.50	67	11662	1.4278	ug/L #	11
37) Bromochlorma	6.51	128	11115	1.1468	ug/L #	81
38) Tetrahydofur	6.60	42	45572	9.5683	ug/L	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL2.D Vial: 5
Acq On : 18 Oct 2019 9:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:18:50 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:16:34 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.60	83	41101	1.1326 ug/L		94
40)	111trichlota	6.84	97	32273	1.0277 ug/L		94
42)	Cyclohexane	6.92	56	18236	0.7307 ug/L		91
43)	Carbtetraclo	7.06	119	21935	0.9135 ug/L		84
44)	11dicloprope	7.06	110	9160	1.0582 ug/L	#	66
46)	Benzene	7.30	78	90242	1.1914 ug/L		97
47)	12dichlorota	7.30	62	28778	1.0603 ug/L		94
48)	TAME	7.46	73	44066	0.9532 ug/L		92
49)	trichloroete	8.11	95	21658	1.0733 ug/L		94
50)	methylcyclohexane	8.37	83	20257	0.6218 ug/L	#	80
51)	12dicloropra	8.36	63	18696	0.9236 ug/L		92
52)	23Dicl1propene	8.42	75	27954	0.9717 ug/L		96
53)	Dibromometha	8.50	93	12119	0.9711 ug/L		91
54)	methylmethacrylate	8.54	69	8918	0.6993 ug/L	#	71
55)	14dioxane	8.55	88	10551	47.7649 ug/L		89
56)	Bromodiclrma	8.70	83	27202	0.9774 ug/L		91
57)	2Nitropropane	8.96	43	56297	10.3601 ug/L		93
58)	2CLEVE	9.10	63	40047	4.4800 ug/L		98
59)	c13dicloproe	9.29	75	26635	0.8685 ug/L		91
60)	4Meth2Pentan	9.48	43	157371	11.2595 ug/L		97
62)	Toluene	9.73	92	53638	1.0401 ug/L		100
63)	t13Dicloprop	10.00	75	26529	0.9563 ug/L		85
64)	ethylmethacrylate	10.14	69	42464	1.7926 ug/L		94
65)	112Triclotha	10.23	83	19667	1.2274 ug/L	#	87
66)	Tetrachlorte	10.45	166	20736	0.9800 ug/L		94
67)	13Diclorpropa	10.44	76	35867	1.0927 ug/L		94
69)	2Hexanone	10.57	43	99321	9.7039 ug/L		95
70)	Clorodibrmta	10.74	129	18173	0.9696 ug/L		97
71)	12Dibrometha	10.89	107	19894	1.1419 ug/L		98
72)	Chlorobenzen	11.59	112	57354	1.1261 ug/L		88
73)	1Clhexane	11.56	91	21309	0.8667 ug/L	#	67
74)	1112Tetclota	11.69	131	19477	1.0646 ug/L		87
75)	Ethylbenzene	11.75	91	84185	1.0145 ug/L		93
76)	m p-Xylene	11.90	106	59607	1.9128 ug/L		96
77)	o-Xylene	12.45	106	26164	0.8496 ug/L	#	83
78)	Styrene	12.46	104	39026	0.8004 ug/L		100
79)	Bromoform	12.69	173	14361	1.0740 ug/L		82
80)	Isopropylben	12.97	105	65961	0.9316 ug/L		99
81)	cyclohexanone	13.06	55	11219	17.4131 ug/L		84
84)	Bromobenzene	13.39	156	20421	0.9834 ug/L	#	78
85)	1122Tetrclta	13.36	83	26137	1.0127 ug/L	#	73
86)	123Triclproa	13.42	75	31373	1.0753 ug/L		90
87)	14dichloro2butene	13.45	53	6206m	1.3286 ug/L	#	73
88)	n-Propylbenz	13.56	91	83009	0.9825 ug/L		98
89)	2chlorotolue	13.67	91	56786	1.0382 ug/L		99
90)	4chlorotolue	13.82	91	59891	0.9639 ug/L		96
91)	135Trimebenz	13.82	105	61035	1.0318 ug/L		85
92)	tbutylbenzen	14.28	119	44637	0.9300 ug/L		95
93)	124Trimetben	14.35	105	54419	0.9189 ug/L		89
94)	sbutylbenzen	14.60	105	61077	0.8881 ug/L		99
95)	13Diclorbenz	14.76	146	36377	0.9791 ug/L		86
96)	pIsopropylto	14.81	119	52100	0.8587 ug/L		91
97)	14dichlorobe	14.87	146	42781	1.0828 ug/L		91
98)	12dichlorobe	15.41	146	45759	1.2226 ug/L		92
99)	nButylbenzen	15.41	91	62337	0.9729 ug/L		88
100)	12dibromo3cl	16.51	157	4684	0.9310 ug/L		94
101)	135Trichlorobenzene	16.84	180	30283	1.0838 ug/L		91

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\OCT1819\WCAL2.D Vial: 5
Acq On : 18 Oct 2019 9:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:18:50 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:16:34 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.66	180	22812	0.9799 ug/L	98
103) Hexachlorobu	17.90	225	13643	1.0387 ug/L	96
104) Naphthalene	17.96	128	51585	1.0296 ug/L	97
105) 123Trichlben	18.27	180	21669	0.9585 ug/L	98

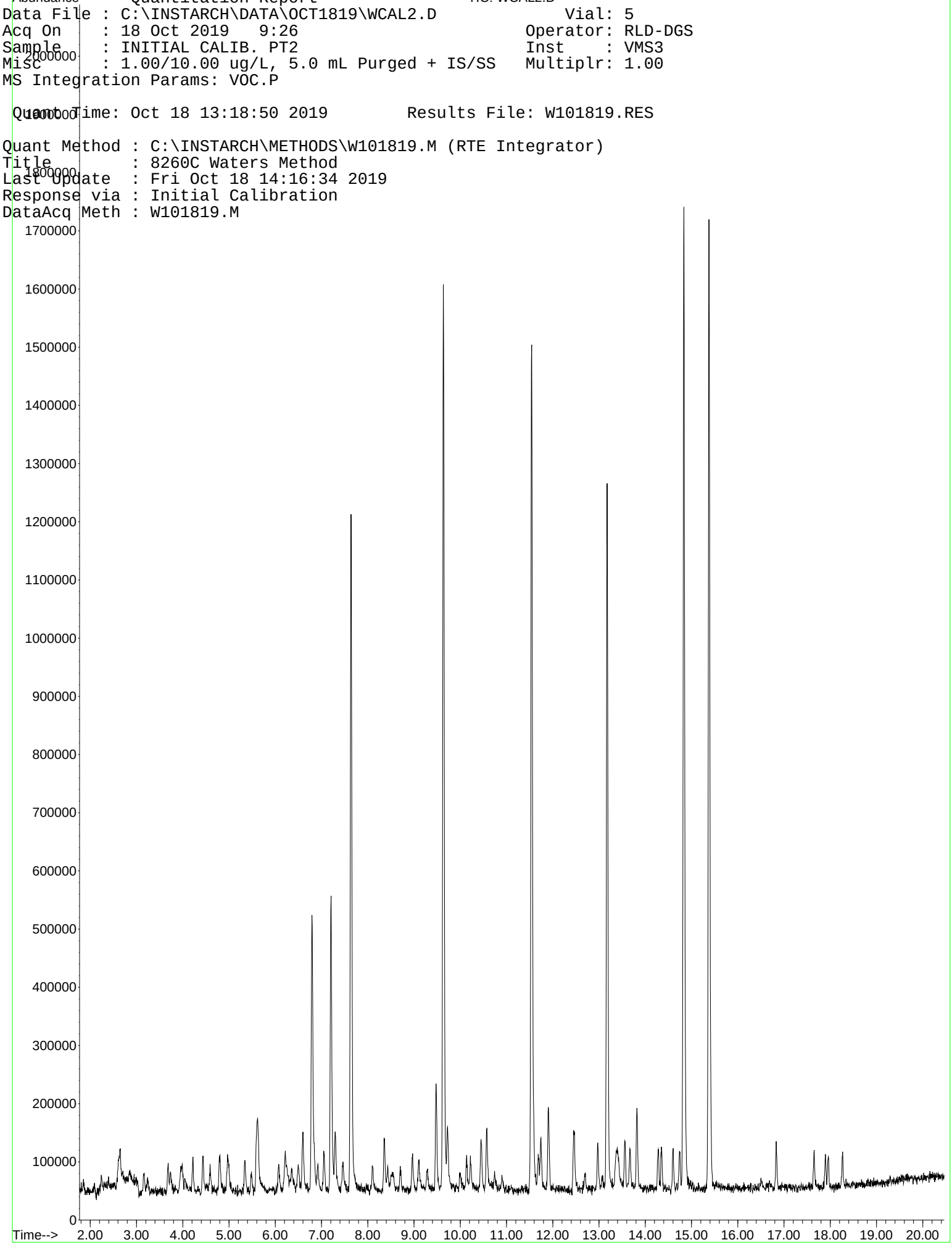
(#) = qualifier out of range (m) = manual integration

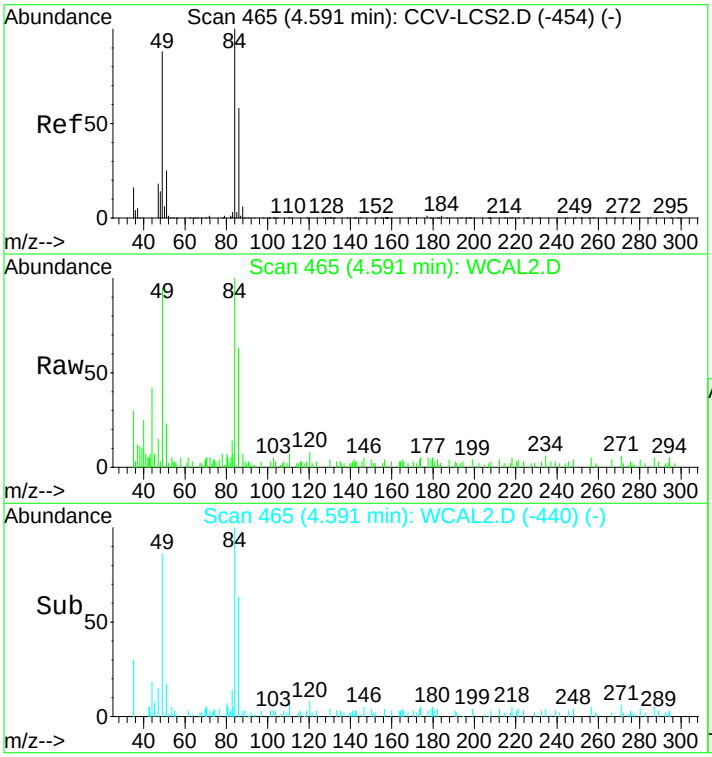
Abundance Quantitation Report TIC: WCAL2.D

Data File : C:\INSTARCH\DATA\OCT1819\WCAL2.D Vial: 5
Acq On : 18 Oct 2019 9:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:18:50 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:16:34 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

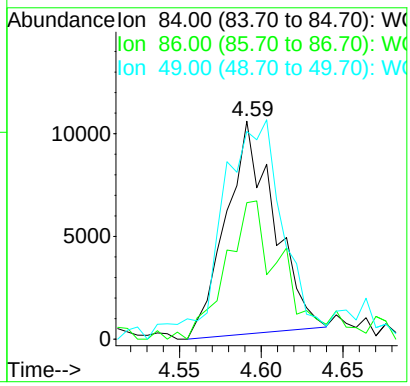




#20
Methylchlorid
Concen: 1.00 ug/L m
RT: 4.59 min Scan# 465
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

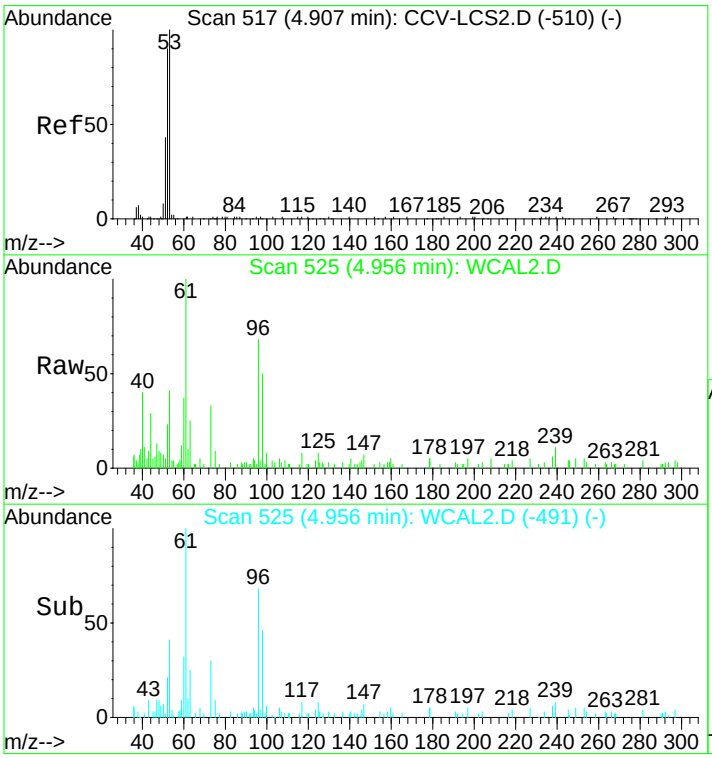
Tgt Ion: 84 Resp: 21275

Ion	Ratio	Lower	Upper
84	100		
86	77.4	45.0	85.0
49	129.6	90.4	130.4



After Manual Integration

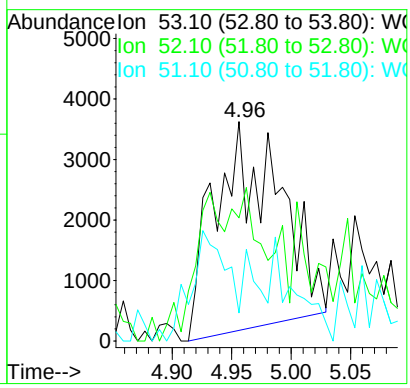
RJ 11/22/2019



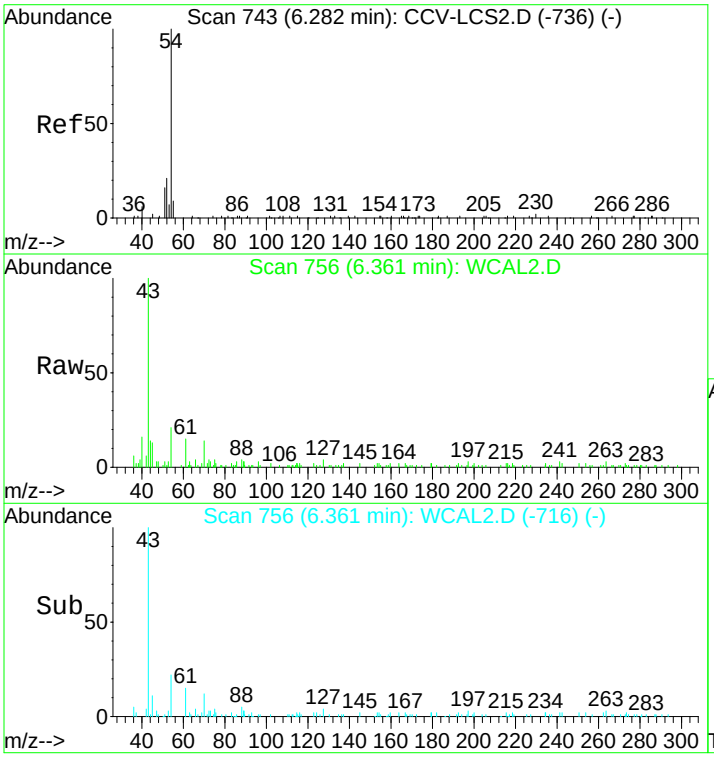
#22
Acrylonitrile
Concen: 3.13 ug/L m
RT: 4.96 min Scan# 525
Delta R.T. 0.05 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

Tgt Ion: 53 Resp: 12919

Ion	Ratio	Lower	Upper
53	100		
52	6.1	60.1	100.1#
51	5.1	16.0	56.0#



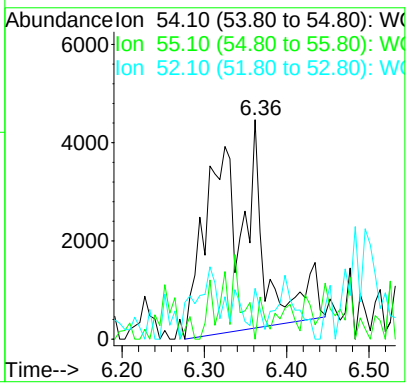
BMS 11/22/2019



#34
propionitrile
Concen: 9.26 ug/L m
RT: 6.36 min Scan# 756
Delta R.T. 0.09 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

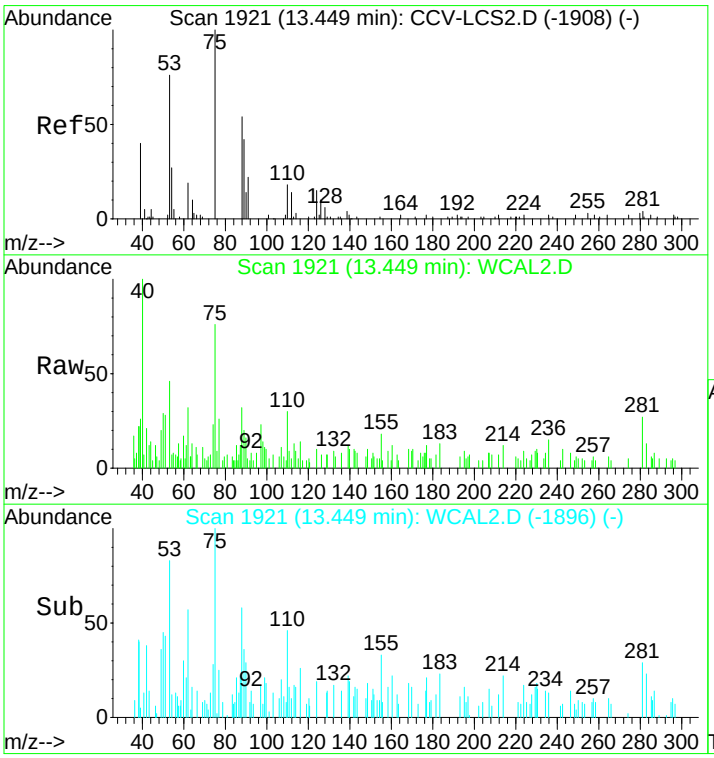
Tgt Ion: 54 Resp: 16135

Ion	Ratio	Lower	Upper
54	100		
55	9.3	0.0	36.4
52	4.0	2.2	42.2



After Manual Integration

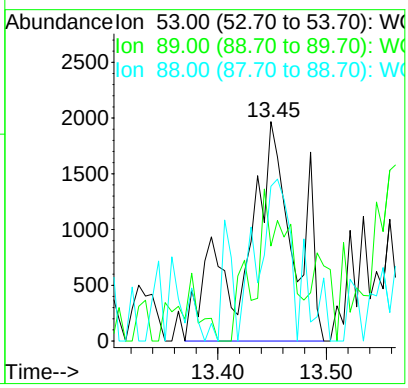
RJ 11/22/2019



#87
14dichloro2butene
Concen: 1.33 ug/L m
RT: 13.45 min Scan# 1921
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

Tgt Ion: 53 Resp: 6206

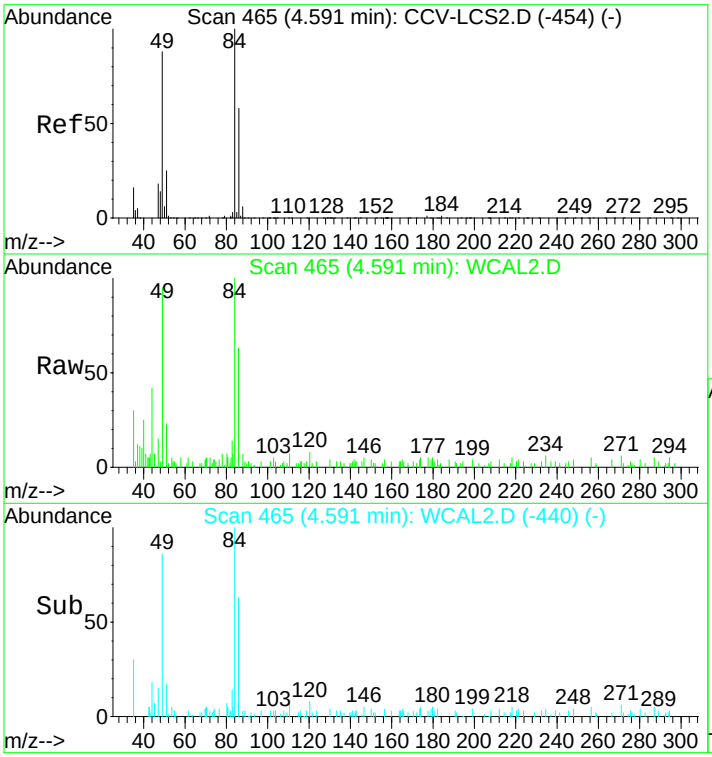
Ion	Ratio	Lower	Upper
53	100		
89	32.7	43.8	83.8#
88	46.6	33.8	73.8



BMS 11/22/2019

Before Manual Integration

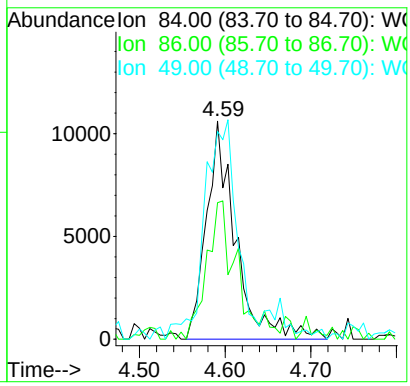
11/22/2019



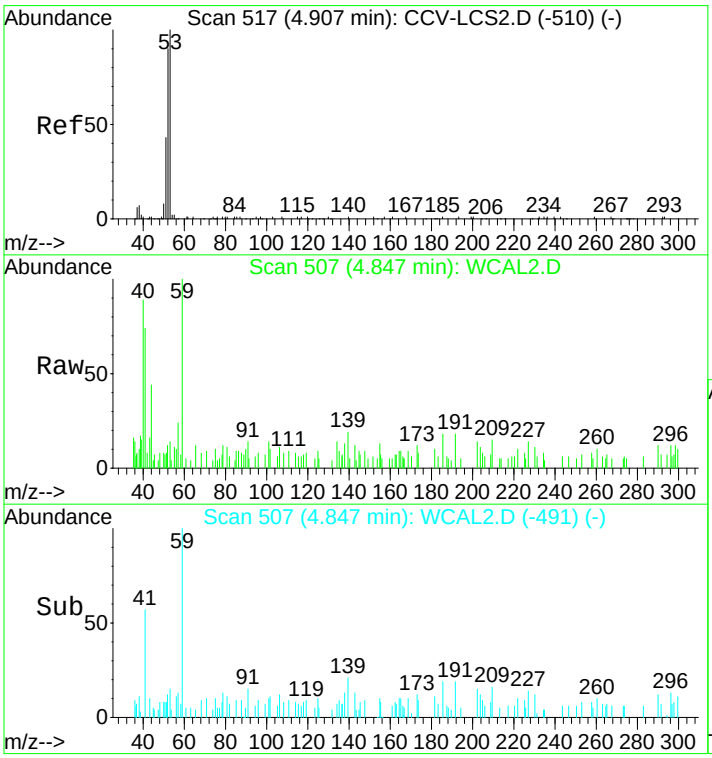
#20
Methylchlorid
Concen: 1.12 ug/L
RT: 4.59 min Scan# 465
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

Tgt Ion: 84 Resp: 25243

Ion	Ratio	Lower	Upper
84	100		
86	65.2	45.0	85.0
49	109.3	90.4	130.4



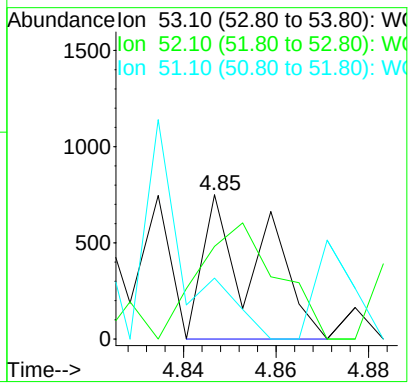
REASON # 2



#22
Acrylonitrile
Concen: 3.28 ug/L
RT: 4.85 min Scan# 507
Delta R.T. -0.05 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

Tgt Ion: 53 Resp: 640

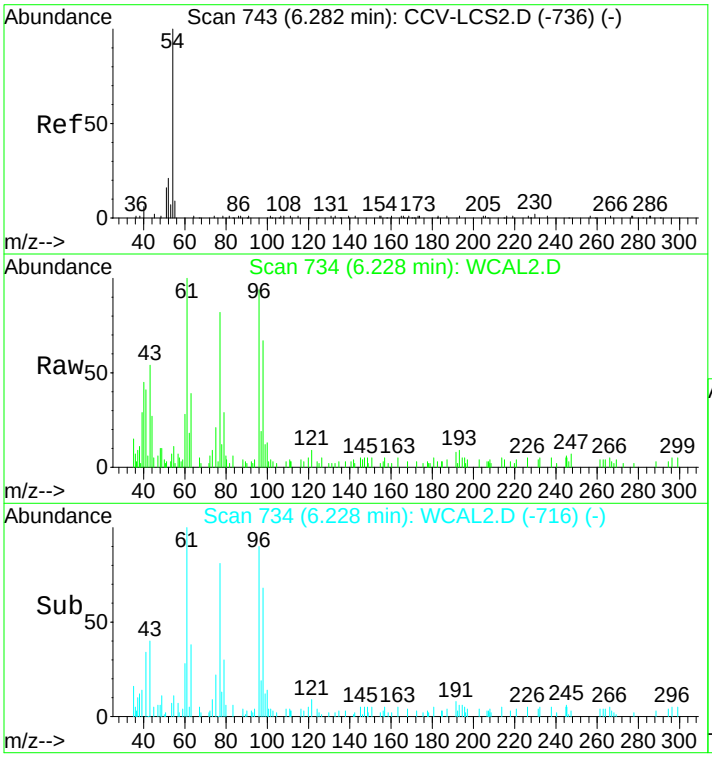
Ion	Ratio	Lower	Upper
53	100		
52	123.1	60.1	100.1#
51	102.0	16.0	56.0#



REASON # 2

Before Manual Integration

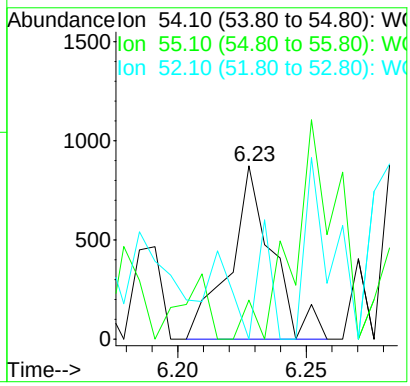
RJ 11/22/2019



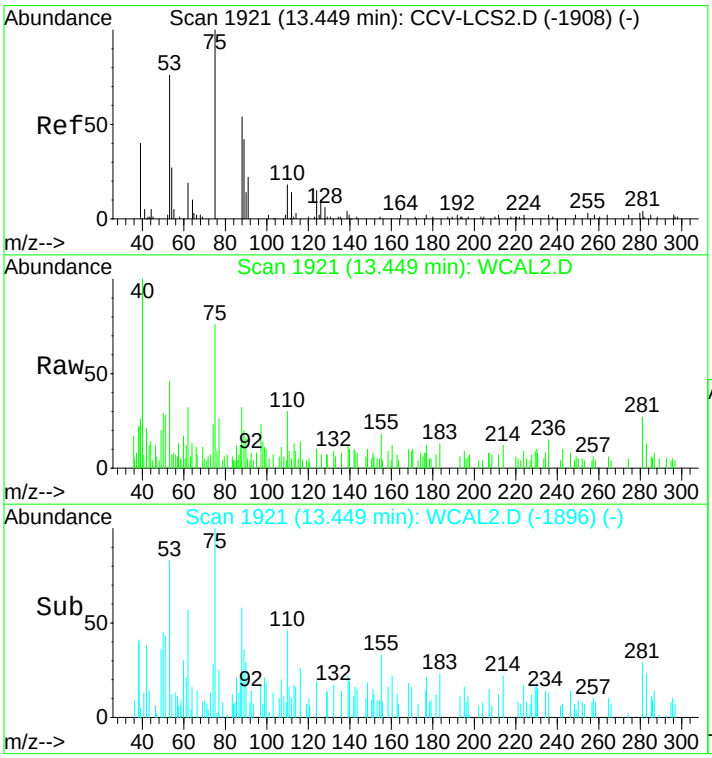
#34
propionitrile
Concen: 7.94 ug/L
RT: 6.23 min Scan# 734
Delta R.T. -0.04 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

Tgt Ion: 54 Resp: 999

Ion	Ratio	Lower	Upper
54	100		
55	149.7	0.0	36.4#
52	64.7	2.2	42.2#



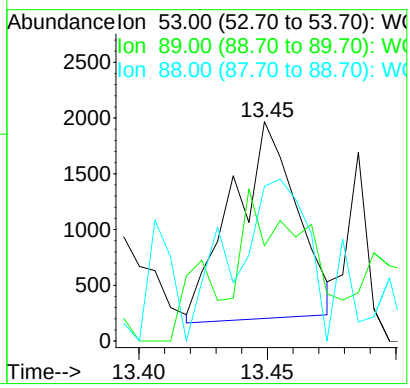
REASON # 2



#87
14dichloro2butene
Concen: 0.60 ug/L
RT: 13.45 min Scan# 1921
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 18 Oct 2019 9:26

Tgt Ion: 53 Resp: 3095

Ion	Ratio	Lower	Upper
53	100		
89	41.8	43.8	83.8#
88	93.4	33.8	73.8#



REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL3.D Vial: 6
Acq On : 18 Oct 2019 9:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:19:39 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:50:43 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1257376	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1012198	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	582308	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.80	113	351285	20.439 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %		
45) SURR12DCAd4	7.20	102	94318	20.784 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104 %		
61) SURRd8Tolule	9.63	98	1349991	20.065 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %		
83) SURR4BrFBenz	13.18	95	517396	20.077 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	1.85	85	51155	2.4192 ug/L	94
3) Chloromethan	2.09	50	39163	1.9219 ug/L	87
4) VinylChlorid	2.24	62	47282	2.1238 ug/L	100
5) Bromomethane	2.69	94	16356	1.9525 ug/L	89
6) Chloroethane	2.86	64	40350	2.1257 ug/L	99
7) Dichloroflmethane	3.16	67	77335	1.8961 ug/L	97
8) Trichlorofma	3.24	101	64606	2.2829 ug/L	90
9) Ethylether	3.68	59	28677	1.9813 ug/L	88
10) dichlorotfluoroethan	3.68	67	48540	2.2909 ug/L	94
11) propyleneoxide	3.74	58	67531	18.9506 ug/L	94
12) Acrolein	3.82	56	21455	9.1033 ug/L	91
13) 11dichlorthe	3.94	96	34454	2.0223 ug/L	94
14) Trichlorotfluoroeth	3.98	101	60438	4.5445 ug/L	97
15) Acetone	4.04	43	100201	18.9962 ug/L	96
16) Iodomethane	4.13	142	9894	2.9453 ug/L	95
17) Carbon Dislf	4.22	76	181399	4.0501 ug/L	99
18) allylchloride	4.43	41	102497	4.1034 ug/L	93
19) methylacetate	4.50	74	17083	1.9896 ug/L	67
20) Methylchlorid	4.60	84	44874	1.7520 ug/L	97
21) tbutylalcohol	4.79	59	168973	96.7012 ug/L	95
22) Acrylonitrile	4.93	53	31551	12.4609 ug/L #	78
23) t12dichlorte	4.96	96	35309	1.7457 ug/L	85
24) MtBE	4.99	73	100701	1.9713 ug/L	92
25) Hexane	5.35	57	95049	4.5510 ug/L	99
26) 11dichlorota	5.49	63	75768	1.9283 ug/L	96
27) Vinylacetate	5.59	43	440843	21.2522 ug/L	100
28) chloroprene	5.61	53	99335	4.0271 ug/L	98
29) Diisopether	5.63	45	107155	2.1321 ug/L	96
30) ETBE	6.07	59	96017	2.0525 ug/L	99
31) 22dichloropr	6.20	77	59221	1.9223 ug/L	90
32) c12dichlorte	6.22	96	44164	2.1469 ug/L	98
33) 2Butanone	6.26	72	36013	17.9367 ug/L	96
34) propionitrile	6.25	54	702	0.5791 ug/L #	1
35) Ethylacetate	6.36	88	6991	10.8105 ug/L #	85
36) methacrylonitrile	6.50	67	32242	4.4569 ug/L #	85
37) Bromochlorma	6.50	128	20662	1.8912 ug/L #	84
38) Tetrahydofur	6.58	42	94010	19.3328 ug/L	92

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL3.D Vial: 6
Acq On : 18 Oct 2019 9:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:19:39 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:50:43 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.60	83	75943	1.8628	ug/L		97
40)	111trichlota	6.84	97	71697	2.1380	ug/L		91
42)	Cyclohexane	6.93	56	50446	2.2164	ug/L		98
43)	Carbtetraclo	7.06	119	47698	1.9618	ug/L		98
44)	11dicloprope	7.04	110	15284	1.6502	ug/L	#	77
46)	Benzene	7.30	78	168551	1.9322	ug/L		99
47)	12dichlorota	7.30	62	59030	2.0803	ug/L		97
48)	TAME	7.47	73	94920	2.0425	ug/L		98
49)	trichloroete	8.11	95	39409	1.8072	ug/L		86
50)	methylcyclohexane	8.35	83	62250	2.1003	ug/L		91
51)	12dicloropra	8.36	63	43353	2.1885	ug/L		85
52)	23Dicl1propene	8.42	75	56183	1.9509	ug/L		93
53)	Dibromometha	8.52	93	25071	1.9657	ug/L	#	86
54)	methylmethacrylate	8.53	69	25472	2.3352	ug/L		93
55)	14dioxane	8.55	88	21773	98.5912	ug/L		91
56)	Bromodiclrma	8.70	83	60310	2.0815	ug/L		95
57)	2Nitropropane	8.97	43	103166	18.8602	ug/L		95
58)	2CLEVE	9.10	63	84028	9.7166	ug/L		98
59)	c13dicloproe	9.28	75	62349	2.0837	ug/L		97
60)	4Meth2Pentan	9.48	43	324661	21.2172	ug/L		94
62)	Toluene	9.72	92	110080	1.9885	ug/L		94
63)	t13Dicloprop	9.99	75	57402	2.1634	ug/L		97
64)	ethylmethacrylate	10.14	69	89821	3.8979	ug/L		92
65)	112Triclotha	10.22	83	32607	1.8109	ug/L		95
66)	Tetrachlorte	10.45	166	40199	1.7751	ug/L		95
67)	13Diclorpropa	10.44	76	64478	1.8185	ug/L		94
69)	2Hexanone	10.57	43	223834	20.4671	ug/L		90
70)	Clorodibrmta	10.74	129	38228	1.9108	ug/L		93
71)	12Dibrometha	10.91	107	34701	1.8586	ug/L		90
72)	Chlorobenzen	11.59	112	114609	2.0273	ug/L		95
73)	1Clhexane	11.56	91	52148	2.1998	ug/L		93
74)	1112Tetclota	11.68	131	36301	1.8771	ug/L		89
75)	Ethylbenzene	11.75	91	183644	2.0393	ug/L		96
76)	m p-Xylene	11.90	106	132228	4.0727	ug/L		99
77)	o-Xylene	12.46	106	60985	1.9878	ug/L		98
78)	Styrene	12.46	104	98788	2.1050	ug/L		96
79)	Bromoform	12.69	173	24728	1.7331	ug/L		89
80)	Isopropylben	12.97	105	143879	1.9802	ug/L		95
81)	cyclohexanone	13.07	55	25187	41.6150	ug/L		84
84)	Bromobenzene	13.39	156	48755	2.1980	ug/L		89
85)	1122Tetrclta	13.36	83	59550	1.8686	ug/L		91
86)	123Triclproa	13.42	75	62592	2.0384	ug/L		96
87)	14dichloro2butene	13.45	53	8809m	2.1813	ug/L		60
88)	n-Propylbenz	13.56	91	195612	2.1904	ug/L		94
89)	2chlorotolue	13.67	91	120073	2.0226	ug/L		98
90)	4chlorotolue	13.83	91	135023	2.0902	ug/L		96
91)	135Trimebenz	13.82	105	124842	2.0603	ug/L		100
92)	tbutylbenzen	14.28	119	102042	2.1877	ug/L		97
93)	124Trimetben	14.35	105	119555	1.9450	ug/L		98
94)	sbutylbenzen	14.60	105	152757	2.2397	ug/L		99
95)	13Diclorbenz	14.74	146	81207	2.0287	ug/L		98
96)	pIsopropylto	14.82	119	124819	2.0245	ug/L		99
97)	14dichlorobe	14.87	146	85523	1.9460	ug/L		87
98)	12dichlorobe	15.41	146	77500	1.7812	ug/L		88
99)	nButylbenzen	15.41	91	146049	2.1247	ug/L		97
100)	12dibromo3cl	16.50	157	12053	2.4361	ug/L		96
101)	135Trichlorobenzene	16.83	180	60762	1.9773	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL3.D Vial: 6
Acq On : 18 Oct 2019 9:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:19:39 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:50:43 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.65	180	52088	2.2331 ug/L	96
103) Hexachlorobu	17.90	225	26358	1.8544 ug/L	87
104) Naphthalene	17.95	128	105171	2.0606 ug/L	99
105) 123Trichlben	18.26	180	48331	2.0192 ug/L	98

(#) = qualifier out of range (m) = manual integration

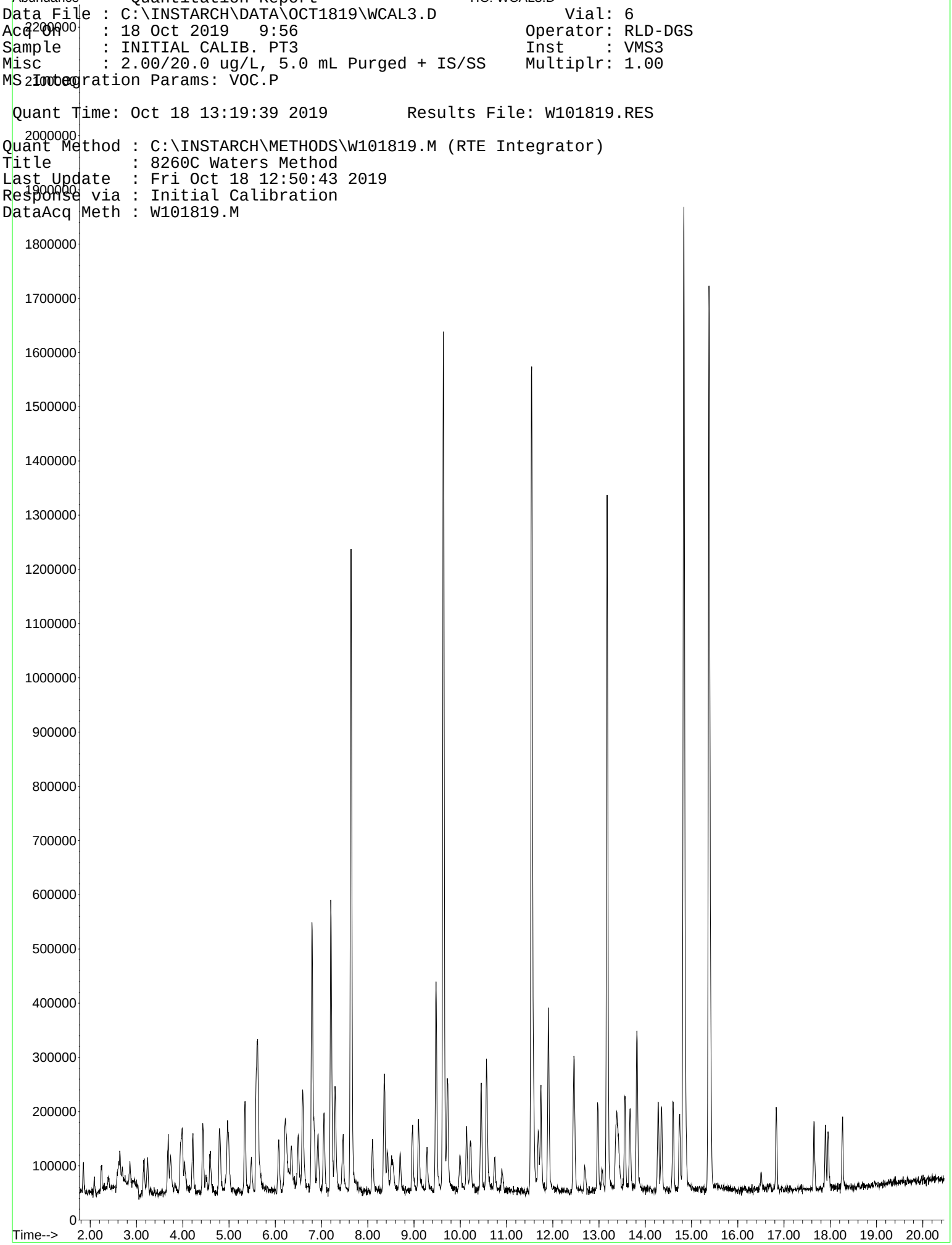
Quantitation Report

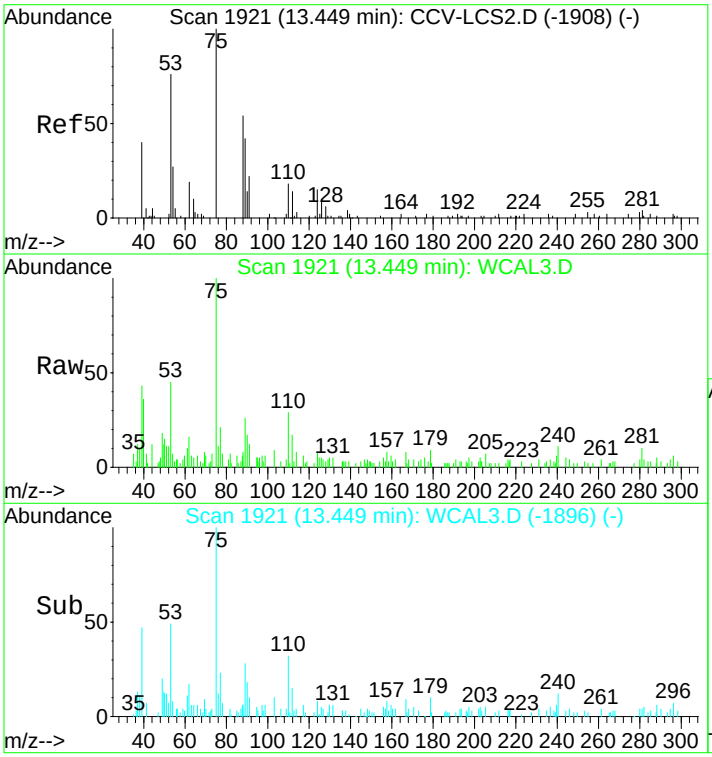
TIC: WCAL3.D

Data File : C:\INSTARCH\DATA\OCT1819\WCAL3.D Vial: 6
Acq On : 18 Oct 2019 9:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:19:39 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:50:43 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

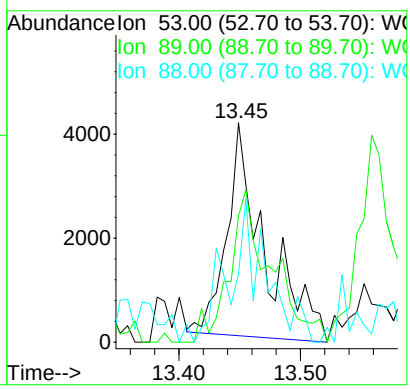




#87
14dichloro2butene
Concen: 2.18 ug/L m
RT: 13.45 min Scan# 1921
Delta R.T. 0.00 min
Lab File: WCAL3.D
Acq: 18 Oct 2019 9:56

Tgt Ion: 53 Resp: 8809

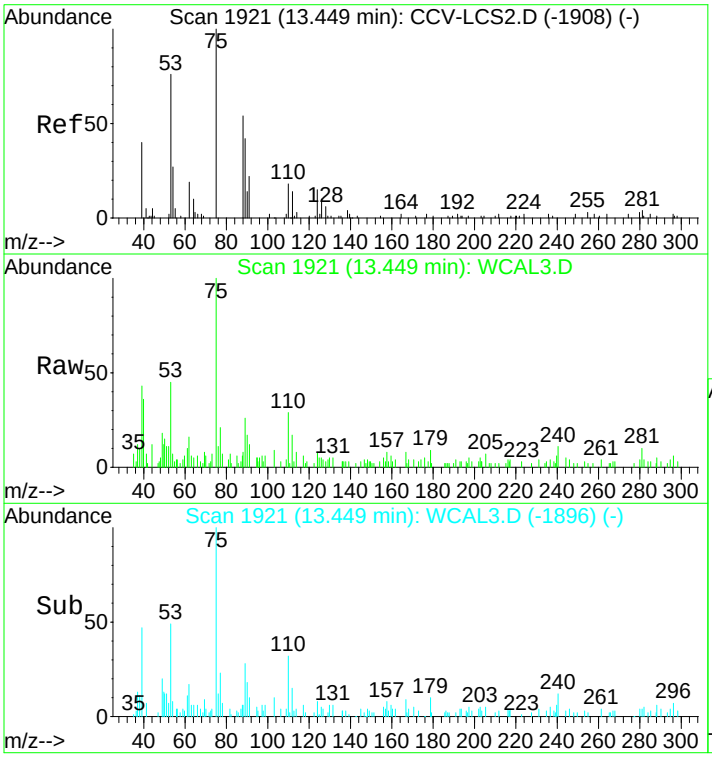
Ion	Ratio	Lower	Upper
53	100		
89	79.3	43.8	83.8
88	47.3	33.8	73.8



After Manual Integration

RJ 11/22/2019

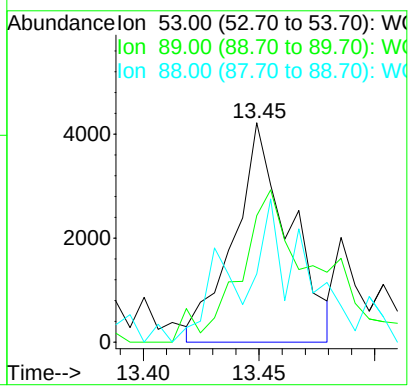
BMS 11/22/2019



#87
14dichloro2butene
Concen: 1.34 ug/L
RT: 13.45 min Scan# 1921
Delta R.T. 0.00 min
Lab File: WCAL3.D
Acq: 18 Oct 2019 9:56

Tgt Ion: 53 Resp: 7068

Ion	Ratio	Lower	Upper
53	100		
89	98.9	43.8	83.8#
88	58.9	33.8	73.8



Before Manual Integration

11/22/2019

REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL4.D Vial: 7
Acq On : 18 Oct 2019 10:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 09:46:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 07:36:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1020049	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	870097	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	519088	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	274270	20.326	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.21	102	73498	21.342	ug/L	0.01
Spiked Amount 20.000	Range 89 - 111		Recovery = 107	%		
61) SURRd8Tolule	9.63	98	1155262	21.443	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 107	%#		
83) SURR4BrFBenz	13.17	95	470827	20.156	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	68235	4.2547	ug/L	99
3) Chloromethan	2.09	50	71066	5.6746	ug/L	93
4) VinylChlorid	2.24	62	81993	5.7722	ug/L	97
5) Bromomethane	2.69	94	35600	4.5502	ug/L	94
6) Chloroethane	2.86	64	67508	6.0707	ug/L	97
7) Dichloroflmethane	3.16	67	151402	5.8883	ug/L	99
8) Trichlorofma	3.24	101	99539	4.0738	ug/L	92
9) Ethylether	3.68	59	53700	4.9081	ug/L	92
10) dichlorotfluoroethan	3.68	67	77198	5.0396	ug/L	92
11) propyleneoxide	3.73	58	135934	73.9318	ug/L	97
12) Acrolein	3.82	56	55167	26.7158	ug/L	95
13) 11dichlorthe	3.95	96	57858	4.2386	ug/L #	83
14) Trichlorotfluoroeth	3.99	101	98081	7.4900	ug/L	93
15) Acetone	4.03	43	208573	56.0667	ug/L	99
16) Iodomethane	4.12	142	17480	2.5753	ug/L	82
17) Carbon Dislf	4.21	76	331931	10.2222	ug/L	100
18) allylchloride	4.43	41	221435	13.2345	ug/L	94
19) methylacetate	4.50	74	36154	5.6231	ug/L	98
20) Methylchlorid	4.60	84	87002	5.6867	ug/L	96
21) tbutylalcohol	4.80	59	359856	277.7741	ug/L	86
22) Acrylonitrile	4.91	53	99028	26.1516	ug/L	94
23) t12dichlorte	4.96	96	75815	5.0831	ug/L	93
24) MtBE	4.99	73	206201	4.9059	ug/L	95
25) Hexane	5.35	57	170275	10.6970	ug/L	97
26) 11dichlorota	5.48	63	149316	5.8313	ug/L	98
27) Vinylacetate	5.58	43	1118720	78.8049	ug/L	95
28) chloroprene	5.61	53	214082	11.4546	ug/L	92
29) Diisopether	5.63	45	234308	6.1778	ug/L	90
30) ETBE	6.08	59	194440	5.1445	ug/L	92
31) 22dichloropr	6.21	77	117076	5.3191	ug/L	99
32) c12dichlorte	6.22	96	86037	5.1825	ug/L #	86
33) 2Butanone	6.24	72	87069	49.4801	ug/L	94
34) propionitrile	6.28	54	96612	59.4374	ug/L	96
35) Ethylacetate	6.34	88	16534	25.5059	ug/L #	79
36) methacrylonitrile	6.49	67	70864	11.9005	ug/L	92
37) Bromochlorma	6.50	128	39891	5.4040	ug/L	87
38) Tetrahydofur	6.59	42	239749	63.5394	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL4.D Vial: 7
Acq On : 18 Oct 2019 10:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 09:46:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 07:36:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.60	83	155979	5.6130	ug/L		96
40)	111trichlota	6.84	97	122464	4.9224	ug/L		98
42)	Cyclohexane	6.92	56	86665	4.0062	ug/L		95
43)	Carbtetraclo	7.06	119	92306	4.5869	ug/L		97
44)	11dicloprope	7.05	110	31456	4.3238	ug/L		90
46)	Benzene	7.30	78	326912	5.7378	ug/L		98
47)	12dichlorota	7.30	62	127661	6.1019	ug/L		98
48)	TAME	7.47	73	198095	4.9231	ug/L		92
49)	trichloroete	8.11	95	84804	4.7562	ug/L		90
50)	methylcyclohexane	8.36	83	113082	4.5412	ug/L		92
51)	12dicloropra	8.36	63	88860	5.7612	ug/L		98
52)	23Dicl1propene	8.42	75	125075	5.4888	ug/L		95
53)	Dibromometha	8.51	93	54021	5.3880	ug/L		92
54)	methylmethacrylate	8.53	69	56340	5.6325	ug/L		93
55)	14dioxane	8.55	88	46171	263.3546	ug/L		94
56)	Bromodiclrma	8.70	83	128325	6.2498	ug/L		96
57)	2Nitropropane	8.97	43	265160	80.3379	ug/L		99
58)	2CLEVE	9.09	63	185601	32.3774	ug/L		96
59)	c13dicloproe	9.28	75	139351	5.8429	ug/L		93
60)	4Meth2Pentan	9.48	43	777008	68.0908	ug/L		94
62)	Toluene	9.72	92	236495	5.8432	ug/L		99
63)	t13Dicloprop	9.99	75	120396	5.9104	ug/L		98
64)	ethylmethacrylate	10.13	69	214605	12.7232	ug/L		95
65)	112Triclotha	10.22	83	71119	6.0382	ug/L		96
66)	Tetrachlorte	10.45	166	84168	4.6487	ug/L		98
67)	13Diclorpropa	10.45	76	156568	6.3291	ug/L		97
69)	2Hexanone	10.57	43	544191	65.7553	ug/L		98
70)	Clorodibrmta	10.74	129	83574	5.7355	ug/L		97
71)	12Dibrometha	10.90	107	79653	5.5255	ug/L		97
72)	Chlorobenzen	11.58	112	225813	5.3789	ug/L		94
73)	1Clhexane	11.56	91	94807	4.2346	ug/L		86
74)	1112Tetclota	11.68	131	81012	5.4315	ug/L		97
75)	Ethylbenzene	11.74	91	387416	5.4774	ug/L		97
76)	m p-Xylene	11.91	106	286713	10.7725	ug/L		96
77)	o-Xylene	12.45	106	131346	4.8852	ug/L		91
78)	Styrene	12.47	104	215335	5.0070	ug/L		100
79)	Bromoform	12.70	173	57231	5.5273	ug/L		98
80)	Isopropylben	12.97	105	312784	4.8732	ug/L		100
81)	cyclohexanone	13.07	55	58113	104.6664	ug/L		93
84)	Bromobenzene	13.38	156	93323	4.9071	ug/L	#	82
85)	1122Tetrclta	13.36	83	127873	6.5418	ug/L		99
86)	123Triclproa	13.42	75	137040	5.4947	ug/L		95
87)	14dichloro2butene	13.45	53	22523	4.9218	ug/L		95
88)	n-Propylbenz	13.56	91	419311	5.4599	ug/L		93
89)	2chlorotolue	13.67	91	259681	5.3643	ug/L		96
90)	4chlorotolue	13.82	91	318321	5.8099	ug/L		96
91)	135Trimebenz	13.81	105	284456	5.1514	ug/L		98
92)	tbutylbenzen	14.28	119	211765	4.4526	ug/L		96
93)	124Trimetben	14.35	105	289515	5.2491	ug/L		96
94)	sbutylbenzen	14.60	105	323733	4.8676	ug/L		94
95)	13Diclorbenz	14.74	146	171171	5.1201	ug/L		99
96)	pIsopropylto	14.81	119	284906	4.9428	ug/L		93
97)	14dichlorobe	14.87	146	185883	5.3165	ug/L		99
98)	12dichlorobe	15.41	146	168377	5.1236	ug/L		92
99)	nButylbenzen	15.41	91	290689	5.2262	ug/L		94
100)	12dibromo3cl	16.51	157	24200	5.6528	ug/L		93
101)	135Trichlorobenzene	16.83	180	122576	4.6777	ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

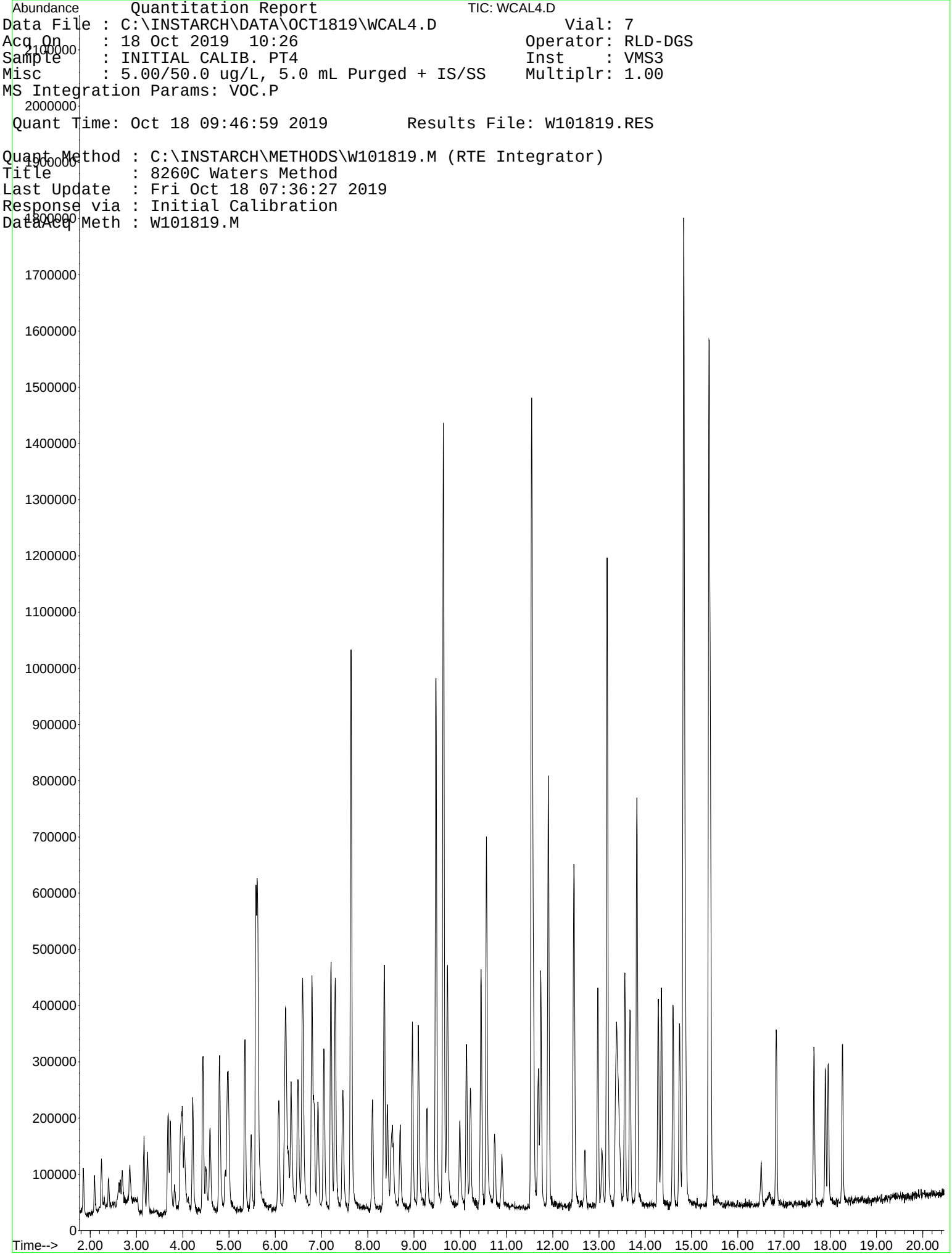
Data File : C:\INSTARCH\DATA\OCT1819\WCAL4.D Vial: 7
Acq On : 18 Oct 2019 10:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 09:46:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 07:36:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	101131	4.4256	ug/L	95
103) Hexachlorobu	17.90	225	54123	4.0686	ug/L	98
104) Naphthalene	17.96	128	232974	4.6106	ug/L	98
105) 123Trichlben	18.26	180	97763	4.5220	ug/L	97

(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: WCAL4.D
Data File : C:\INSTARCH\DATA\OCT1819\WCAL4.D Vial: 7
Acq On : 18 Oct 2019 10:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Oct 18 09:46:59 2019 Results File: W101819.RES
Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 07:36:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
2100000
2000000
1900000
1800000
1700000
1600000
1500000
1400000
1300000
1200000
1100000
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL5.D Vial: 8
Acq On : 18 Oct 2019 10:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:17 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1254694	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1008187	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	613456	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	337581	19.662	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98	%		
45) SURR12DCAd4	7.20	102	91413	20.037	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100	%		
61) SURRd8Tolule	9.63	98	1350184	19.866	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.18	95	546212	20.005	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	251256	11.8955	ug/L	100
3) Chloromethan	2.09	50	189408	9.6615	ug/L	100
4) VinylChlorid	2.24	62	233699	10.5833	ug/L	100
5) Bromomethane	2.69	94	93983	11.1762	ug/L	100
6) Chloroethane	2.86	64	178594	9.5733	ug/L	100
7) Dichloroflmethane	3.16	67	377125	9.5269	ug/L	100
8) Trichlorofma	3.23	101	313322	11.0760	ug/L	100
9) Ethylether	3.68	59	136097	9.6049	ug/L	100
10) dichlorotfluoroethan	3.68	67	228794	10.7275	ug/L	100
11) propyleneoxide	3.73	58	309220	89.4651	ug/L	99
12) Acrolein	3.82	56	126639	52.9935	ug/L	100
13) 11dichlorthe	3.95	96	173031	10.4962	ug/L	100
14) Trichlorotfluoroeth	3.99	101	317712	23.7261	ug/L	100
15) Acetone	4.03	43	492723	95.0430	ug/L	100
16) Iodomethane	4.12	142	84671	29.9123	ug/L	100
17) Carbon Dislf	4.21	76	891960	20.2569	ug/L	100
18) allylchloride	4.43	41	512562	20.0876	ug/L	100
19) methylacetate	4.49	74	79279	9.1777	ug/L	100
20) Methylchlorid	4.59	84	198204	8.2265	ug/L	100
21) tbutylalcohol	4.79	59	820111	472.0008	ug/L	100
22) Acrylonitrile	4.90	53	246094	75.2934	ug/L	99
23) t12dichlorte	4.96	96	191448	9.8872	ug/L	100
24) MtBE	4.99	73	509280	10.0295	ug/L	100
25) Hexane	5.35	57	556018	25.9390	ug/L	100
26) 11dichlorota	5.48	63	340853	8.8688	ug/L	100
27) Vinylacetate	5.58	43	2264879	101.4604	ug/L	100
28) chloroprene	5.61	53	551455	22.0661	ug/L	100
29) Diisopether	5.63	45	531861	10.1673	ug/L	100
30) ETBE	6.08	59	459641	9.7471	ug/L	100
31) 22dichloropr	6.21	77	299554	9.9472	ug/L	100
32) c12dichlorte	6.22	96	214523	10.2367	ug/L	100
33) 2Butanone	6.23	72	223659	112.5927	ug/L	100
34) propionitrile	6.27	54	229079	189.6811	ug/L	100
35) Ethylacetate	6.34	88	36146	51.6055	ug/L	98
36) methacrylonitrile	6.48	67	169120	21.6839	ug/L	100
37) Bromochlorma	6.49	128	90985	8.6113	ug/L	100
38) Tetrahydofur	6.59	42	491483	97.7278	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL5.D Vial: 8
Acq On : 18 Oct 2019 10:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:17 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	366384	9.2379	ug/L	100
40)	111trichlota	6.84	97	322721	9.7037	ug/L	100
42)	Cyclohexane	6.93	56	285078	12.4352	ug/L	100
43)	Carbtetraclo	7.06	119	263500	11.0445	ug/L	100
44)	11dicloprope	7.05	110	90873	10.7390	ug/L	100
46)	Benzene	7.29	78	781957	9.1852	ug/L	100
47)	12dichlorota	7.30	62	260522	8.9341	ug/L	99
48)	TAME	7.46	73	462929	9.8406	ug/L	100
49)	trichloroete	8.10	95	207901	9.8247	ug/L	100
50)	methylcyclohexane	8.36	83	386036	13.0766	ug/L	100
51)	12dicloropra	8.36	63	205434	9.9927	ug/L	100
52)	23Dicl1propene	8.43	75	287991	9.9072	ug/L	100
53)	Dibromometha	8.50	93	130220	10.1631	ug/L	100
54)	methylmethacrylate	8.53	69	126212	10.4441	ug/L	100
55)	14dioxane	8.55	88	112136	506.7302	ug/L	99
56)	Bromodiclrma	8.70	83	271249	9.1392	ug/L	100
57)	2Nitropropane	8.97	43	550412	98.1284	ug/L	100
58)	2CLEVE	9.09	63	452132	52.0058	ug/L	100
59)	c13dicloproe	9.28	75	312147	10.0716	ug/L	100
60)	4Meth2Pentan	9.47	43	1559438	96.1182	ug/L	100
62)	Toluene	9.73	92	529288	9.4914	ug/L	100
63)	t13Dicloprop	9.99	75	272086	9.8805	ug/L	100
64)	ethylmethacrylate	10.13	69	483552	20.4044	ug/L	100
65)	112Triclotha	10.22	83	157613	9.0452	ug/L	100
66)	Tetrachlorte	10.45	166	218333	10.0564	ug/L	100
67)	13Diclorpropa	10.44	76	329669	9.3215	ug/L	100
69)	2Hexanone	10.57	43	1163048	102.1462	ug/L	100
70)	Clorodibrmta	10.74	129	187575	9.5519	ug/L	100
71)	12Dibrometha	10.90	107	166141	9.0757	ug/L	100
72)	Chlorobenzen	11.58	112	516300	9.2749	ug/L	100
73)	1Clhexane	11.56	91	257527	10.8408	ug/L	100
74)	1112Tetclota	11.68	131	186097	9.8755	ug/L	100
75)	Ethylbenzene	11.74	91	896107	9.9496	ug/L	100
76)	m p-Xylene	11.90	106	683668	20.9506	ug/L	100
77)	o-Xylene	12.45	106	325535	10.6743	ug/L	100
78)	Styrene	12.47	104	530858	11.0904	ug/L	100
79)	Bromoform	12.70	173	137399	10.1774	ug/L	100
80)	Isopropylben	12.97	105	794569	10.9973	ug/L	100
81)	cyclohexanone	13.06	55	126423	201.7749	ug/L	100
84)	Bromobenzene	13.38	156	213549	9.0607	ug/L	100
85)	1122Tetrclta	13.36	83	257808	7.9418	ug/L	100
86)	123Triclproa	13.42	75	310070	9.5363	ug/L	100
87)	14dichloro2butene	13.45	53	51958	12.1098	ug/L	100
88)	n-Propylbenz	13.56	91	1025309	10.5836	ug/L	100
89)	2chlorotolue	13.67	91	611929	9.7988	ug/L	100
90)	4chlorotolue	13.82	91	727368	10.3754	ug/L	100
91)	135Trimebenz	13.81	105	707938	10.9081	ug/L	100
92)	tbutylbenzen	14.28	119	578969	11.5232	ug/L	100
93)	124Trimetben	14.35	105	710546	10.9088	ug/L	100
94)	sbutylbenzen	14.60	105	854468	11.4681	ug/L	100
95)	13Diclorbenz	14.74	146	407952	9.7249	ug/L	100
96)	pIsopropylto	14.82	119	739554	11.2755	ug/L	100
97)	14dichlorobe	14.87	146	429380	9.4212	ug/L	100
98)	12dichlorobe	15.41	146	386399	8.8570	ug/L	100
99)	nButylbenzen	15.41	91	738950	10.1817	ug/L	100
100)	12dibromo3cl	16.50	157	53943	9.5928	ug/L	100
101)	135Trichlorobenzene	16.83	180	287584	9.0950	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL5.D Vial: 8
Acq On : 18 Oct 2019 10:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:17 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	244849	9.7892	ug/L	100
103) Hexachlorobu	17.90	225	144129	10.0651	ug/L	100
104) Naphthalene	17.96	128	546851	10.0609	ug/L	100
105) 123Trichlben	18.26	180	243137	9.7872	ug/L	100

(#) = qualifier out of range (m) = manual integration

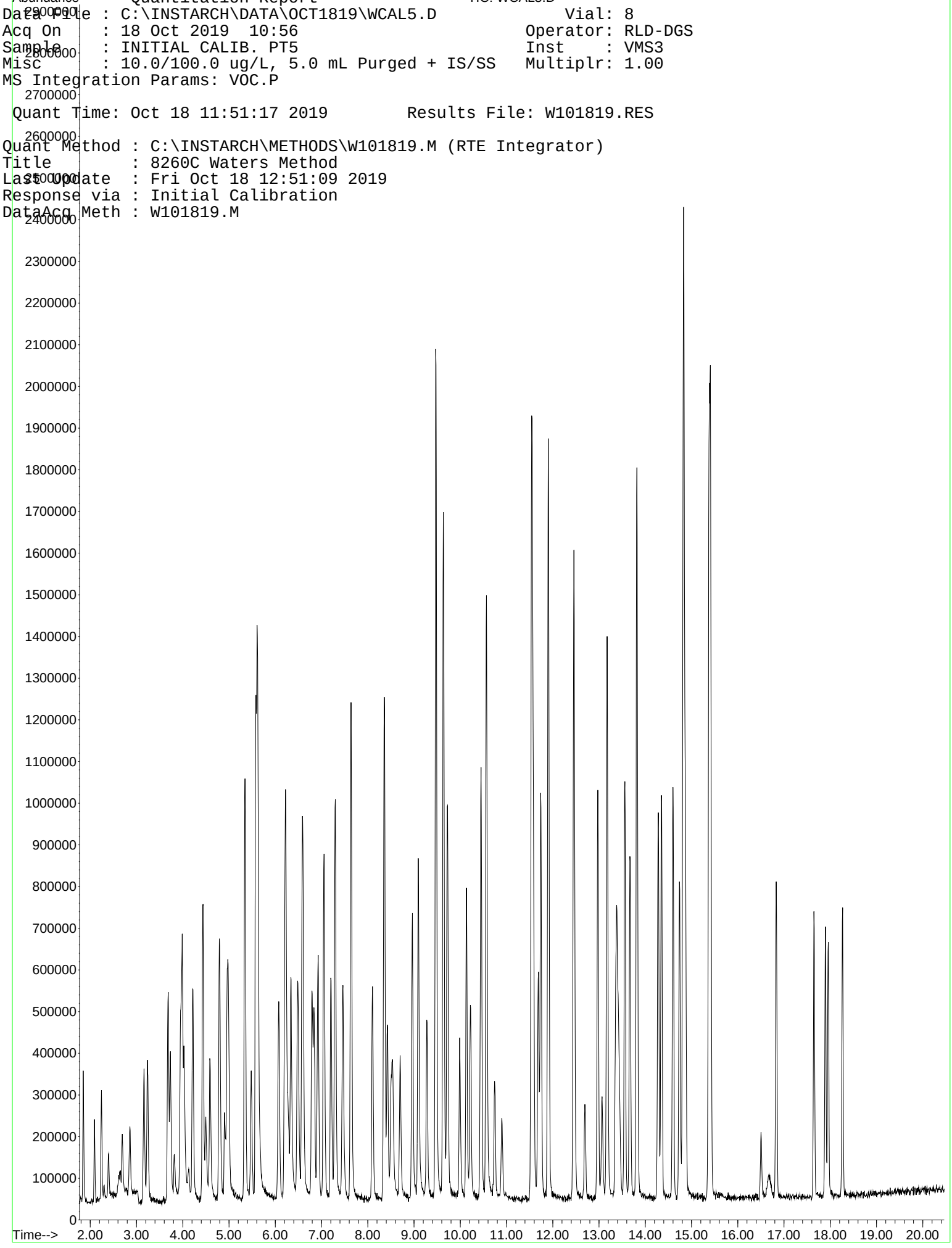
Quantitation Report

TIC: WCAL5.D

Data File : C:\INSTARCH\DATA\OCT1819\WCAL5.D Vial: 8
Acq On : 18 Oct 2019 10:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:17 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:09 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL6.D Vial: 9
Acq On : 18 Oct 2019 11:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1359240	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1093166	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	673948	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	365748	19.664	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.21	102	102050	20.648	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103 %			
61) SURRd8Tolule	9.63	98	1460589	19.838	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.18	95	597737	19.927	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	512065	22.3786	ug/L	95
3) Chloromethan	2.09	50	379173	17.8535	ug/L	97
4) VinylChlorid	2.24	62	494626	20.6768	ug/L	99
5) Bromomethane	2.69	94	216987	23.7963	ug/L	90
6) Chloroethane	2.86	64	370464	18.3308	ug/L	96
7) Dichloroflmethane	3.16	67	779287	18.1721	ug/L	97
8) Trichlorofma	3.24	101	668516	21.8145	ug/L	98
9) Ethylether	3.68	59	314671	20.4995	ug/L	97
10) dichlorotfluoroethan	3.68	67	493714	21.3762	ug/L	97
11) propyleneoxide	3.73	58	720314	192.0249	ug/L	96
12) Acrolein	3.81	56	293809	113.4912	ug/L	98
13) 11dichlorthe	3.95	96	381461	21.3599	ug/L	96
14) Trichlorotfluoroeth	3.98	101	681949	47.0096	ug/L	99
15) Acetone	4.03	43	1090629	194.1941	ug/L	94
16) Iodomethane	4.13	142	296261	96.6121	ug/L	96
17) Carbon Dislf	4.21	76	1813962	38.0275	ug/L	98
18) allylchloride	4.43	41	1131807	40.9444	ug/L	98
19) methylacetate	4.49	74	185750	19.8492	ug/L	99
20) Methylchlorid	4.59	84	447328	17.1383	ug/L	95
21) tbutylalcohol	4.79	59	1865469	991.0596	ug/L	99
22) Acrylonitrile	4.90	53	598303	168.9736	ug/L	98
23) t12dichlorte	4.96	96	432342	20.6106	ug/L	98
24) MtBE	4.99	73	1126862	20.4850	ug/L	99
25) Hexane	5.35	57	1179811	50.8063	ug/L	98
26) 11dichlorota	5.48	63	738220	17.7306	ug/L	99
27) Vinylacetate	5.58	43	4634035	191.6252	ug/L	94
28) chloroprene	5.61	53	1178556	43.5509	ug/L	96
29) Diisopether	5.63	45	1150169	20.2960	ug/L	96
30) ETBE	6.08	59	1026488	20.0934	ug/L	98
31) 22dichloropr	6.22	77	658146	20.1739	ug/L	100
32) c12dichlorte	6.21	96	476389	20.9842	ug/L	98
33) 2Butanone	6.23	72	561224	260.6370	ug/L	94
34) propionitrile	6.27	54	541348	415.9907	ug/L	93
35) Ethylacetate	6.34	88	80989	106.5471	ug/L	95
36) methacrylonitrile	6.48	67	398751	47.1939	ug/L	99
37) Bromochlorma	6.50	128	210378	18.3798	ug/L	94
38) Tetrahydofur	6.58	42	1118033	205.2136	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL6.D Vial: 9
Acq On : 18 Oct 2019 11:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	785588	18.2899	ug/L	99
40)	111trichlota	6.84	97	698094	19.3760	ug/L	97
42)	Cyclohexane	6.92	56	634907	25.5648	ug/L	98
43)	Carbtetraclo	7.06	119	567729	21.9658	ug/L	99
44)	11dicloprope	7.04	110	204204	22.2759	ug/L	99
46)	Benzene	7.29	78	1649358	17.8869	ug/L	98
47)	12dichlorota	7.30	62	566617	17.9364	ug/L	97
48)	TAME	7.46	73	1067684	20.9504	ug/L	97
49)	trichloroete	8.10	95	441669	19.2665	ug/L	92
50)	methylcyclohexane	8.36	83	846637	26.4732	ug/L	98
51)	12dicloropra	8.36	63	464807	20.8700	ug/L	93
52)	23Dicl1propene	8.42	75	667666	21.2018	ug/L	98
53)	Dibromometha	8.50	93	282745	20.3697	ug/L	95
54)	methylmethacrylate	8.53	69	302954	23.1413	ug/L	99
55)	14dioxane	8.55	88	271686	1133.2890	ug/L	97
56)	Bromodiclrma	8.70	83	603427	18.7676	ug/L	99
57)	2Nitropropane	8.97	43	1287659	211.9090	ug/L	96
58)	2CLEVE	9.09	63	1070319	113.6426	ug/L	97
59)	c13dicloproe	9.28	75	711188	21.1820	ug/L	95
60)	4Meth2Pentan	9.47	43	3118988	177.4825	ug/L	93
62)	Toluene	9.72	92	1142118	18.9056	ug/L	97
63)	t13Dicloprop	9.99	75	649618	21.7757	ug/L	97
64)	ethylmethacrylate	10.13	69	1119227	43.6098	ug/L	99
65)	112Triclotha	10.22	83	336115	17.8055	ug/L	97
66)	Tetrachlorte	10.46	166	483333	20.5500	ug/L	99
67)	13Diclorpropa	10.44	76	707666	18.4704	ug/L	97
69)	2Hexanone	10.57	43	2437683	197.4499	ug/L	95
70)	Clorodibrmta	10.74	129	411421	19.3223	ug/L	97
71)	12Dibrometha	10.90	107	395802	19.9390	ug/L	95
72)	Chlorobenzen	11.58	112	1117051	18.5070	ug/L	99
73)	1Clhexane	11.56	91	589796	22.8978	ug/L	94
74)	1112Tetclota	11.69	131	410757	20.1030	ug/L	99
75)	Ethylbenzene	11.74	91	1926939	19.7319	ug/L	97
76)	m p-Xylene	11.90	106	1480280	41.8359	ug/L	93
77)	o-Xylene	12.45	106	721592	21.8218	ug/L	99
78)	Styrene	12.46	104	1197050	23.0642	ug/L	99
79)	Bromoform	12.69	173	303738	20.7495	ug/L	98
80)	Isopropylben	12.97	105	1723868	22.0046	ug/L	97
81)	cyclohexanone	13.06	55	307875	453.1798	ug/L	96
84)	Bromobenzene	13.38	156	484479	18.7110	ug/L	95
85)	1122Tetrclta	13.36	83	565845	15.8663	ug/L	97
86)	123Triclproa	13.42	75	695220	19.4625	ug/L	100
87)	14dichloro2butene	13.44	53	127317	27.0101	ug/L	94
88)	n-Propylbenz	13.56	91	2154443	20.2429	ug/L	96
89)	2chlorotolue	13.67	91	1323642	19.2930	ug/L	97
90)	4chlorotolue	13.82	91	1538374	19.9743	ug/L	96
91)	135Trimebenz	13.81	105	1534026	21.5152	ug/L	96
92)	tbutylbenzen	14.28	119	1276473	23.1253	ug/L	96
93)	124Trimetben	14.35	105	1524351	21.3024	ug/L	95
94)	sbutylbenzen	14.60	105	1825384	22.3000	ug/L	99
95)	13Diclorbenz	14.74	146	889967	19.3111	ug/L	98
96)	pIsopropylto	14.82	119	1620272	22.4859	ug/L	98
97)	14dichlorobe	14.87	146	921457	18.4033	ug/L	98
98)	12dichlorobe	15.41	146	848402	17.6926	ug/L	99
99)	nButylbenzen	15.41	91	1593348	19.9836	ug/L	98
100)	12dibromo3cl	16.51	157	119453	19.3359	ug/L	87
101)	135Trichlorobenzene	16.83	180	651459	18.7535	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL6.D Vial: 9
Acq On : 18 Oct 2019 11:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	578152	21.0401	ug/L	98
103) Hexachlorobu	17.90	225	312014	19.8335	ug/L	98
104) Naphthalene	17.96	128	1306169	21.8737	ug/L	98
105) 123Trichlben	18.26	180	551787	20.2178	ug/L	98

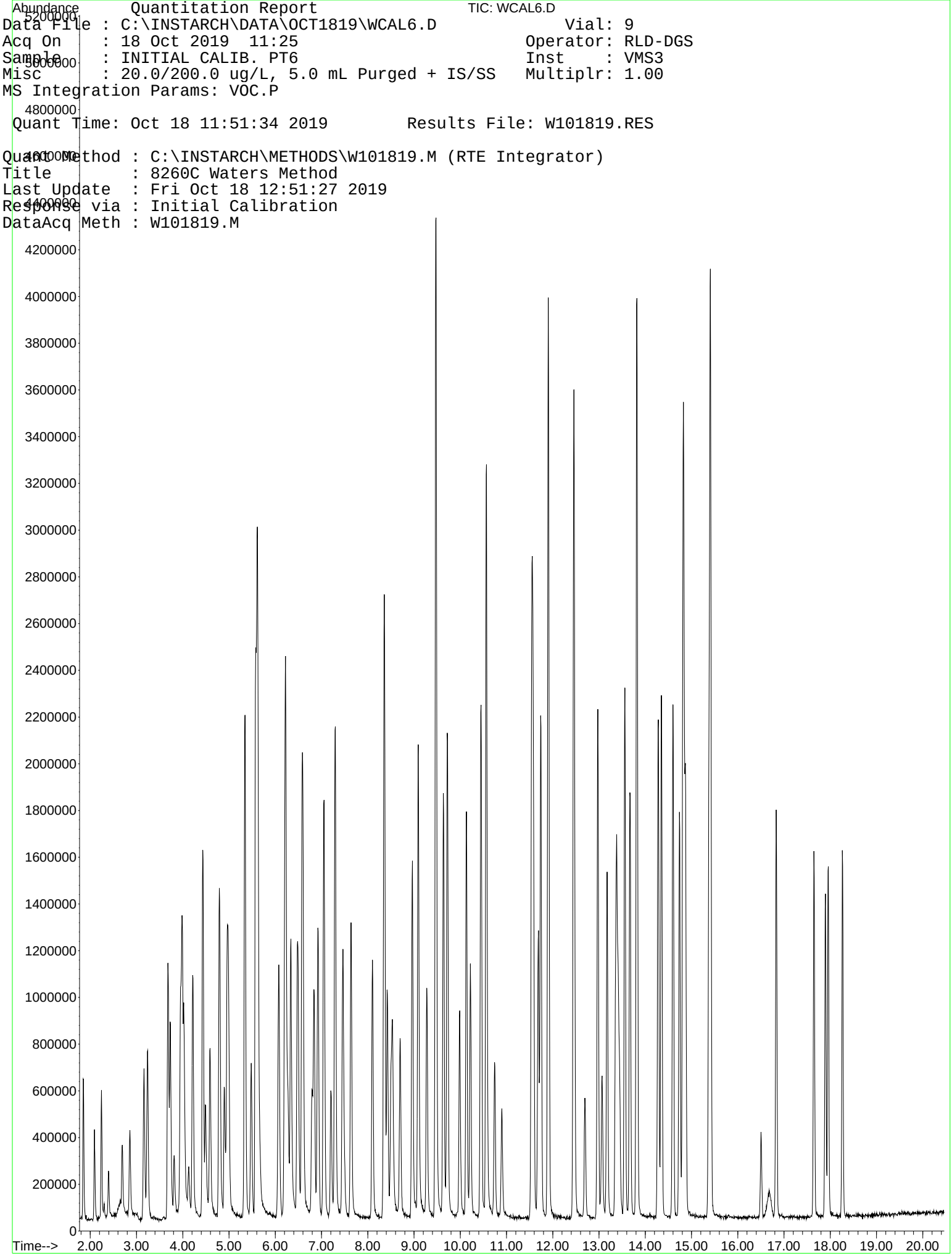
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: WCAL6.D)

Data File : C:\INSTARCH\DATA\OCT1819\WCAL6.D Vial: 9
Acq On : 18 Oct 2019 11:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:27 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL7.D Vial: 10
Acq On : 18 Oct 2019 11:55 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:52 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:44 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1230750	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1017811	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	650794	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	318905	18.989	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 95	%		
45) SURR12DCAd4	7.21	102	88861	19.750	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.63	98	1350966	20.292	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.18	95	578142	19.971	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	590610	27.9518	ug/L	97
3) Chloromethan	2.09	50	457494	24.2235	ug/L	99
4) VinylChlorid	2.24	62	586401	26.9206	ug/L	99
5) Bromomethane	2.69	94	270096	31.5165	ug/L	82
6) Chloroethane	2.86	64	442590	24.5966	ug/L	96
7) Dichloroflmethane	3.16	67	940738	24.6019	ug/L	97
8) Trichlorofma	3.24	101	773544	27.4617	ug/L	99
9) Ethylether	3.68	59	397613	28.4885	ug/L	95
10) dichlorotfluoroethan	3.68	67	617202	29.1781	ug/L	95
11) propyleneoxide	3.73	58	959063	284.6338	ug/L	100
12) Acrolein	3.81	56	348307	144.6847	ug/L	98
13) 11dichlorthe	3.95	96	462288	28.2680	ug/L	97
14) Trichlorotfluoroeth	3.99	101	814833	60.2736	ug/L	97
15) Acetone	4.03	43	1445326	285.5996	ug/L	100
16) Iodomethane	4.13	142	446163	125.2362	ug/L	97
17) Carbon Dislf	4.21	76	2206766	51.5153	ug/L	97
18) allylchloride	4.43	41	1456369	57.9581	ug/L	98
19) methylacetate	4.49	74	242010	28.6042	ug/L	100
20) Methylchlorid	4.59	84	540051	23.4092	ug/L	98
21) tbutylalcohol	4.79	59	2381840	1399.5816	ug/L	99
22) Acrylonitrile	4.90	53	801116	219.5823	ug/L	96
23) t12dichlorte	4.96	96	529100	27.7155	ug/L	98
24) MtBE	4.99	73	1400801	28.0102	ug/L	95
25) Hexane	5.35	57	1548869	70.4886	ug/L	97
26) 11dichlorota	5.48	63	952964	25.7651	ug/L	98
27) Vinylacetate	5.58	43	6079207	279.5813	ug/L	92
28) chloroprene	5.61	53	1529980	61.5291	ug/L	98
29) Diisopether	5.63	45	1552672	30.1845	ug/L	99
30) ETBE	6.08	59	1365092	29.4883	ug/L	98
31) 22dichloropr	6.21	77	847301	28.6419	ug/L	98
32) c12dichlorte	6.21	96	600887	28.9936	ug/L	94
33) 2Butanone	6.23	72	733347	354.6246	ug/L	98
34) propionitrile	6.28	54	740572	516.8570	ug/L	97
35) Ethylacetate	6.34	88	118140	169.4295	ug/L	95
36) methacrylonitrile	6.47	67	551514	69.5857	ug/L	98
37) Bromochlorma	6.50	128	260005	25.4303	ug/L	97
38) Tetrahydofur	6.58	42	1536842	310.1874	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL7.D Vial: 10
Acq On : 18 Oct 2019 11:55 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:52 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:44 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	1007944	26.2913	ug/L	99
40)	111trichlota	6.84	97	902757	27.8171	ug/L	97
42)	Cyclohexane	6.92	56	864010	36.7190	ug/L	97
43)	Carbtetraclo	7.05	119	745894	31.3583	ug/L	97
44)	11dicloprope	7.05	110	261591	30.8139	ug/L	96
46)	Benzene	7.29	78	2116131	25.7991	ug/L	98
47)	12dichlorota	7.30	62	793103	28.2121	ug/L	98
48)	TAME	7.46	73	1454305	31.2683	ug/L	99
49)	trichloroete	8.10	95	585302	28.3710	ug/L	94
50)	methylcyclohexane	8.36	83	1128995	36.9922	ug/L	97
51)	12dicloropra	8.36	63	623599	30.7005	ug/L	90
52)	23Dicl1propene	8.42	75	877444	30.4068	ug/L	99
53)	Dibromometha	8.50	93	375504	29.7665	ug/L	96
54)	methylmethacrylate	8.53	69	429559	35.1340	ug/L	98
55)	14dioxane	8.55	88	343030	1539.2391	ug/L	99
56)	Bromodiclrma	8.70	83	804831	27.9317	ug/L	99
57)	2Nitropropane	8.97	43	1825852	328.5879	ug/L	96
58)	2CLEVE	9.09	63	1611358	183.9312	ug/L	96
59)	c13dicloproe	9.28	75	959224	31.2444	ug/L	97
60)	4Meth2Pentan	9.48	43	4143977	265.4070	ug/L	89
62)	Toluene	9.72	92	1504240	27.7525	ug/L	95
63)	t13Dicloprop	9.99	75	877815	32.0231	ug/L	97
64)	ethylmethacrylate	10.13	69	1579717	66.7733	ug/L	97
65)	112Triclotha	10.22	83	466712	27.9176	ug/L	98
66)	Tetrachlorte	10.45	166	626427	29.2804	ug/L	97
67)	13Diclorpropa	10.44	76	971306	28.3597	ug/L	96
69)	2Hexanone	10.57	43	3343567	291.6202	ug/L	92
70)	Clorodibrmta	10.74	129	556404	28.2254	ug/L	96
71)	12Dibrometha	10.90	107	522239	28.2705	ug/L	99
72)	Chlorobenzen	11.58	112	1480139	26.6699	ug/L	100
73)	1Clhexane	11.56	91	825330	33.6028	ug/L	96
74)	1112Tetclota	11.68	131	563849	29.6081	ug/L	99
75)	Ethylbenzene	11.74	91	2512926	27.6995	ug/L	94
76)	m p-Xylene	11.90	106	1930133	58.1436	ug/L	92
77)	o-Xylene	12.45	106	1014111	32.4459	ug/L	96
78)	Styrene	12.46	104	1644267	33.1793	ug/L	97
79)	Bromoform	12.69	173	413730	30.1301	ug/L	94
80)	Isopropylben	12.97	105	2334215	31.4756	ug/L	94
81)	cyclohexanone	13.06	55	441166	679.3915	ug/L	99
84)	Bromobenzene	13.38	156	656042	26.5232	ug/L	99
85)	1122Tetrclta	13.36	83	805818	24.2339	ug/L	98
86)	123Triclproa	13.42	75	1010285	29.4472	ug/L	96
87)	14dichloro2butene	13.45	53	182357	37.4387	ug/L	95
88)	n-Propylbenz	13.56	91	2875345	27.9211	ug/L	93
89)	2chlorotolue	13.67	91	1804930	27.4056	ug/L	96
90)	4chlorotolue	13.82	91	2104447	28.3024	ug/L	97
91)	135Trimebenz	13.81	105	2084000	29.8912	ug/L	95
92)	tbutylbenzen	14.28	119	1764760	32.2684	ug/L	95
93)	124Trimetben	14.35	105	2069911	29.6339	ug/L	95
94)	sbutylbenzen	14.60	105	2509596	31.1525	ug/L	96
95)	13Diclorbenz	14.74	146	1218922	27.5482	ug/L	97
96)	pIsopropylto	14.82	119	2164158	30.4712	ug/L	95
97)	14dichlorobe	14.87	146	1261751	26.4481	ug/L	98
98)	12dichlorobe	15.41	146	1161876	25.5838	ug/L	99
99)	nButylbenzen	15.41	91	2180756	28.3278	ug/L	95
100)	12dibromo3cl	16.50	157	171178	28.8862	ug/L	95
101)	135Trichlorobenzene	16.83	180	911672	27.4632	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL7.D Vial: 10
Acq On : 18 Oct 2019 11:55 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:52 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:44 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.65	180	824098	30.7907 ug/L	96
103) Hexachlorobu	17.90	225	450993	29.7290 ug/L	97
104) Naphthalene	17.96	128	1894057	32.3423 ug/L	97
105) 123Trichlben	18.26	180	783747	29.6848 ug/L	96

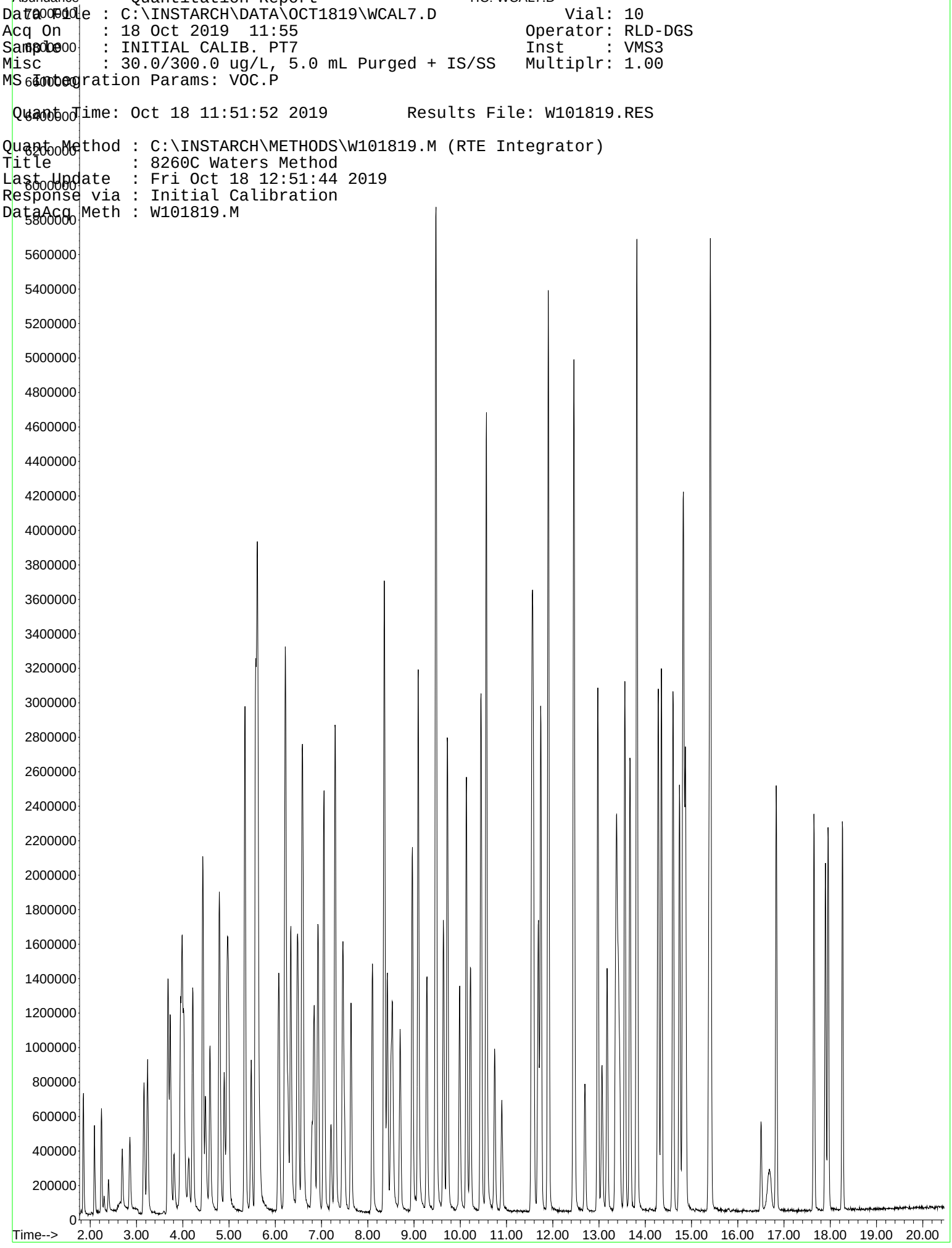
(#) = qualifier out of range (m) = manual integration

Quantitation Report (RTE Integrator)

Data File : C:\INSTARCH\DATA\OCT1819\WCAL7.D Vial: 10
Acq On : 18 Oct 2019 11:55 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 11:51:52 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:51:44 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL8.D Vial: 11
Acq On : 18 Oct 2019 12:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:21:24 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:21:20 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1434940	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1155706	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	755955	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.80	113	390645	20.105	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.21	102	100237	19.345	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 97	%		
61) SURRd8Tolule	9.63	98	1540756	19.787	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.18	95	654578	19.543	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	1009170	41.8769	ug/L	94
3) Chloromethan	2.08	50	761818	36.9698	ug/L	95
4) VinylChlorid	2.24	62	963793	39.4774	ug/L	96
5) Bromomethane	2.69	94	480534	45.4123	ug/L	90
6) Chloroethane	2.85	64	725490	37.2598	ug/L	94
7) Dichloroflmethane	3.16	67	1525218	36.5764	ug/L	95
8) Trichlorofma	3.23	101	1307116	40.8761	ug/L	98
9) Ethylether	3.68	59	645706	40.2611	ug/L	97
10) dichlorotfluoroethan	3.68	67	987520	40.5868	ug/L	97
11) propyleneoxide	3.73	58	1345442	360.8129	ug/L	99
12) Acrolein	3.81	56	554941	201.5818	ug/L	98
13) 11dichlorthe	3.95	96	784349	41.6423	ug/L	97
14) Trichlorotfluoroeth	3.99	101	1360496	86.0466	ug/L	97
15) Acetone	4.03	43	1949941	347.2299	ug/L	95
16) Iodomethane	4.13	142	934342	87.4977	ug/L	96
17) Carbon Dislf	4.21	76	3420247	73.3663	ug/L	94
18) allylchloride	4.43	41	2264849	79.1777	ug/L	97
19) methylacetate	4.49	74	369042	38.3271	ug/L	98
20) Methylchlorid	4.59	84	898287	36.7223	ug/L	98
21) tbutylalcohol	4.79	59	3213068	1724.4272	ug/L	100
22) Acrylonitrile	4.90	53	1144250	219.6661	ug/L	98
23) t12dichlorte	4.96	96	875165	40.2605	ug/L	100
24) MtBE	4.99	73	2241379	39.6190	ug/L	95
25) Hexane	5.35	57	2357950	88.6814	ug/L	95
26) 11dichlorota	5.48	63	1488194	36.5442	ug/L	96
27) Vinylacetate	5.58	43	7363989	318.3080	ug/L	87
28) chloroprene	5.61	53	2354491	81.6683	ug/L	94
29) Diisopether	5.63	45	2316286	39.2382	ug/L	93
30) ETBE	6.08	59	2117268	39.8564	ug/L	94
31) 22dichloropr	6.21	77	1343138	39.6559	ug/L	96
32) c12dichlorte	6.21	96	990482	41.2999	ug/L	100
33) 2Butanone	6.23	72	1007137	405.5169	ug/L	95
34) propionitrile	6.27	54	1025113	452.4953	ug/L	93
35) Ethylacetate	6.34	88	170058	202.3576	ug/L	95
36) methacrylonitrile	6.48	67	789528	82.3916	ug/L	100
37) Bromochlorma	6.50	128	435203	38.2734	ug/L	97
38) Tetrahydofur	6.57	42	1988519	355.8784	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL8.D Vial: 11
Acq On : 18 Oct 2019 12:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:21:24 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:21:20 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.60	83	1594698	37.4585	ug/L		97
40)	111trichlota	6.84	97	1436900	39.0007	ug/L		97
42)	Cyclohexane	6.93	56	1326127	45.2949	ug/L		98
43)	Carbtetraclo	7.06	119	1202756	42.6961	ug/L		95
44)	11dicloprope	7.05	110	436624	42.9949	ug/L		96
46)	Benzene	7.29	78	3146577	35.4084	ug/L		94
47)	12dichlorota	7.30	62	1208139	37.9417	ug/L		97
48)	TAME	7.46	73	2209538	40.7414	ug/L		95
49)	trichloroete	8.10	95	949145	40.0914	ug/L		94
50)	methylcyclohexane	8.36	83	1792717	46.9047	ug/L		98
51)	12dicloropra	8.36	63	958997	40.3832	ug/L		98
52)	23Dicl1propene	8.42	75	1402103	41.5426	ug/L		99
53)	Dibromometha	8.50	93	590076	40.3023	ug/L		95
54)	methylmethacrylate	8.53	69	626724	41.8892	ug/L		96
55)	14dioxane	8.55	88	505158	1949.2878	ug/L		98
56)	Bromodiclrma	8.70	83	1243963	38.0988	ug/L		98
57)	2Nitropropane	8.97	43	2344747	367.7988	ug/L		97
58)	2CLEVE	9.09	63	2060305	196.4577	ug/L		93
59)	c13dicloproe	9.28	75	1481160	41.1687	ug/L		94
60)	4Meth2Pentan	9.47	43	4996296	304.7019	ug/L		84
62)	Toluene	9.72	92	2274777	37.5998	ug/L		90
63)	t13Dicloprop	9.99	75	1375377	42.2617	ug/L		100
64)	ethylmethacrylate	10.13	69	2238963	80.5656	ug/L		98
65)	112Triclotha	10.22	83	707074	37.6122	ug/L		98
66)	Tetrachlorte	10.46	166	1008776	40.6371	ug/L		98
67)	13Diclorpropa	10.44	76	1426490	37.0418	ug/L		95
69)	2Hexanone	10.56	43	4066937	339.0062	ug/L		88
70)	Clorodibrmta	10.74	129	870110	39.6056	ug/L		95
71)	12Dibrometha	10.90	107	784334	38.4099	ug/L		98
72)	Chlorobenzen	11.58	112	2239893	37.5202	ug/L		98
73)	1Clhexane	11.56	91	1251657	43.4312	ug/L		95
74)	1112Tetclota	11.69	131	866103	40.3887	ug/L		97
75)	Ethylbenzene	11.74	91	3622016	37.2411	ug/L		90
76)	m p-Xylene	11.90	106	2888465	79.0816	ug/L	#	81
77)	o-Xylene	12.45	106	1550752	42.9643	ug/L		91
78)	Styrene	12.46	104	2469804	43.2168	ug/L		95
79)	Bromoform	12.69	173	636817	40.6303	ug/L		95
80)	Isopropylben	12.97	105	3387618	40.8185	ug/L		90
81)	cyclohexanone	13.07	55	592803	784.9986	ug/L		98
84)	Bromobenzene	13.38	156	1028158	37.4129	ug/L		93
85)	1122Tetrclta	13.36	83	1096993	32.9296	ug/L		96
86)	123Triclproa	13.42	75	1415498	36.6597	ug/L		98
87)	14dichloro2butene	13.45	53	269780	39.1004	ug/L		91
88)	n-Propylbenz	13.56	91	3995358	35.7364	ug/L		85
89)	2chlorotolue	13.67	91	2657338	36.7111	ug/L		93
90)	4chlorotolue	13.82	91	3063560	37.2601	ug/L		92
91)	135Trimebenz	13.81	105	3027811	38.6774	ug/L		90
92)	tbutylbenzen	14.28	119	2632891	41.4512	ug/L		93
93)	124Trimetben	14.35	105	3040479	38.7949	ug/L		91
94)	sbutylbenzen	14.60	105	3565952	39.1799	ug/L		91
95)	13Diclorbenz	14.74	146	1842460	37.4741	ug/L		95
96)	pIsopropylto	14.82	119	3172547	39.5148	ug/L		91
97)	14dichlorobe	14.87	146	1908723	36.5055	ug/L		94
98)	12dichlorobe	15.41	146	1791896	36.1774	ug/L		99
99)	nButylbenzen	15.41	91	3117522	36.7664	ug/L		91
100)	12dibromo3cl	16.50	157	238597	35.8375	ug/L		92
101)	135Trichlorobenzene	16.83	180	1396139	37.7593	ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL8.D Vial: 11
Acq On : 18 Oct 2019 12:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:21:24 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:21:20 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	1226378	39.8069	ug/L	97
103) Hexachlorobu	17.90	225	692460	39.8378	ug/L	96
104) Naphthalene	17.95	128	2488043	37.5256	ug/L	95
105) 123Trichlben	18.27	180	1141513	38.1563	ug/L	96

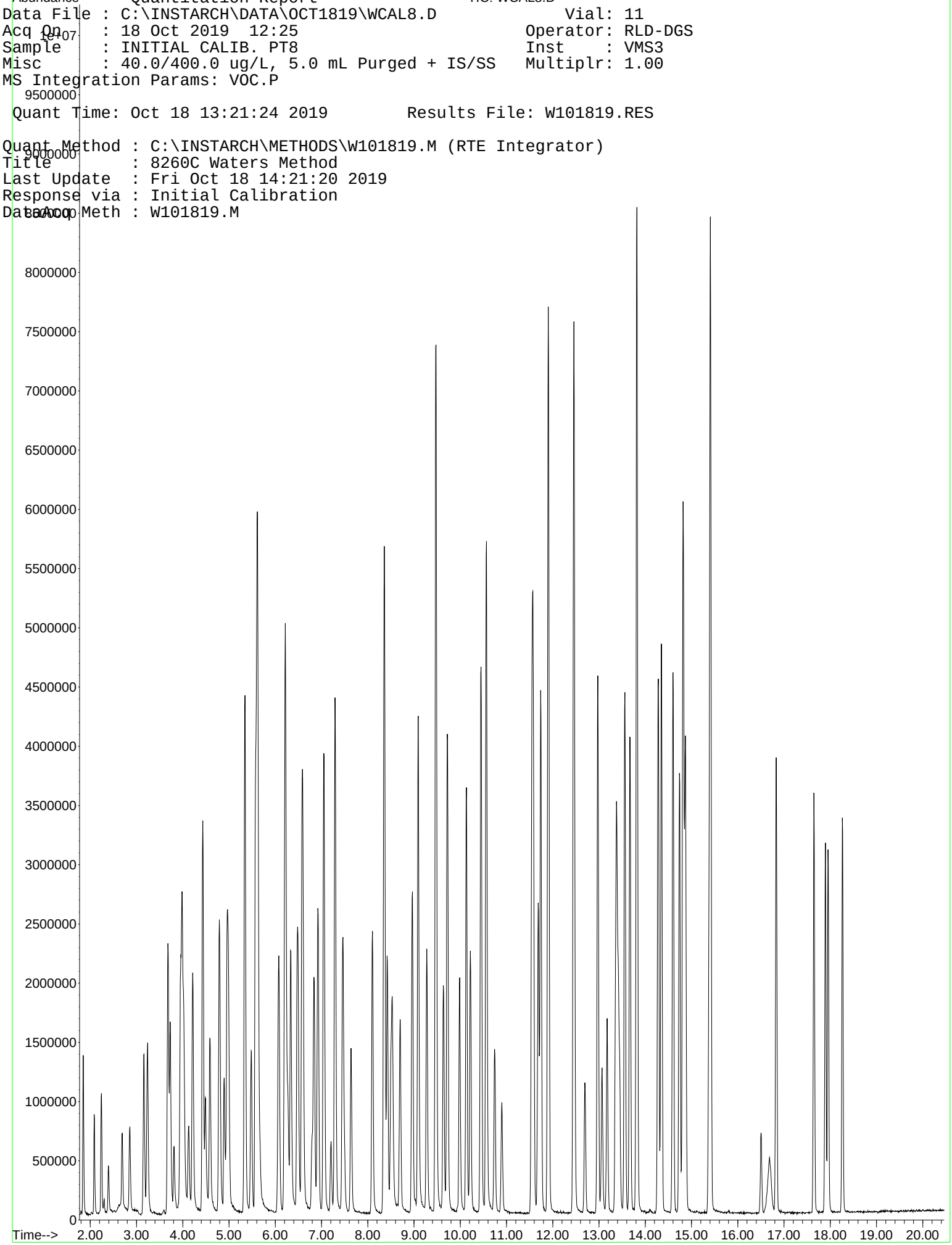
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL8.D

Data File : C:\INSTARCH\DATA\OCT1819\WCAL8.D Vial: 11
Acq On : 18 Oct 2019 12:25 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:21:24 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:21:20 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL9.D Vial: 12
Acq On : 18 Oct 2019 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:07:25 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:52:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1327347	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1107548	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	725676	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	356486	19.813	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99	%		
45) SURR12DCAd4	7.21	102	91882	19.071	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 95	%		
61) SURRd8Tolule	9.63	98	1467035	20.414	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102	%		
83) SURR4BrFBenz	13.18	95	640943	19.926	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	1546145	68.2258	ug/L	93
3) Chloromethan	2.09	50	1222116	62.5618	ug/L	95
4) VinylChlorid	2.24	62	1514133	65.7167	ug/L	96
5) Bromomethane	2.69	94	901584	94.1454	ug/L	88
6) Chloroethane	2.85	64	1149579	62.0343	ug/L	94
7) Dichloroflmethane	3.16	67	2450135	61.9251	ug/L	93
8) Trichlorofma	3.23	101	2072648	68.9992	ug/L	98
9) Ethylether	3.67	59	1118268	74.8378	ug/L	95
10) dichlorotfluoroethan	3.68	67	1652518	72.6766	ug/L	96
11) propyleneoxide	3.73	58	2292630	648.9769	ug/L	94
12) Acrolein	3.81	56	927873	359.7914	ug/L	99
13) 11dichlorthe	3.95	96	1298108	73.8708	ug/L	97
14) Trichlorotfluoroeth	3.99	101	2203730	149.5864	ug/L	98
15) Acetone	4.03	43	3439441	648.1499	ug/L	94
16) Iodomethane	4.12	142	1795265	319.8217	ug/L	93
17) Carbon Dislf	4.21	76	5072113	113.8494	ug/L	89
18) allylchloride	4.43	41	3707499	137.9749	ug/L	99
19) methylacetate	4.49	74	671706	74.8028	ug/L	99
20) Methylchlorid	4.59	84	1478480	62.4251	ug/L	98
21) tbutylalcohol	4.79	59	5204266	2929.7213	ug/L	94
22) Acrylonitrile	4.89	53	2062746	469.9385	ug/L	94
23) t12dichlorte	4.96	96	1454157	71.4609	ug/L	97
24) MtBE	4.99	73	3614279	67.9049	ug/L	89
25) Hexane	5.35	57	3850505	156.1339	ug/L #	92
26) 11dichlorota	5.48	63	2481309	64.4473	ug/L	93
27) Vinylacetate	5.57	43	10410910	463.7700	ug/L	76
28) chloroprene	5.61	53	3901302	144.7399	ug/L	94
29) Diisopether	5.63	45	3936300	71.2061	ug/L	91
30) ETBE	6.08	59	3572798	71.8884	ug/L	91
31) 22dichloropr	6.21	77	2321975	73.4375	ug/L	95
32) c12dichlorte	6.21	96	1683544	75.4041	ug/L	98
33) 2Butanone	6.23	72	1809791	786.0505	ug/L	99
34) propionitrile	6.27	54	1890234	1037.0092	ug/L	92
35) Ethylacetate	6.34	88	329190	427.0448	ug/L	96
36) methacrylonitrile	6.47	67	1461084	165.5454	ug/L	97
37) Bromochlorma	6.49	128	727468	68.0104	ug/L	99
38) Tetrahydofur	6.58	42	3467249	657.5482	ug/L	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL9.D Vial: 12
Acq On : 18 Oct 2019 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:07:25 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:52:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.60	83	2658429	66.2141	ug/L		94
40)	111trichlota	6.84	97	2483054	72.0547	ug/L		94
42)	Cyclohexane	6.92	56	2380031	88.9769	ug/L		95
43)	Carbtetraclo	7.06	119	2077955	79.7116	ug/L		93
44)	11dicloprope	7.05	110	789653	84.6752	ug/L	#	91
46)	Benzene	7.29	78	4816933	56.7026	ug/L		86
47)	12dichlorota	7.29	62	2138251	71.7648	ug/L		95
48)	TAME	7.46	73	3772598	74.6414	ug/L		95
49)	trichloroete	8.10	95	1648581	74.7285	ug/L		95
50)	methylcyclohexane	8.36	83	3092467	88.5031	ug/L		93
51)	12dicloropra	8.36	63	1733321	78.7716	ug/L		96
52)	23Dicl1propene	8.42	75	2414842	76.9840	ug/L		97
53)	Dibromometha	8.50	93	1054170	77.5366	ug/L		97
54)	methylmethacrylate	8.53	69	1188137	86.7567	ug/L		95
55)	14dioxane	8.55	88	942935	3924.1864	ug/L		99
56)	Bromodiclrma	8.70	83	2213599	72.5310	ug/L		98
57)	2Nitropropane	8.97	43	4104602	684.9151	ug/L		95
58)	2CLEVE	9.09	63	3700620	378.9629	ug/L		87
59)	c13dicloproe	9.28	75	2569891	76.8860	ug/L		90
60)	4Meth2Pentan	9.48	43	7219348	453.0271	ug/L		70
62)	Toluene	9.72	92	3700233	64.7151	ug/L	#	83
63)	t13Dicloprop	9.99	75	2415469	80.2669	ug/L		97
64)	ethylmethacrylate	10.13	69	3807536	146.5587	ug/L		91
65)	112Triclotha	10.22	83	1267064	71.9470	ug/L		97
66)	Tetrachlorte	10.46	166	1790159	77.7116	ug/L		98
67)	13Diclorpropa	10.44	76	2485822	68.6853	ug/L		88
69)	2Hexanone	10.57	43	6176529	513.1632	ug/L		78
70)	Clorodibrmta	10.75	129	1580105	74.4746	ug/L		94
71)	12Dibrometha	10.90	107	1422313	71.8595	ug/L		99
72)	Chlorobenzen	11.58	112	3615551	61.5804	ug/L		92
73)	1Clhexane	11.56	91	2262451	82.1645	ug/L		95
74)	1112Tetclota	11.69	131	1567083	75.7483	ug/L		99
75)	Ethylbenzene	11.74	91	5488539	57.0057	ug/L		80
76)	m p-Xylene	11.90	106	4589665	128.2286	ug/L	#	69
77)	o-Xylene	12.45	106	2664407	76.6724	ug/L	#	80
78)	Styrene	12.46	104	4043055	73.1160	ug/L		86
79)	Bromoform	12.69	173	1215074	81.0247	ug/L		94
80)	Isopropylben	12.97	105	5263235	64.7767	ug/L		81
81)	cyclohexanone	13.07	55	1194104	1657.4057	ug/L		99
84)	Bromobenzene	13.38	156	1830644	68.2622	ug/L		94
85)	1122Tetrclta	13.36	83	2020374	57.9851	ug/L		95
86)	123Triclproa	13.42	75	2697723	71.8569	ug/L		97
87)	14dichloro2butene	13.44	53	565078	97.8885	ug/L		91
88)	n-Propylbenz	13.56	91	5933329	53.2293	ug/L		75
89)	2chlorotolue	13.67	91	4310802	60.3450	ug/L		87
90)	4chlorotolue	13.82	91	4891173	60.2723	ug/L		85
91)	135Trimebenz	13.81	105	4780878	62.0317	ug/L		83
92)	tbutylbenzen	14.28	119	4326994	69.9769	ug/L		87
93)	124Trimetben	14.35	105	4790725	62.0941	ug/L		83
94)	sbutylbenzen	14.60	105	5480091	61.0745	ug/L		81
95)	13Diclorbenz	14.74	146	3137759	65.1070	ug/L		92
96)	pIsopropylto	14.82	119	4951902	62.7074	ug/L		82
97)	14dichlorobe	14.87	146	3187640	61.9140	ug/L		90
98)	12dichlorobe	15.41	146	3031470	62.1794	ug/L		96
99)	nButylbenzen	15.41	91	4932054	58.8097	ug/L		83
100)	12dibromo3cl	16.50	157	480096	74.4707	ug/L		94
101)	135Trichlorobenzene	16.83	180	2396633	66.2315	ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT1819\WCAL9.D Vial: 12
Acq On : 18 Oct 2019 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:07:25 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:52:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	2163268	72.3723	ug/L	96
103) Hexachlorobu	17.90	225	1223771	72.5871	ug/L	95
104) Naphthalene	17.95	128	4072359	62.4215	ug/L	89
105) 123Trichlben	18.27	180	2023924	69.4411	ug/L	95

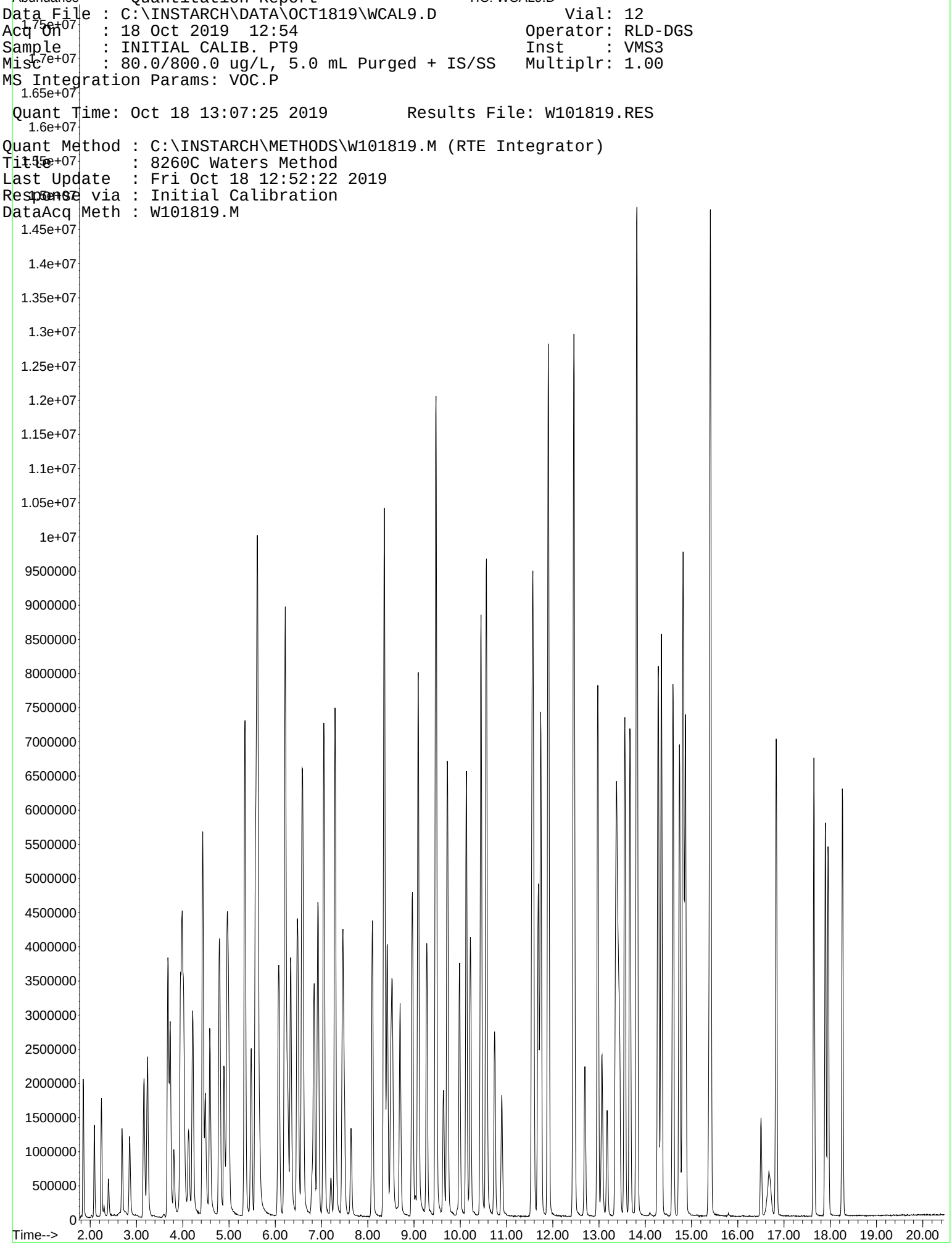
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL9.D

Data File : C:\INSTARCH\DATA\OCT1819\WCAL9.D Vial: 12
Acq On : 18 Oct 2019 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:07:25 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 12:52:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV1.D Vial: 14
Acq On : 18 Oct 2019 13:53 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:35:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:35:15 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

NOT USED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1678849	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1360605	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	822380	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	457503	20.125	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.20	102	128242	21.154	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 106	%		
61) SURRd8Tolule	9.63	98	1749929	19.208	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 96	%		
83) SURR4BrFBenz	13.18	95	722855	19.838	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	197738	7.0133	ug/L	99
3) Chloromethan	2.09	50	160208	6.6451	ug/L	95
4) VinylChlorid	2.24	62	274385	9.6061	ug/L	98
5) Bromomethane	2.69	94	133124	10.7530	ug/L	89
6) Chloroethane	2.86	64	199769	8.7692	ug/L	100
7) Dichloroflmethane	3.16	67	453711	9.2997	ug/L	98
8) Trichlorofma	3.23	101	426025	11.3871	ug/L	96
9) Ethylether	3.68	59	181497	9.6726	ug/L	97
10) dichlorotfluoroethan	3.68	67	287794	10.1098	ug/L	98
11) propyleneoxide	3.73	58	398961	91.4470	ug/L	95
12) Acrolein	3.82	56	151084	46.9078	ug/L	96
13) 11dichlorthe	3.95	96	226464	10.2765	ug/L	93
14) Trichlorotfluoroeth	3.98	101	423865	22.9132	ug/L	92
15) Acetone	4.03	43	597167	90.8895	ug/L	97
16) Iodomethane	4.12	142	135920	17.5257	ug/L	99
17) Carbon Dislf	4.22	76	1111915	20.3860	ug/L	99
18) allylchloride	4.43	41	585992	17.5096	ug/L	97
19) methylacetate	4.50	74	105955	9.4053	ug/L	98
20) Methylchlorid	4.59	84	258752	9.4440	ug/L	92
21) tbutylalcohol	4.79	59	1061687	487.0163	ug/L	93
22) Acrylonitrile	4.91	53	290904	42.2110	ug/L	96
23) t12dichlorte	4.96	96	257919	10.1413	ug/L	96
24) MtBE	4.99	73	691750	10.4510	ug/L	99
25) Hexane	5.35	57	639774	17.7484	ug/L	98
26) 11dichlorota	5.48	63	419803	8.8110	ug/L	97
27) Vinylacetate	5.58	43	2872213	99.1169	ug/L	94
28) chloroprene	5.61	53	659656	19.5567	ug/L	93
29) Diisopether	5.63	45	644823	9.3364	ug/L	89
30) ETBE	6.08	59	606672	9.7611	ug/L	95
31) 22dichloropr	6.21	77	358680	9.0514	ug/L	98
32) c12dichlorte	6.22	96	268317	9.5625	ug/L	100
33) 2Butanone	6.23	72	302702	104.1736	ug/L	92
34) propionitrile	6.28	54	268440	86.6447	ug/L	96
35) Ethylacetate	6.34	88	54616	55.5475	ug/L #	72
36) methacrylonitrile	6.48	67	212385	18.9435	ug/L	88
37) Bromochlorma	6.50	128	123410	9.2764	ug/L #	90
38) Tetrahydofur	6.58	42	596706	91.2755	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV1.D Vial: 14
Acq On : 18 Oct 2019 13:53 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:35:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:35:15 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.60	83	455895	9.1529	ug/L		99
40)	111trichlota	6.84	97	408647	9.4802	ug/L		94
42)	Cyclohexane	6.93	56	356203	9.3402	ug/L		96
43)	Carbtetraclo	7.06	119	339810	10.3102	ug/L		95
44)	11dicloprope	7.05	110	117491	9.8886	ug/L		96
46)	Benzene	7.30	78	952409	9.1604	ug/L		98
47)	12dichlorota	7.30	62	335685	9.0106	ug/L		98
48)	TAME	7.46	73	667186	10.5149	ug/L		96
49)	trichloroete	8.10	95	261523	9.4417	ug/L		92
50)	methylcyclohexane	8.36	83	497114	9.7161	ug/L		96
51)	12dicloropra	8.36	63	253463	9.1226	ug/L		99
52)	23Dicl1propene	8.43	75	385366	9.7591	ug/L		97
53)	Dibromometha	8.51	93	158199	9.2352	ug/L	#	89
54)	methylmethacrylate	8.53	69	167400	9.5632	ug/L		95
55)	14dioxane	8.55	88	146500	483.1795	ug/L		95
56)	Bromodiclrma	8.70	83	352079	9.2165	ug/L		94
57)	2Nitropropane	8.97	43	667255	89.4599	ug/L		95
58)	2CLEVE	9.09	63	611996	49.8779	ug/L		98
59)	c13dicloproe	9.28	75	397513	9.4436	ug/L		94
60)	4Meth2Pentan	9.47	43	1795389	85.2346	ug/L		96
62)	Toluene	9.73	92	675395	9.5417	ug/L		100
63)	t13Dicloprop	9.99	75	352794	9.2655	ug/L		98
64)	ethylmethacrylate	10.14	69	620972	19.0984	ug/L		93
65)	112Triclotha	10.22	83	195239	8.8767	ug/L		98
66)	Tetrachlorte	10.46	166	298569	10.2800	ug/L		97
67)	13Diclorpropa	10.44	76	398039	8.8343	ug/L		100
69)	2Hexanone	10.57	43	1359314	91.9308	ug/L		98
70)	Clorodibrmta	10.75	129	242540	9.3774	ug/L		99
71)	12Dibrometha	10.90	107	224659	9.3450	ug/L		95
72)	Chlorobenzen	11.58	112	668243	9.5080	ug/L		98
73)	1Clhexane	11.56	91	344383	10.1502	ug/L		92
74)	1112Tetclota	11.69	131	241589	9.5694	ug/L		97
75)	Ethylbenzene	11.75	91	1116299	9.7492	ug/L		98
76)	m p-Xylene	11.90	106	871222	20.2606	ug/L		97
77)	o-Xylene	12.45	106	414579	9.7564	ug/L		98
78)	Styrene	12.46	104	700235	10.4076	ug/L		97
79)	Bromoform	12.69	173	179975	9.7535	ug/L		98
80)	Isopropylben	12.97	105	1022210	10.4621	ug/L		97
81)	cyclohexanone	13.07	55	151484	170.3886	ug/L		90
84)	Bromobenzene	13.39	156	291882	9.7632	ug/L	#	85
85)	1122Tetrclta	13.36	83	307187	8.4763	ug/L		97
86)	123Triclproa	13.42	75	374097	8.9061	ug/L		95
87)	14dichloro2butene	13.45	53	58245	7.6809	ug/L		82
88)	n-Propylbenz	13.56	91	1253310	10.3047	ug/L		97
89)	2chlorotolue	13.67	91	754748	9.5846	ug/L		95
90)	4chlorotolue	13.82	91	889297	9.9423	ug/L		99
91)	135Trimebenz	13.82	105	896989	10.5327	ug/L		98
92)	tbutylbenzen	14.28	119	750152	10.8562	ug/L		99
93)	124Trimetben	14.35	105	889925	10.4378	ug/L		99
94)	sbutylbenzen	14.60	105	1065978	10.7661	ug/L		99
95)	13Diclorbenz	14.74	146	526218	9.8383	ug/L		99
96)	pIsopropylto	14.82	119	930709	10.6559	ug/L		98
97)	14dichlorobe	14.87	146	561125	9.8650	ug/L		99
98)	12dichlorobe	15.41	146	506549	9.4009	ug/L		99
99)	nButylbenzen	15.41	91	881348	9.5546	ug/L		98
100)	12dibromo3cl	16.50	157	68203	9.4167	ug/L		100
101)	135Trichlorobenzene	16.83	180	398899	9.9170	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV1.D Vial: 14
Acq On : 18 Oct 2019 13:53 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:35:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:35:15 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	347907	10.3806	ug/L	96
103) Hexachlorobu	17.90	225	194084	10.2639	ug/L	94
104) Naphthalene	17.96	128	729961	10.1203	ug/L	99
105) 123Trichlben	18.27	180	330134	10.1438	ug/L	97

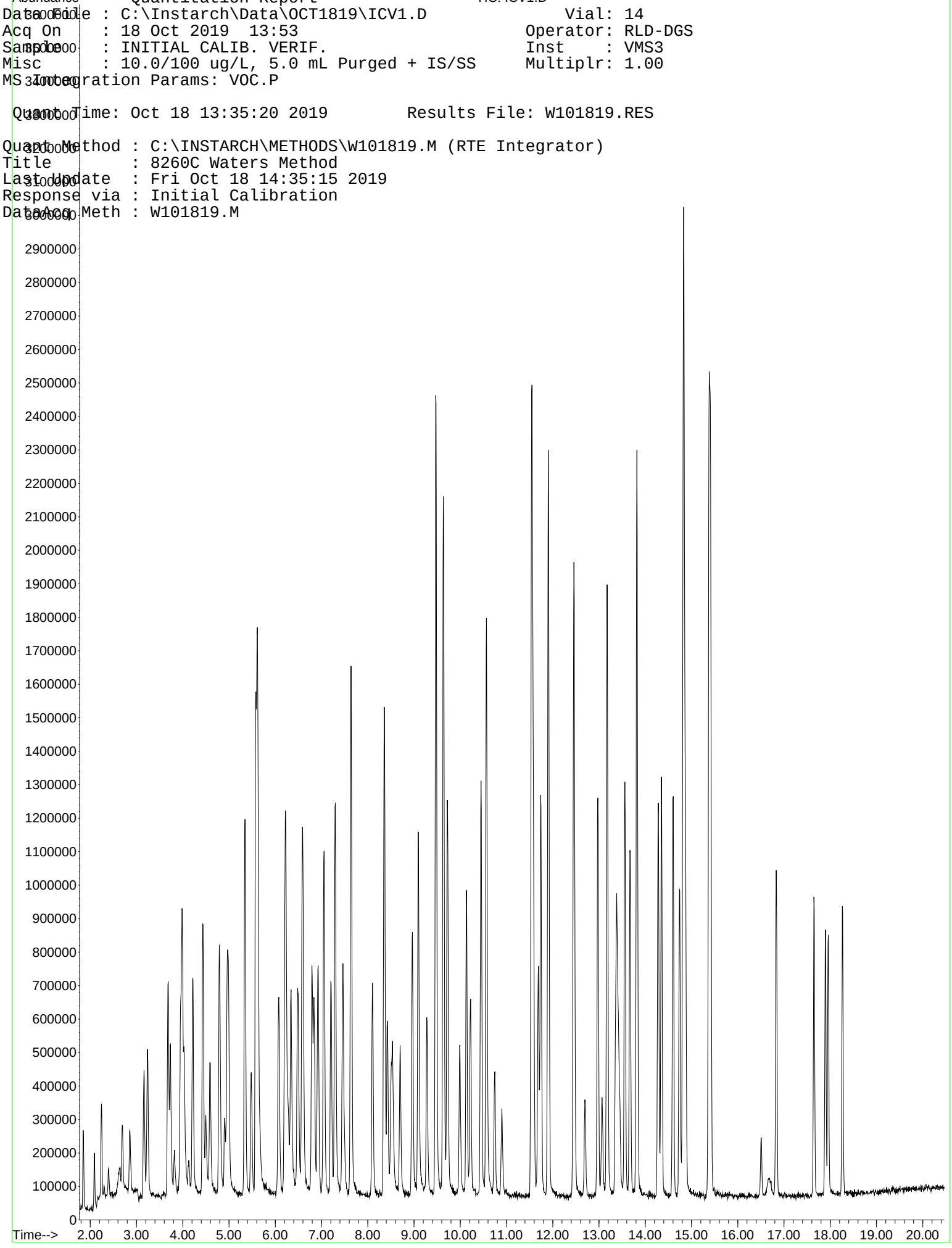
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : C:\Instarch\Data\OCT1819\ICV1.D Vial: 14
Acq On : 18 Oct 2019 13:53 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:35:20 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:35:15 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT1819\ICV2.D Vial: 15
Acq On : 18 Oct 2019 14:23 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 18 13:43:59 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	109	0.00
2	PT	Dichlorodi	30.0000	32.7636	-9.21	125	0.00
3	PT	Chloromethan	30.0000	28.0630	6.46	118	0.00
4	PT	VinylChlorid	30.0000	29.8610	0.46	116	0.00
5	PT	Bromomethane	30.0000	37.1264	-23.75#	136	0.00
6	PT	Chloroethane	30.0000	27.7287	7.57	114	0.00
7	T	Dichloroflmethane	30.0000	27.6834	7.72	115	0.00
8	PT	Trichlorofma	30.0000	30.8530	-2.84	119	0.00
9	T	Ethylether	30.0000	30.6528	-2.18	116	0.00
10	T	dichlorotfluoroethan	30.0000	30.5971	-1.99	113	0.00
11	T	propyleneoxide	300.0000	309.5210	-3.17	113	0.00
12	T	Acrolein	150.0000	165.4894	-10.33	122	-0.01
13	PT	11dichlorthe	30.0000	30.7014	-2.34	117	0.00
14	PT	Trichlorotfluoroeth	60.0000	68.1103	-13.52	124	0.00
15	PT	Acetone	300.0000	334.6214	-11.54	122	0.00
16	T	Iodomethane	60.0000	58.4694	2.55	118	0.00
17	PT	Carbon Dislf	60.0000	59.7415	0.43	118	0.00
18	T	allylchloride	60.0000	59.4031	0.99	109	0.00
19	PT	methylacetate	30.0000	31.2385	-4.13	116	0.00
20	PT	Methylchlorid	30.0000	28.9120	3.63	112	0.00
21	T	tbutylalcohol	1500.0000	1609.0243	-7.27	118	0.00
22	T	Acrylonitrile	150.0000	165.4768	-10.32	116	0.00
23	PT	t12dichlorte	30.0000	29.4151	1.95	113	0.00
24	PT	MtBE	30.0000	31.2722	-4.24	118	0.00
25	T	Hexane	60.0000	57.6412	3.93	106	0.00
26	PT	11dichlorota	30.0000	27.2391	9.20	109	0.00
27	T	Vinylacetate	300.0000	257.4086	14.20	98	0.00
28	T	chloroprene	60.0000	63.5019	-5.84	112	0.00
29	T	Diisopether	30.0000	30.2578	-0.86	108	0.00
30	T	ETBE	30.0000	31.1003	-3.67	113	0.00
31	T	22dichloropr	30.0000	28.6055	4.65	107	0.00
32	PT	c12dichlorte	30.0000	29.9801	0.07	112	0.00
33	PT	2Butanone	300.0000	361.0649	-20.35#	114	0.00
34	T	propionitrile	300.0000	329.5240	-9.84	113	0.00
35	T	Ethylacetate	150.0000	176.1921	-17.46	117	0.00
36	T	methacrylonitrile	60.0000	65.9171	-9.86	107	0.00
37	T	Bromochlorma	30.0000	26.3715	12.09	108	0.00
38	T	Tetrahydofur	300.0000	329.4876	-9.83	112	0.00
39	PT	Chloroform	30.0000	27.7276	7.57	110	0.00
40	PT	111trichlota	30.0000	29.3093	2.30	112	0.00
41	S	SURRDibrflma	20.0000	19.9350	0.33	114	0.00
42	PT	Cyclohexane	30.0000	30.5926	-1.98	111	0.00
43	PT	Carbtetraclo	30.0000	31.6467	-5.49	112	0.00
44	T	11dicloprope	30.0000	31.5056	-5.02	114	-0.01
45	S	SURR12DCAd4	20.0000	19.3513	3.24	106	0.00
46	PT	Benzene	30.0000	27.1609	9.46	107	0.00
47	PT	12dichlorota	30.0000	29.0571	3.14	109	0.00
48	T	TAME	30.0000	32.1842	-7.28	112	0.00

49	PT	trichloroete	30.0000	29.3882	2.04	111	0.00
50	PT	methylcyclohexane	30.0000	30.9622	-3.21	114	0.00
51	PT	12dicloropra	30.0000	29.6271	1.24	106	0.00
52	T	23Dicl1propene	30.0000	30.7647	-2.55	111	0.00
53	T	Dibromometha	30.0000	29.2425	2.53	107	0.00
54	T	methylmethacrylate	30.0000	34.6149	-15.38	113	0.00
55	T	14dioxane	1500.0000	1689.3027	-12.62	119	0.00
56	PT	Bromodiclrma	30.0000	28.0441	6.52	106	0.00
57	T	2Nitropropane	300.0000	325.1242	-8.37	106	0.00
58	T	2CLEVE	150.0000	171.3787	-14.25	104	0.00
59	PT	c13dicloproe	30.0000	30.0348	-0.12	105	0.00
60	PT	4Meth2Pentan	300.0000	260.9270	13.02	106	0.00
61	S	SURRd8Tolule	20.0000	19.6731	1.63	106	0.00
62	PT	Toluene	30.0000	28.3165	5.61	107	0.00
63	PT	t13Dicloprop	30.0000	31.1046	-3.68	108	0.00
64	T	ethylmethacrylate	60.0000	65.1862	-8.64	107	0.00
65	PT	112Triclotha	30.0000	28.0466	6.51	106	0.00
66	PT	Tetrachlorte	30.0000	29.8695	0.44	111	0.00
67	T	13Diclorpropa	30.0000	28.4406	5.20	106	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
69	PT	2Hexanone	300.0000	304.5451	-1.52	107	0.00
70	PT	Clorodibrmta	30.0000	28.8654	3.78	107	0.00
71	PT	12Dibrometha	30.0000	29.3096	2.30	108	0.00
72	PT	Chlorobenzen	30.0000	27.7663	7.45	105	0.00
73	T	1Clhexane	30.0000	33.5024	-11.67	110	0.00
74	T	1112Tetclota	30.0000	29.3776	2.07	105	0.00
75	PT	Ethylbenzene	30.0000	28.7833	4.06	105	0.00
76	PT	m p-Xylene	60.0000	59.2131	1.31	105	0.00
77	PT	o-Xylene	30.0000	30.6736	-2.25	103	0.00
78	PT	Styrene	30.0000	31.8401	-6.13	104	0.00
79	PT	Bromoform	30.0000	30.3995	-1.33	108	0.00
80	PT	Isopropylben	30.0000	31.4994	-5.00	105	0.00
81	T	cyclohexanone	600.0000	712.4311	-18.74	115	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	103	0.00
83	S	SURR4BrFBenz	20.0000	20.2856	-1.43	104	0.00
84	T	Bromobenzene	30.0000	28.2502	5.83	105	0.00
85	PT	1122Tetrclta	30.0000	27.2778	9.07	100	0.00
86	T	123Triclproa	30.0000	31.1205	-3.73	106	0.00
87	T	14dichloro2butene	30.0000	32.4777	-8.26	108	0.00
88	T	n-Propylbenz	30.0000	29.8692	0.44	103	0.00
89	T	2chlorotolue	30.0000	28.9189	3.60	103	0.00
90	T	4chlorotolue	30.0000	30.1341	-0.45	105	0.00
91	T	135Trimebenz	30.0000	30.9529	-3.18	103	0.00
92	T	tbutylbenzen	30.0000	32.3456	-7.82	103	0.00
93	T	124Trimetben	30.0000	30.8500	-2.83	104	0.00
94	T	sbutylbenzen	30.0000	32.1195	-7.07	103	0.00
95	PT	13Diclorbenz	30.0000	28.8757	3.75	103	0.00
96	T	pIsopropylto	30.0000	31.7984	-5.99	105	0.00
97	PT	14dichlorobe	30.0000	27.5960	8.01	102	0.00
98	PT	12dichlorobe	30.0000	26.9373	10.21	102	0.00
99	T	nButylbenzen	30.0000	29.6349	1.22	102	0.00
100	PT	12dibromo3cl	30.0000	30.9218	-3.07	107	0.00
101	T	135Trichlorobenzene	30.0000	28.8183	3.94	104	0.00
102	PT	124Trichlobe	30.0000	30.1585	-0.53	100	0.00
103	T	Hexachlorobu	30.0000	28.6101	4.63	98	0.00
104	T	Naphthalene	30.0000	32.6991	-9.00	102	0.00
105	T	123Trichlben	30.0000	29.4832	1.72	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101819.M Fri Nov 22 09:35:24 2019

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV2.D Vial: 15
Acq On : 18 Oct 2019 14:23 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:43:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:37:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1343167	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1085295	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	671622	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	362578	19.935	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.21	102	93856	19.351	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 97	%		
61) SURRd8Tolule	9.63	98	1433946	19.673	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.18	95	603656	20.286	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	739057	32.7636	ug/L	96
3) Chloromethan	2.09	50	541296	28.0630	ug/L	98
4) VinylChlorid	2.24	62	682395	29.8610	ug/L	98
5) Bromomethane	2.69	94	367730	37.1264	ug/L	88
6) Chloroethane	2.85	64	505379	27.7287	ug/L	99
7) Dichloroflmethane	3.16	67	1080552	27.6834	ug/L	97
8) Trichlorofma	3.23	101	923503	30.8530	ug/L	100
9) Ethylether	3.67	59	460168	30.6528	ug/L	96
10) dichlorotfluoroethan	3.68	67	696848	30.5971	ug/L	97
11) propyleneoxide	3.73	58	1080362	309.5210	ug/L	99
12) Acrolein	3.81	56	426444	165.4894	ug/L	99
13) 11dichlorthe	3.95	96	541288	30.7014	ug/L	96
14) Trichlorotfluoroeth	3.98	101	1008028	68.1103	ug/L	99
15) Acetone	4.03	43	1758953	334.6214	ug/L	97
16) Iodomethane	4.13	142	528459	58.4694	ug/L	96
17) Carbon Dislf	4.21	76	2606954	59.7415	ug/L	96
18) allylchloride	4.43	41	1590530	59.4031	ug/L	99
19) methylacetate	4.49	74	281550	31.2385	ug/L	99
20) Methylchlorid	4.59	84	604269	28.9120	ug/L	99
21) tbutylalcohol	4.79	59	2806299	1609.0243	ug/L	100
22) Acrylonitrile	4.90	53	927616	165.4768	ug/L	98
23) t12dichlorte	4.96	96	598518	29.4151	ug/L	98
24) MtBE	4.99	73	1656025	31.2722	ug/L	97
25) Hexane	5.35	57	1634871	57.6412	ug/L	98
26) 11dichlorota	5.48	63	1038320	27.2391	ug/L	98
27) Vinylacetate	5.58	43	5967746	257.4086	ug/L	92
28) chloroprene	5.61	53	1713668	63.5019	ug/L	98
29) Diisopether	5.63	45	1671924	30.2578	ug/L	95
30) ETBE	6.08	59	1546461	31.1003	ug/L	97
31) 22dichloropr	6.21	77	906897	28.6055	ug/L	98
32) c12dichlorte	6.21	96	673018	29.9801	ug/L	97
33) 2Butanone	6.23	72	839385	361.0649	ug/L	96
34) propionitrile	6.27	54	840292	329.5240	ug/L	93
35) Ethylacetate	6.34	88	138599	176.1921	ug/L	95
36) methacrylonitrile	6.48	67	591261	65.9171	ug/L	97
37) Bromochlorma	6.49	128	280690	26.3715	ug/L	96
38) Tetrahydofur	6.58	42	1723310	329.4876	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV2.D Vial: 15
Acq On : 18 Oct 2019 14:23 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:43:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:37:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.60	83	1104933	27.7276	ug/L	98
40) 111trichlota	6.84	97	1010778	29.3093	ug/L	97
42) Cyclohexane	6.93	56	954992	30.5926	ug/L	98
43) Carbtetraclo	7.06	119	834476	31.6467	ug/L	97
44) 11dicloprope	7.04	110	299484	31.5056	ug/L	97
46) Benzene	7.29	78	2259295	27.1609	ug/L	96
47) 12dichlorota	7.30	62	866063	29.0571	ug/L	99
48) TAME	7.46	73	1633820	32.1842	ug/L	98
49) trichloroete	8.10	95	651255	29.3882	ug/L	94
50) methylcyclohexane	8.36	83	1290437	30.9622	ug/L	98
51) 12dicloropra	8.36	63	658571	29.6271	ug/L	99
52) 23Dicl1propene	8.42	75	971929	30.7647	ug/L	98
53) Dibromometha	8.50	93	400765	29.2425	ug/L	96
54) methylmethacrylate	8.53	69	484767	34.6149	ug/L	96
55) 14dioxane	8.55	88	409784	1689.3027	ug/L	100
56) Bromodiclrma	8.70	83	857105	28.0441	ug/L	99
57) 2Nitropropane	8.97	43	1940132	325.1242	ug/L	97
58) 2CLEVE	9.09	63	1682347	171.3787	ug/L	96
59) c13dicloproe	9.28	75	1011477	30.0348	ug/L	96
60) 4Meth2Pentan	9.47	43	4397238	260.9270	ug/L	88
62) Toluene	9.72	92	1603575	28.3165	ug/L	94
63) t13Dicloprop	9.99	75	947536	31.1046	ug/L	97
64) ethylmethacrylate	10.13	69	1695700	65.1862	ug/L	98
65) 112Triclotha	10.22	83	493528	28.0466	ug/L	98
66) Tetrachlorte	10.45	166	694059	29.8695	ug/L	99
67) 13Diclorpropa	10.44	76	1025208	28.4406	ug/L	97
69) 2Hexanone	10.56	43	3591914	304.5451	ug/L	91
70) Clorodibrmta	10.74	129	595518	28.8654	ug/L	96
71) 12Dibrometha	10.90	107	562040	29.3096	ug/L	96
72) Chlorobenzen	11.58	112	1556609	27.7663	ug/L	99
73) 1Clhexane	11.56	91	906692	33.5024	ug/L	95
74) 1112Tetclota	11.69	131	591597	29.3776	ug/L	98
75) Ethylbenzene	11.74	91	2628863	28.7833	ug/L	94
76) m p-Xylene	11.90	106	2031001	59.2131	ug/L	90
77) o-Xylene	12.45	106	1039680	30.6736	ug/L	98
78) Styrene	12.46	104	1708776	31.8401	ug/L	97
79) Bromoform	12.69	173	447437	30.3995	ug/L	96
80) Isopropylben	12.97	105	2454940	31.4994	ug/L	94
81) cyclohexanone	13.07	55	505225	712.4311	ug/L	98
84) Bromobenzene	13.38	156	689746	28.2502	ug/L	96
85) 1122Tetrclta	13.36	83	807339	27.2778	ug/L	98
86) 123Triclproa	13.42	75	1067569	31.1205	ug/L	97
87) 14dichloro2butene	13.45	53	197197	32.4777	ug/L	91
88) n-Propylbenz	13.56	91	2966863	29.8692	ug/L	93
89) 2chlorotolue	13.67	91	1859772	28.9189	ug/L	96
90) 4chlorotolue	13.82	91	2201251	30.1341	ug/L	95
91) 135Trimebenz	13.81	105	2152788	30.9529	ug/L	93
92) tbutylbenzen	14.28	119	1825326	32.3456	ug/L	94
93) 124Trimetben	14.35	105	2148081	30.8500	ug/L	94
94) sbutylbenzen	14.60	105	2597231	32.1195	ug/L	97
95) 13Diclorbenz	14.74	146	1261330	28.8757	ug/L	97
96) pIsopropylto	14.82	119	2268210	31.7984	ug/L	95
97) 14dichlorobe	14.87	146	1281919	27.5960	ug/L	97
98) 12dichlorobe	15.40	146	1185381	26.9373	ug/L	99
99) nButylbenzen	15.41	91	2232496	29.6349	ug/L	96
100) 12dibromo3cl	16.50	157	182903	30.9218	ug/L	94
101) 135Trichlorobenzene	16.83	180	946677	28.8183	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV2.D Vial: 15
Acq On : 18 Oct 2019 14:23 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:43:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:37:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	825476	30.1585	ug/L	98
103) Hexachlorobu	17.89	225	441823	28.6101	ug/L	96
104) Naphthalene	17.95	128	1926174	32.6991	ug/L	96
105) 123Trichlben	18.27	180	783643	29.4832	ug/L	97

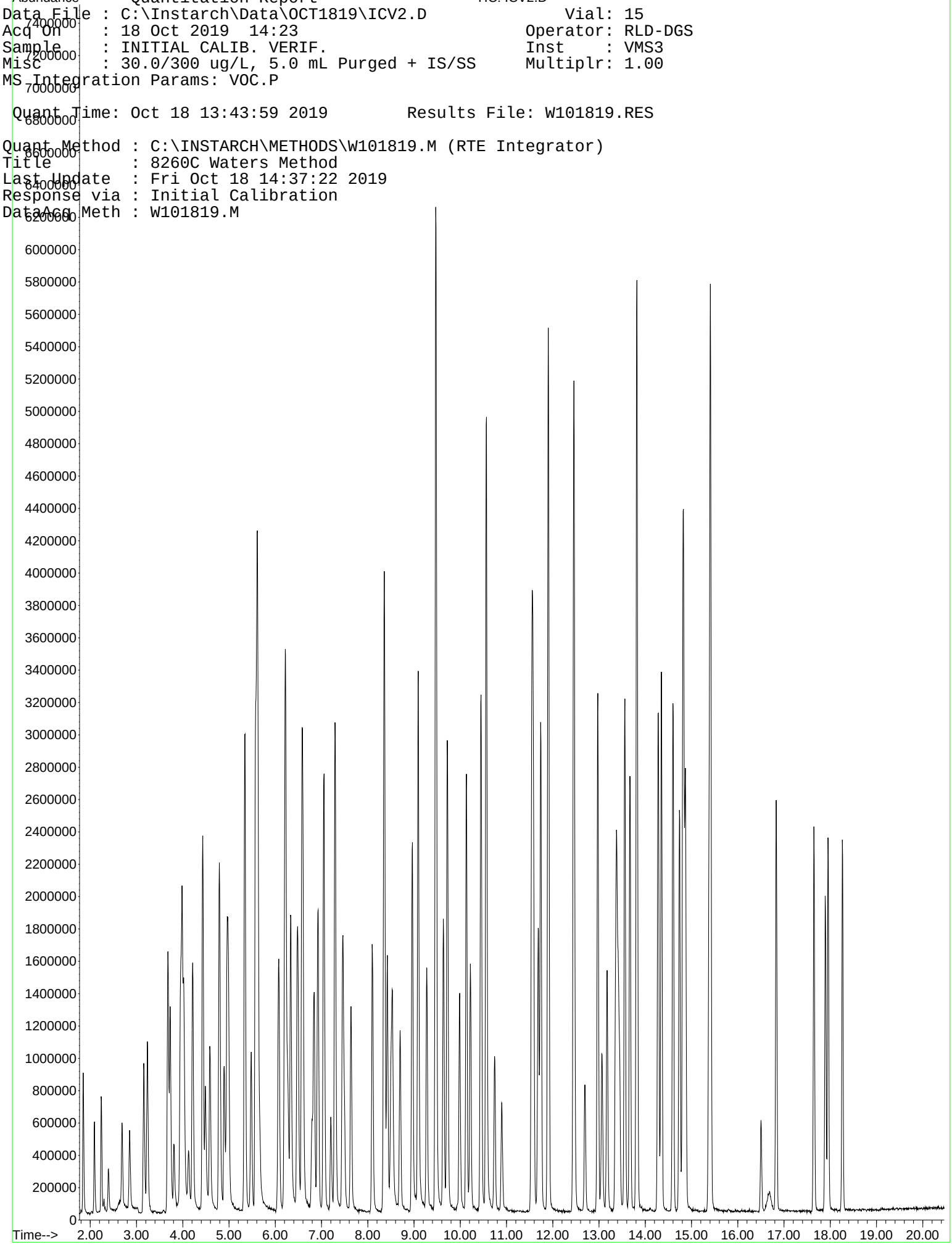
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : C:\Instarch\Data\OCT1819\ICV2.D Vial: 15
Acq On : 18 Oct 2019 14:23 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 18 13:43:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 14:37:22 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT1819\ICV1R.D Vial: 16
Acq On : 18 Oct 2019 14:52 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 22 09:32:37 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	107	0.00
2	PT	Dichlorodi	0.3359	0.3984	-18.61	106	0.00
3	PT	Chloromethan	0.2872	0.2853	0.66	101	0.00
4	PT	VinylChlorid	0.3403	0.3752	-10.26	107	0.00
5	PT	Bromomethane	0.1475	0.1722	-16.75	123	0.00
6	PT	Chloroethane	0.2714	0.2489	8.29	93	0.00
7	T	Dichloroflmethane	0.5812	0.5716	1.65	101	0.00
8	PT	Trichlorofma	0.4457	0.5195	-16.56	111	0.00
9	T	Ethylether	0.2235	0.2336	-4.52	115	0.00
10	T	dichlorotfluoroethan	0.3391	0.3605	-6.31	105	0.00
11	T	propyleneoxide	0.0520	0.0498	4.23	108	0.00
12	T	Acrolein	0.0384	0.0357	7.03	94	0.00
13	PT	11dichlorthe	0.2625	0.2838	-8.11	110	0.00
14	PT	Trichlorotfluoroeth	0.2204	0.2541	-15.29	107	0.00
15	PT	Acetone	0.0783	0.0737#	5.87	100	0.00
16	T	Iodomethane	0.0928	0.1022	-10.13	161	0.00
17	PT	Carbon Dislf	0.6498	0.7163	-10.23	107	0.00
18	T	allylchloride	0.3987	0.4283	-7.42	112	0.00
19	PT	methylacetate	0.1342	0.1155	13.93	97	0.00
20	PT	Methylchlorid	0.3409	0.3246	4.78	110	0.00
21	T	tbutylalcohol	0.0260	0.0243#	6.54	99	0.00
22	T	Acrylonitrile	0.0726	0.0744	-2.48	101	0.00
23	PT	t12dichlorte	0.3030	0.3007	0.76	105	0.00
24	PT	MtBE	0.7885	0.8502	-7.82	112	0.00
25	T	Hexane	0.3706	0.4834	-30.44#	116	0.00
26	PT	11dichlorota	0.5676	0.5387	5.09	106	0.00
27	T	Vinylacetate	0.3452	0.3987	-15.50	118	0.00
28	T	chloroprene	0.4018	0.4598	-14.44	112	0.00
29	T	Diisopether	0.8228	0.8607	-4.61	108	0.00
30	T	ETBE	0.7404	0.7924	-7.02	115	0.00
31	T	22dichloropr	0.4721	0.5181	-9.74	116	0.00
32	PT	c12dichlorte	0.3343	0.3419	-2.27	107	0.00
33	PT	2Butanone	0.0346	0.0353#	-2.02	106	0.00
34	T	propionitrile	0.0316	0.0340	-7.59	99	0.00
35	T	Ethylacetate	0.0117	0.0118#	-0.85	109	0.00
36	T	methacrylonitrile	0.1336	0.1249	6.51	99	0.00
37	T	Bromochlorma	0.1585	0.1471	7.19	108	0.00
38	T	Tetrahydofur	0.0779	0.0770	1.16	105	0.00
39	PT	Chloroform	0.5934	0.5602	5.59	102	0.00
40	PT	111trichlota	0.5135	0.5213	-1.52	108	0.00
41	S	SURRDibrflma	0.2708	0.2651	2.10	105	0.00
42	PT	Cyclohexane	0.4081	0.4857	-19.01	114	0.00
43	PT	Carbtetraclo	0.3926	0.4275	-8.89	109	0.00
44	T	11dicloprope	0.1415	0.1441	-1.84	106	0.00
45	S	SURR12DCAd4	0.0722	0.0703	2.63	103	0.00
46	PT	Benzene	1.2386	1.2292	0.76	105	0.00
47	PT	12dichlorota	0.4438	0.4289	3.36	110	0.00
48	T	TAME	0.7559	0.8087	-6.99	117	0.00

49	PT	trichloroete	0.3300	0.3264	1.09	105	0.00
50	PT	methylcyclohexane	0.5327	0.6683	-25.46#	116	0.00
51	PT	12dicloropra	0.3310	0.3290	0.60	107	0.00
52	T	23Dicl1propene	0.4704	0.4896	-4.08	114	0.00
53	T	Dibromometha	0.2041	0.1988	2.60	102	0.00
54	T	methylmethacrylate	0.2085	0.2028	2.73	107	0.00
55	T	14dioxane	0.0036	0.0031#	13.89	91	0.00
56	PT	Bromodiclrma	0.4551	0.4297	5.58	106	0.00
57	T	2Nitropropane	0.0889	0.0851	4.27	103	0.00
58	T	2CLEVE	0.1462	0.1678	-14.77	124	0.00
59	PT	c13dicloproe	0.5015	0.5082	-1.34	109	0.00
60	PT	4Meth2Pentan	0.2509	0.2408	4.03	103	0.00
61	S	SURRd8Tolule	1.0853	1.0611	2.23	105	0.00
62	PT	Toluene	0.8432	0.8465	-0.39	107	0.00
63	PT	t13Dicloprop	0.4536	0.4622	-1.90	114	0.00
64	T	ethylmethacrylate	0.3873	0.4040	-4.31	112	0.00
65	PT	112Triclotha	0.2620	0.2366	9.69	100	0.00
66	PT	Tetrachlorte	0.3460	0.3516	-1.62	108	0.00
67	T	13Diclorpropa	0.5368	0.5084	5.29	103	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	107	0.00
69	PT	2Hexanone	0.2173	0.2227	-2.49	103	0.00
70	PT	Clorodibrmta	0.3802	0.3555	6.50	102	0.00
71	PT	12Dibrometha	0.3534	0.3273	7.39	106	0.00
72	PT	Chlorobenzen	1.0331	1.0247	0.81	107	0.00
73	T	1Clhexane	0.4987	0.5569	-11.67	116	0.00
74	T	1112Tetclota	0.3711	0.3547	4.42	103	0.00
75	PT	Ethylbenzene	1.6831	1.7684	-5.07	106	0.00
76	PT	m p-Xylene	0.6321	0.6658	-5.33	105	0.00
77	PT	o-Xylene	0.6246	0.6349	-1.65	105	0.00
78	PT	Styrene	0.9890	1.0730	-8.49	109	0.00
79	PT	Bromoform	0.2712	0.2431	10.36	95	0.00
80	PT	Isopropylben	1.4362	1.6444	-14.50	111	0.00
81	T	cyclohexanone	0.0131	0.0108#	17.56	92	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	105	0.00
83	S	SURR4BrFBenz	0.8861	0.9091	-2.60	107	0.00
84	T	Bromobenzene	0.7271	0.6982	3.97	105	0.00
85	PT	1122Tetrclta	0.8814	0.8367	5.07	104	0.00
86	T	123Triclproa	1.0215	0.9689	5.15	100	0.00
87	T	14dichloro2butene	0.1808	0.1524	15.71	94	0.00
88	T	n-Propylbenz	2.9579	3.4802	-17.66	109	0.00
89	T	2chlorotolue	1.9151	2.0295	-5.97	106	0.00
90	T	4chlorotolue	2.1753	2.4363	-12.00	107	0.00
91	T	135Trimebenz	2.0711	2.3230	-12.16	105	0.00
92	T	tbutylbenzen	1.6805	1.9639	-16.86	109	0.00
93	T	124Trimetben	2.0735	2.3268	-12.22	105	0.00
94	T	sbutylbenzen	2.4079	2.8260	-17.36	106	0.00
95	PT	13Diclorbenz	1.3008	1.3593	-4.50	107	0.00
96	T	pIsopropylto	2.1241	2.4897	-17.21	108	0.00
97	PT	14dichlorobe	1.3833	1.3548	2.06	101	0.00
98	PT	12dichlorobe	1.3104	1.3011	0.71	108	0.00
99	T	nButylbenzen	2.2433	2.5375	-13.11	110	0.00
100	PT	12dibromo3cl	0.1761	0.1659	5.79	99	0.00
101	T	135Trichlorobenzene	0.9782	1.0422	-6.54	116	0.00
102	PT	124Trichlobe	0.8151	0.8728	-7.08	114	0.00
103	T	Hexachlorobu	0.4599	0.5247	-14.09	117	0.00
104	T	Naphthalene	1.7541	1.9114	-8.97	112	0.00
105	T	123Trichlben	0.7915	0.8358	-5.60	110	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W101819.M Fri Nov 22 09:34:27 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT1819\ICV1R.D Vial: 16
Acq On : 18 Oct 2019 14:52 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Nov 22 09:32:37 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
2	PT	Dichlorodi	10.0000	11.8604	-18.60	106	0.00
3	PT	Chloromethan	10.0000	9.9350	0.65	101	0.00
4	PT	VinylChlorid	10.0000	11.0263	-10.26	107	0.00
5	PT	Bromomethane	10.0000	11.6755	-16.75	123	0.00
6	PT	Chloroethane	10.0000	9.1709	8.29	93	0.00
7	T	Dichloroflmethane	10.0000	9.8342	1.66	101	0.00
8	PT	Trichlorofma	10.0000	11.6566	-16.57	111	0.00
9	T	Ethylether	10.0000	10.4523	-4.52	115	0.00
10	T	dichlorotfluoroethan	10.0000	10.6315	-6.32	105	0.00
11	T	propyleneoxide	100.0000	95.8981	4.10	108	0.00
12	T	Acrolein	50.0000	46.5357	6.93	94	0.00
13	PT	11dichlorthe	10.0000	10.8104	-8.10	110	0.00
14	PT	Trichlorotfluoroeth	20.0000	23.0574	-15.29	107	0.00
15	PT	Acetone	100.0000	94.1183	5.88	100	0.00
16	T	Iodomethane	20.0000	20.5028	-2.51	161	0.00
17	PT	Carbon Dislf	20.0000	22.0470	-10.24	107	0.00
18	T	allylchloride	20.0000	21.4878	-7.44	112	0.00
19	PT	methylacetate	10.0000	8.6027	13.97	97	0.00
20	PT	Methylchlorid	10.0000	9.9638	0.36	110	0.00
21	T	tbutylalcohol	500.0000	467.5966	6.48	99	0.00
22	T	Acrylonitrile	50.0000	45.1449	9.71	101	0.00
23	PT	t12dichlorte	10.0000	9.9263	0.74	105	0.00
24	PT	MtBE	10.0000	10.7819	-7.82	112	0.00
25	T	Hexane	20.0000	22.3827	-11.91	116	0.00
26	PT	11dichlorota	10.0000	9.4906	5.09	106	0.00
27	T	Vinylacetate	100.0000	115.5067	-15.51	118	0.00
28	T	chloroprene	20.0000	22.8849	-14.42	112	0.00
29	T	Diisopether	10.0000	10.4616	-4.62	108	0.00
30	T	ETBE	10.0000	10.7016	-7.02	115	0.00
31	T	22dichloropr	10.0000	10.9759	-9.76	116	0.00
32	PT	c12dichlorte	10.0000	10.2283	-2.28	107	0.00
33	PT	2Butanone	100.0000	102.0613	-2.06	106	0.00
34	T	propionitrile	100.0000	91.6171	8.38	99	0.00
35	T	Ethylacetate	50.0000	50.1944	-0.39	109	0.00
36	T	methacrylonitrile	20.0000	18.7063	6.47	99	0.00
37	T	Bromochlorma	10.0000	9.2817	7.18	108	0.00
38	T	Tetrahydofur	100.0000	98.8688	1.13	105	0.00
39	PT	Chloroform	10.0000	9.4416	5.58	102	0.00
40	PT	111trichlota	10.0000	10.1522	-1.52	108	0.00
41	S	SURRDibrflma	20.0000	19.5738	2.13	105	0.00
42	PT	Cyclohexane	10.0000	10.6237	-6.24	114	0.00
43	PT	Carbtetraclo	10.0000	10.8874	-8.87	109	0.00
44	T	11dicloprope	10.0000	10.1820	-1.82	106	0.00
45	S	SURR12DCAd4	20.0000	19.4735	2.63	103	0.00
46	PT	Benzene	10.0000	9.9242	0.76	105	0.00
47	PT	12dichlorota	10.0000	9.6633	3.37	110	0.00
48	T	TAME	10.0000	10.6990	-6.99	117	0.00

49	PT	trichloroete	10.0000	9.8904	1.10	105	0.00
50	PT	methylcyclohexane	10.0000	10.8970	-8.97	116	0.00
51	PT	12dicloropra	10.0000	9.9405	0.59	107	0.00
52	T	23Dicl1propene	10.0000	10.4081	-4.08	114	0.00
53	T	Dibromometha	10.0000	9.7439	2.56	102	0.00
54	T	methylmethacrylate	10.0000	9.7256	2.74	107	0.00
55	T	14dioxane	500.0000	423.8555	15.23	91	0.00
56	PT	Bromodiclrma	10.0000	9.4426	5.57	106	0.00
57	T	2Nitropropane	100.0000	95.7794	4.22	103	0.00
58	T	2CLEVE	50.0000	57.4124	-14.82	124	0.00
59	PT	c13dicloproe	10.0000	10.1349	-1.35	109	0.00
60	PT	4Meth2Pentan	100.0000	95.9493	4.05	103	0.00
61	S	SURRd8Tolule	20.0000	19.5527	2.24	105	0.00
62	PT	Toluene	10.0000	10.0390	-0.39	107	0.00
63	PT	t13Dicloprop	10.0000	10.1897	-1.90	114	0.00
64	T	ethylmethacrylate	20.0000	20.8596	-4.30	112	0.00
65	PT	112Triclotha	10.0000	9.0316	9.68	100	0.00
66	PT	Tetrachlorte	10.0000	10.1622	-1.62	108	0.00
67	T	13Diclorpropa	10.0000	9.4713	5.29	103	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
69	PT	2Hexanone	100.0000	102.4653	-2.47	103	0.00
70	PT	Clorodibrmta	10.0000	9.3507	6.49	102	0.00
71	PT	12Dibrometha	10.0000	9.2629	7.37	106	0.00
72	PT	Chlorobenzen	10.0000	9.9184	0.82	107	0.00
73	T	1Clhexane	10.0000	11.1658	-11.66	116	0.00
74	T	1112Tetclota	10.0000	9.5585	4.41	103	0.00
75	PT	Ethylbenzene	10.0000	10.5069	-5.07	106	0.00
76	PT	m p-Xylene	20.0000	21.0666	-5.33	105	0.00
77	PT	o-Xylene	10.0000	10.1653	-1.65	105	0.00
78	PT	Styrene	10.0000	10.8495	-8.50	109	0.00
79	PT	Bromoform	10.0000	8.9639	10.36	95	0.00
80	PT	Isopropylben	10.0000	11.4498	-14.50	111	0.00
81	T	cyclohexanone	200.0000	165.2741	17.36	92	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	105	0.00
83	S	SURR4BrFBenz	20.0000	20.5189	-2.59	107	0.00
84	T	Bromobenzene	10.0000	9.6032	3.97	105	0.00
85	PT	1122Tetrclta	10.0000	9.4930	5.07	104	0.00
86	T	123Triclproa	10.0000	9.4850	5.15	100	0.00
87	T	14dichloro2butene	10.0000	8.4279	15.72	94	0.00
88	T	n-Propylbenz	10.0000	11.7657	-17.66	109	0.00
89	T	2chlorotolue	10.0000	10.5977	-5.98	106	0.00
90	T	4chlorotolue	10.0000	11.1998	-12.00	107	0.00
91	T	135Trimebenz	10.0000	11.2163	-12.16	105	0.00
92	T	tbutylbenzen	10.0000	11.6869	-16.87	109	0.00
93	T	124Trimetben	10.0000	11.2218	-12.22	105	0.00
94	T	sbutylbenzen	10.0000	11.7363	-17.36	106	0.00
95	PT	13Diclorbenz	10.0000	10.4497	-4.50	107	0.00
96	T	pIsopropylto	10.0000	11.7210	-17.21	108	0.00
97	PT	14dichlorobe	10.0000	9.7942	2.06	101	0.00
98	PT	12dichlorobe	10.0000	9.9292	0.71	108	0.00
99	T	nButylbenzen	10.0000	11.3113	-13.11	110	0.00
100	PT	12dibromo3cl	10.0000	9.4196	5.80	99	0.00
101	T	135Trichlorobenzene	10.0000	10.6539	-6.54	116	0.00
102	PT	124Trichlobe	10.0000	10.7086	-7.09	114	0.00
103	T	Hexachlorobu	10.0000	11.4107	-14.11	117	0.00
104	T	Naphthalene	10.0000	10.8965	-8.96	112	0.00
105	T	123Trichlben	10.0000	10.5596	-5.60	110	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101819.M Fri Nov 22 09:34:50 2019

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV1R.D Vial: 16
Acq On : 18 Oct 2019 14:52 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Nov 22 09:32:37 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 15:58:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1337666	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1076265	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	641208	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	354550	19.574	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.20	102	94062	19.474	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 97 %			
61) SURRd8Tolule	9.63	98	1419334	19.553	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98 %			
83) SURR4BrFBenz	13.18	95	582947	20.519	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	266442	11.8604	ug/L	98
3) Chloromethan	2.09	50	190847	9.9350	ug/L	96
4) VinylChlorid	2.24	62	250946	11.0263	ug/L	96
5) Bromomethane	2.69	94	115170	11.6755	ug/L #	78
6) Chloroethane	2.86	64	166462	9.1709	ug/L	90
7) Dichloroflmethane	3.16	67	382283	9.8342	ug/L	99
8) Trichlorofma	3.23	101	347481	11.6566	ug/L	96
9) Ethylether	3.68	59	156270	10.4523	ug/L	96
10) dichlorotfluoroethan	3.68	67	241141	10.6315	ug/L	98
11) propyleneoxide	3.73	58	333355	95.8981	ug/L	99
12) Acrolein	3.81	56	119425	46.5357	ug/L	96
13) 11dichlorthe	3.95	96	189814	10.8104	ug/L	100
14) Trichlorotfluoroeth	3.99	101	339850	23.0574	ug/L	99
15) Acetone	4.03	43	492711	94.1183	ug/L	97
16) Iodomethane	4.13	142	136657	20.5028	ug/L	99
17) Carbon Dislf	4.21	76	958128	22.0470	ug/L	100
18) allylchloride	4.43	41	572984	21.4878	ug/L	96
19) methylacetate	4.50	74	77218	8.6027	ug/L	98
20) Methylchlorid	4.59	84	217135	9.9638	ug/L	99
21) tbutylalcohol	4.79	59	812195	467.5966	ug/L	97
22) Acrylonitrile	4.91	53	248955	45.1449	ug/L	97
23) t12dichlorte	4.96	96	201147	9.9263	ug/L	97
24) MtBE	4.99	73	568617	10.7819	ug/L	99
25) Hexane	5.35	57	646608	22.3827	ug/L	99
26) 11dichlorota	5.49	63	360286	9.4906	ug/L	98
27) Vinylacetate	5.58	43	2666933	115.5067	ug/L	98
28) chloroprene	5.61	53	615045	22.8849	ug/L	98
29) Diisopether	5.62	45	575698	10.4616	ug/L	98
30) ETBE	6.08	59	529958	10.7016	ug/L	98
31) 22dichloropr	6.21	77	346552	10.9759	ug/L	99
32) c12dichlorte	6.22	96	228674	10.2283	ug/L	97
33) 2Butanone	6.23	72	236295	102.0613	ug/L	100
34) propionitrile	6.28	54	227150	91.6171	ug/L	97
35) Ethylacetate	6.34	88	39323	50.1944	ug/L #	91
36) methacrylonitrile	6.48	67	167104	18.7063	ug/L	96
37) Bromochlorma	6.50	128	98387	9.2817	ug/L	96
38) Tetrahydofur	6.58	42	514993	98.8688	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV1R.D Vial: 16
Acq On : 18 Oct 2019 14:52 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Nov 22 09:32:37 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 15:58:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.60	83	374705	9.4416	ug/L	99
40) 111trichlota	6.84	97	348680	10.1522	ug/L	99
42) Cyclohexane	6.92	56	324870	10.6237	ug/L	96
43) Carbtetraclo	7.06	119	285909	10.8874	ug/L	98
44) 11dicloprope	7.05	110	96391	10.1820	ug/L	94
46) Benzene	7.30	78	822131	9.9242	ug/L	99
47) 12dichlorota	7.30	62	286839	9.6633	ug/L	98
48) TAME	7.46	73	540907	10.6990	ug/L	98
49) trichloroete	8.10	95	218277	9.8904	ug/L	95
50) methylcyclohexane	8.36	83	446999	10.8970	ug/L	99
51) 12dicloropra	8.36	63	220059	9.9405	ug/L	100
52) 23Dicl1propene	8.42	75	327469	10.4081	ug/L	95
53) Dibromometha	8.50	93	132992	9.7439	ug/L	94
54) methylmethacrylate	8.53	69	135645	9.7256	ug/L	92
55) 14dioxane	8.55	88	102396	423.8555	ug/L	93
56) Bromodiclrma	8.70	83	287409	9.4426	ug/L	99
57) 2Nitropropane	8.97	43	569209	95.7794	ug/L	96
58) 2CLEVE	9.09	63	561283	57.4124	ug/L	99
59) c13dicloproe	9.28	75	339913	10.1349	ug/L	94
60) 4Meth2Pentan	9.47	43	1610350	95.9493	ug/L	99
62) Toluene	9.72	92	566186	10.0390	ug/L	99
63) t13Dicloprop	9.99	75	309138	10.1897	ug/L	94
64) ethylmethacrylate	10.13	69	540401	20.8596	ug/L	99
65) 112Triclotha	10.22	83	158275	9.0316	ug/L	98
66) Tetrachlorte	10.46	166	235166	10.1622	ug/L	97
67) 13Diclorpropa	10.45	76	340015	9.4713	ug/L	95
69) 2Hexanone	10.57	43	1198457	102.4653	ug/L	98
70) Clorodibrmta	10.74	129	191307	9.3507	ug/L	96
71) 12Dibrometha	10.89	107	176148	9.2629	ug/L	98
72) Chlorobenzen	11.58	112	551411	9.9184	ug/L	99
73) 1Clhexane	11.56	91	299671	11.1658	ug/L	98
74) 1112Tetclota	11.69	131	190884	9.5585	ug/L	98
75) Ethylbenzene	11.74	91	951643	10.5069	ug/L	99
76) m p-Xylene	11.90	106	716569	21.0666	ug/L	96
77) o-Xylene	12.45	106	341686	10.1653	ug/L	91
78) Styrene	12.46	104	577419	10.8495	ug/L	99
79) Bromoform	12.69	173	130838	8.9639	ug/L	98
80) Isopropylben	12.97	105	884928	11.4498	ug/L	99
81) cyclohexanone	13.07	55	116230	165.2741	ug/L	97
84) Bromobenzene	13.38	156	223851	9.6032	ug/L	97
85) 1122Tetrclta	13.36	83	268241	9.4930	ug/L	100
86) 123Triclproa	13.42	75	310643	9.4850	ug/L	99
87) 14dichloro2butene	13.45	53	48855	8.4279	ug/L	93
88) n-Propylbenz	13.56	91	1115751	11.7657	ug/L	98
89) 2chlorotolue	13.67	91	650672	10.5977	ug/L	97
90) 4chlorotolue	13.82	91	781081	11.1998	ug/L	98
91) 135Trimebenz	13.81	105	744775	11.2163	ug/L	98
92) tbutylbenzen	14.28	119	629650	11.6869	ug/L	99
93) 124Trimetben	14.35	105	745991	11.2218	ug/L	96
94) sbutylbenzen	14.60	105	906038	11.7363	ug/L	97
95) 13Diclorbenz	14.74	146	435788	10.4497	ug/L	99
96) pIsopropylto	14.82	119	798208	11.7210	ug/L	99
97) 14dichlorobe	14.87	146	434366	9.7942	ug/L	97
98) 12dichlorobe	15.40	146	417152	9.9292	ug/L	99
99) nButylbenzen	15.41	91	813530	11.3113	ug/L	98
100) 12dibromo3cl	16.50	157	53194	9.4196	ug/L	100
101) 135Trichlorobenzene	16.83	180	334132	10.6539	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICV1R.D Vial: 16
Acq On : 18 Oct 2019 14:52 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Nov 22 09:32:37 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 15:58:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	279835	10.7086	ug/L	97
103) Hexachlorobu	17.90	225	168234	11.4107	ug/L	98
104) Naphthalene	17.96	128	612804	10.8965	ug/L	100
105) 123Trichlben	18.27	180	267957	10.5596	ug/L	95

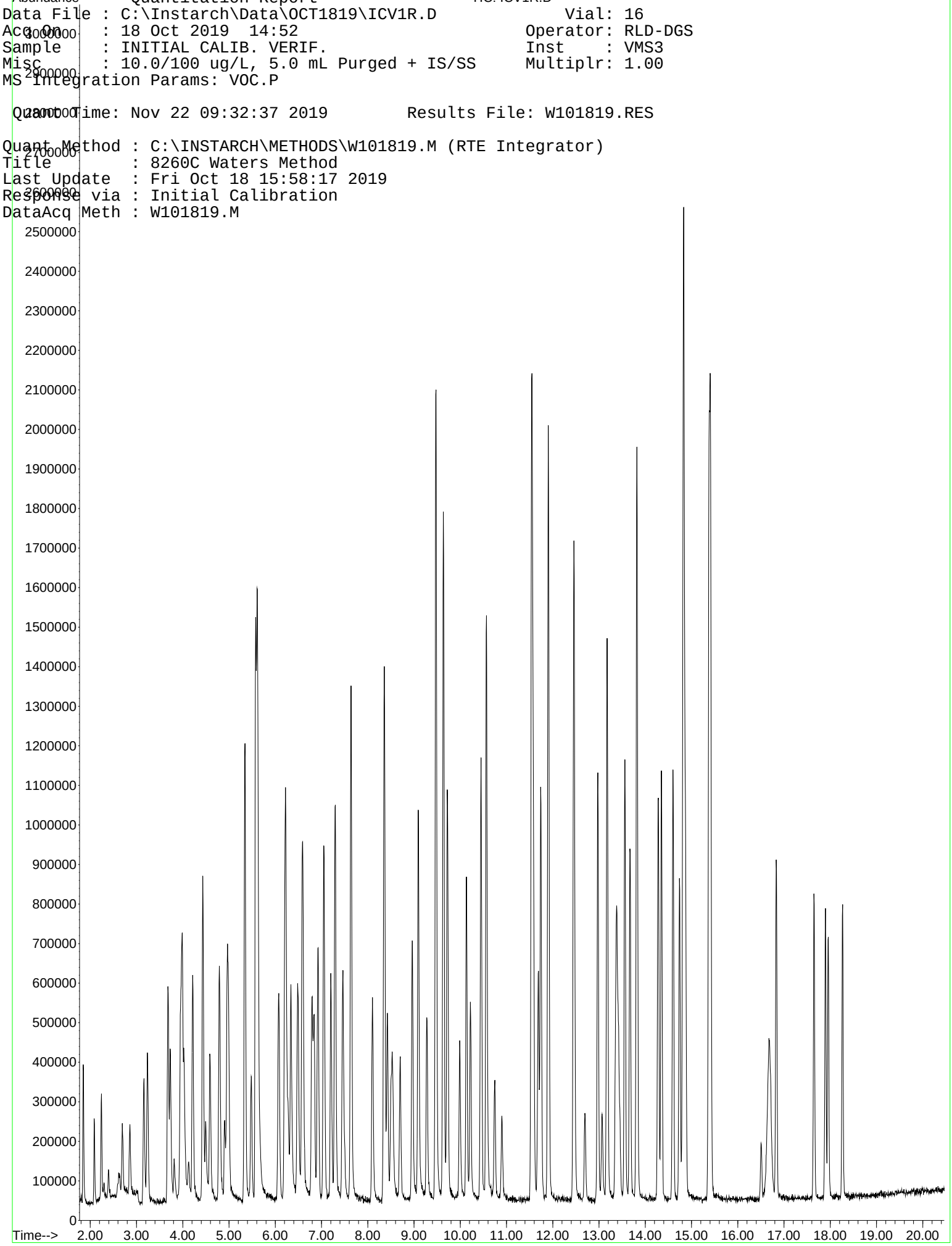
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1R.D

Data File : C:\Instarch\Data\OCT1819\ICV1R.D Vial: 16
Acq On : 18 Oct 2019 14:52 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Nov 22 09:32:37 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Oct 18 15:58:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICB1.D Vial: 17
Acq On : 18 Oct 2019 15:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 24 11:33:33 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 15:59:49 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1233391	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1000072	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	541885	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	326134	19.527	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.21	102	80108	17.987	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 90 %			
61) SURRd8Tolule	9.64	98	1268038	18.945	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 95 %			
83) SURR4BrFBenz	13.18	95	507268	21.128	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 106 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.22	76	7875	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.59	84	4554	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICB1.D Vial: 17
Acq On : 18 Oct 2019 15:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 24 11:33:33 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 15:59:49 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.55	91	4385	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	14.75	146	3878	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	14.87	146	3323	N.D.	
98)	12dichlorobe	15.40	146	3293	N.D.	
99)	nButylbenzen	15.38	91	2550	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	16.83	180	2806	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT1819\ICB1.D Vial: 17
Acq On : 18 Oct 2019 15:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 24 11:33:33 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 15:59:49 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	2971	N.D.		
103) Hexachlorobu	17.89	225	3326	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

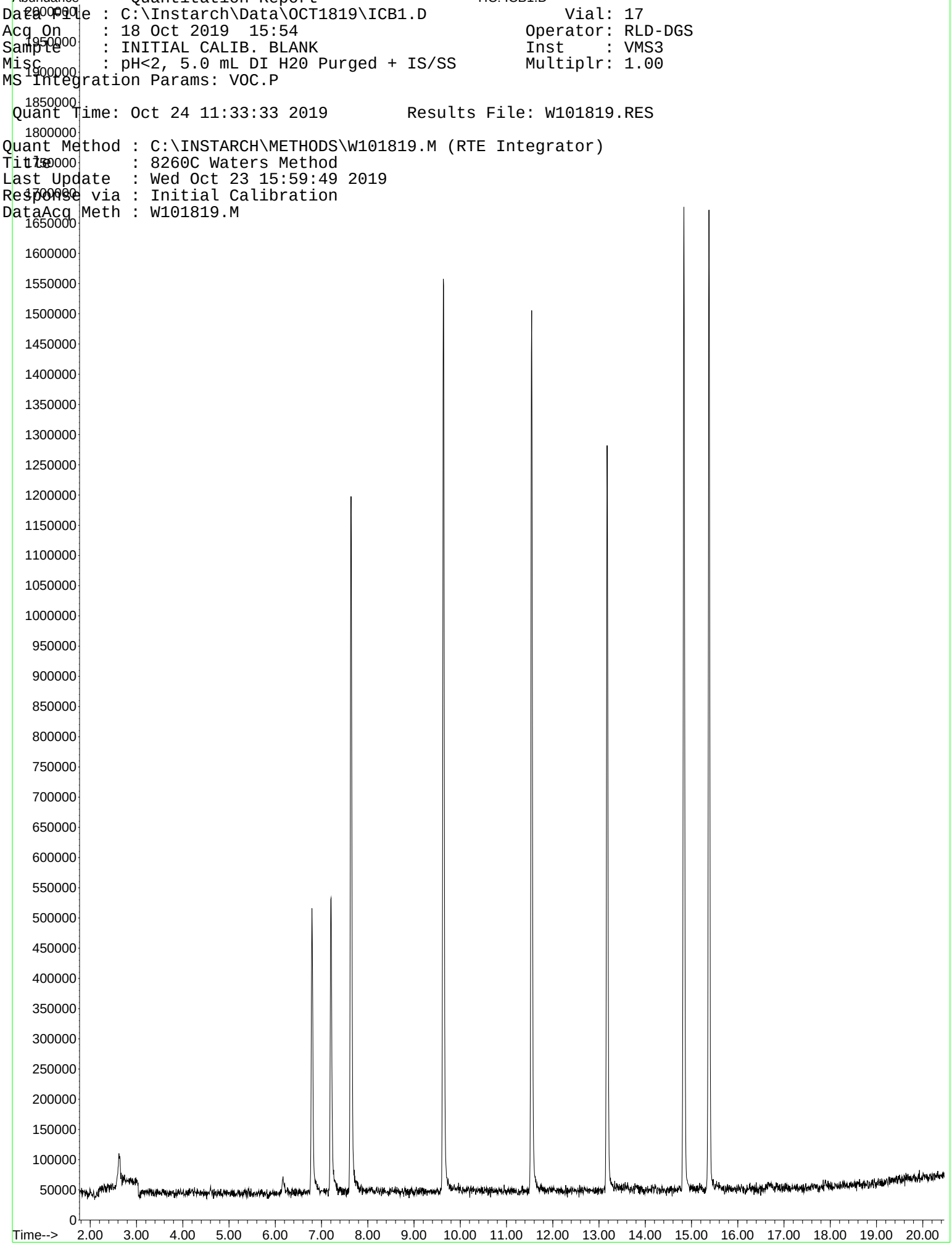
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: ICB1.D)

Data File : C:\Instarch\Data\OCT1819\ICB1.D Vial: 17
Acq On : 18 Oct 2019 15:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 24 11:33:33 2019 Results File: W101819.RES

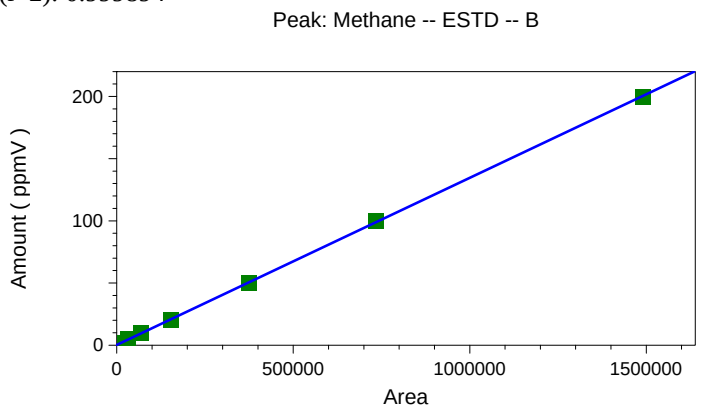
Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 15:59:49 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG062619.met
Print Time: Jun 26, 2019 13:52:49
User: BMS
Instrument: PVOC4

Methane (B)
Average RF: 0.000138700 RF StDev: 7.82485e-006 RF %RSD: 5.64155
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000134364x + 0.238931
Goodness of fit (r^2): 0.999894



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	14334	32916	68507	154671	374255
RF	0.000139528394028185	0.00015190181 0669583	0.000145970484 76798	0.000129306722 009944	0.0001335987 49515705
Last Area Residual	-0.16491	0.338331	0.556168	-1.0212	-0.525472
Rep StDev					
Rep %RSD					
Rep 1 Area	14334	32916	68507	154671	374255
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\062619icdg\001.dat	C:\Instarch\PVOC4\Data\062619icdg\002.dat	C:\Instarch\PVOC4\Data\062619icdg\003.dat	C:\Instarch\PVOC4\Data\062619icdg\004.dat	C:\Instarch\PVOC4\Data\062619icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Jun 26, 2019 10:10:10	Jun 26, 2019 10:16:50	Jun 26, 2019 10:17:00	Jun 26, 2019 10:21:48	Jun 26, 2019 10:25:22

	Level 6	Level 7
Amount	100	200
Area	733515	1489582

Calibration Report

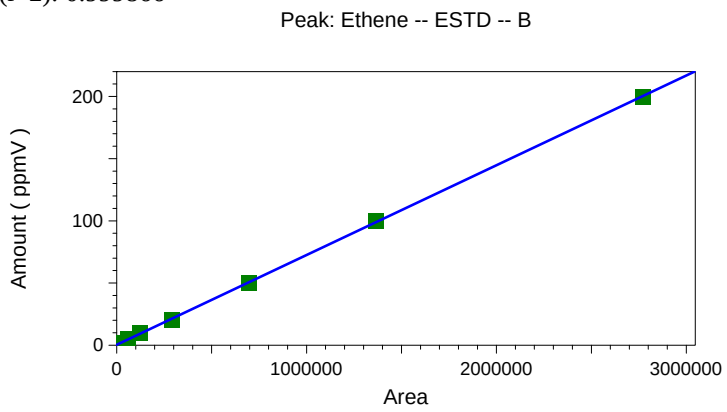
Method: C:\Instarch\PVOC4\Methods\P4DG062619.met
Print Time: Jun 26, 2019 13:52:49
User: BMS
Instrument: PVOC4

RF	0.000136329863738301	0.00013426585 4447758
Last Area Residual	1.20278	-0.385692
Rep StDev		
Rep %RSD		
Rep 1 Area	733515	1489582
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\062619icdg\006.dat	C:\Instarch\PVOC4\Data\062619icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Jun 26, 2019 10:28:55	Jun 26, 2019 10:35:35

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG062619.met
Print Time: Jun 26, 2019 13:52:56
User: BMS
Instrument: PVOC4

Ethene (B)
Average RF: 7.72528e-005 RF StDev: 7.39319e-006 RF %RSD: 9.57013
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 7.21641e-005x + 0.390714
Goodness of fit (r^2): 0.999866



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	23340	57198	122994	288888	697877
RF	8.568980291 34533e-005	8.74156439036 33e-005	8.130477909491 52e-005	6.923098224917 61e-005	7.1645863096 219e-005
Last Area Residual	-0.0750239	0.481645	0.733537	-1.23805	-0.752367
Rep StDev					
Rep %RSD					
Rep 1 Area	23340	57198	122994	288888	697877
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\062619icdg\001.dat	C:\Instarch\PVOC4\Data\062619icdg\002.dat	C:\Instarch\PVOC4\Data\062619icdg\003.dat	C:\Instarch\PVOC4\Data\062619icdg\004.dat	C:\Instarch\PVOC4\Data\062619icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Jun 26, 2019 10:10:10	Jun 26, 2019 10:16:50	Jun 26, 2019 10:17:00	Jun 26, 2019 10:21:48	Jun 26, 2019 10:25:22

	Level 6	Level 7
Amount	100	200
Area	1364653	2769929

Calibration Report

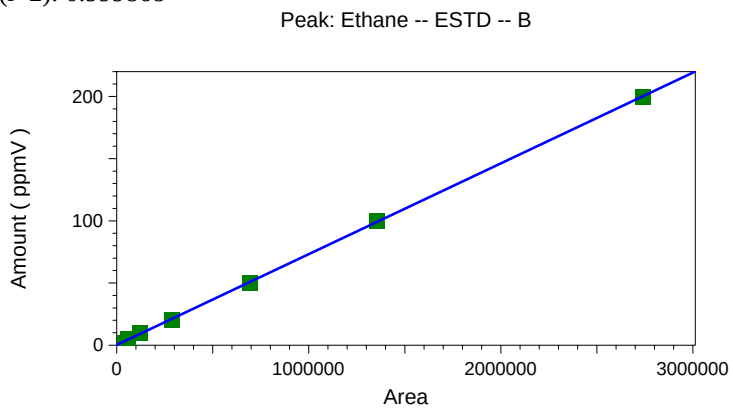
Method: C:\Instarch\PVOC4\Methods\P4DG062619.met
Print Time: Jun 26, 2019 13:52:56
User: BMS
Instrument: PVOC4

RF	7.32787016186532e-005	7.22040167816576e-005
Last Area Residual	1.13036	-0.280095
Rep StDev		
Rep %RSD		
Rep 1 Area	1364653	2769929
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\062619icdg\006.dat	C:\Instarch\PVOC4\Data\062619icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Jun 26, 2019 10:28:55	Jun 26, 2019 10:35:35

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG062619.met
Print Time: Jun 26, 2019 13:53:01
User: BMS
Instrument: PVOC4

Ethane (B)
Average RF: 7.70373e-005 RF StDev: 6.89836e-006 RF %RSD: 8.95457
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 7.29814e-005x + 0.249482
Goodness of fit (r^2): 0.999868



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	24981	56275	121764	288819	692548
RF	8.006084624 31448e-005	8.88494002665 482e-005	8.212607995795 15e-005	6.924752180431 34e-005	7.2197161785 1759e-005
Last Area Residual	-0.0726307	0.643489	0.864011	-1.3279	-0.792604
Rep StDev					
Rep %RSD					
Rep 1 Area	24981	56275	121764	288819	692548
Rep 1 User	BMS	BMS	BMS	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\062619icdg\001.dat	C:\Instarch\PVOC4\Data\062619icdg\002.dat	C:\Instarch\PVOC4\Data\062619icdg\003.dat	C:\Instarch\PVOC4\Data\062619icdg\004.dat	C:\Instarch\PVOC4\Data\062619icdg\005.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Jun 26, 2019 10:10:10	Jun 26, 2019 10:16:50	Jun 26, 2019 10:17:00	Jun 26, 2019 10:21:48	Jun 26, 2019 10:25:22

	Level 6	Level 7
Amount	100	200
Area	1356042	2738363

Calibration Report

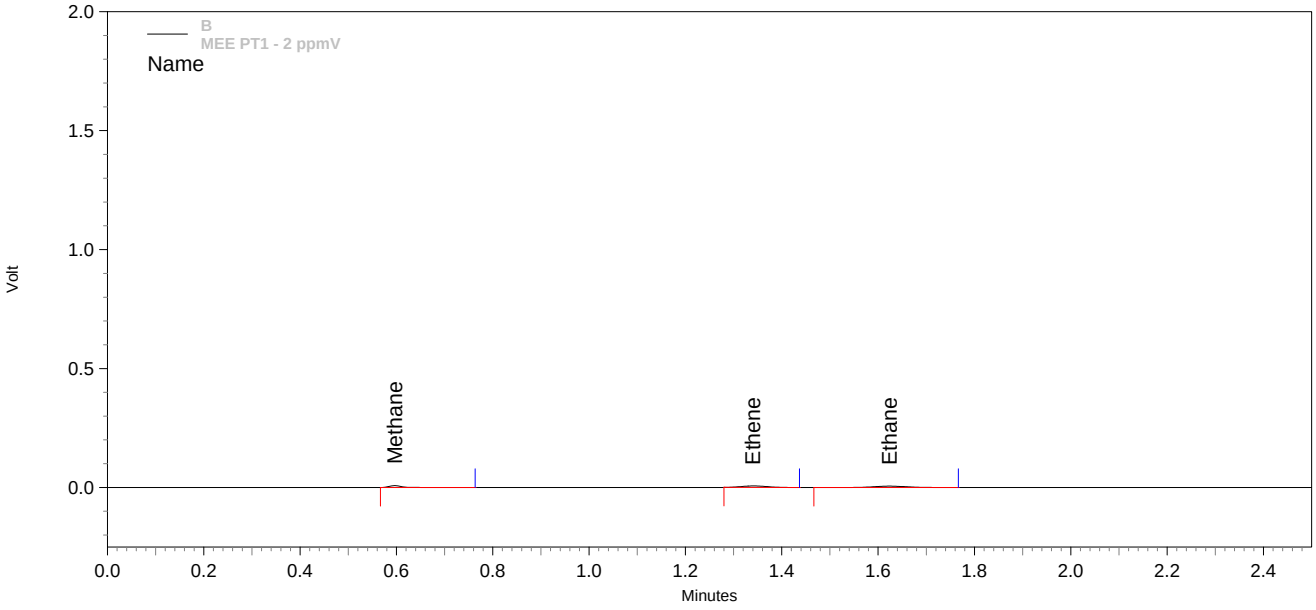
Method: C:\Instarch\PVOC4\Methods\P4DG062619.met
Print Time: Jun 26, 2019 13:53:01
User: BMS
Instrument: PVOC4

RF	7.374402857 7286e-005	7.30363359423 13e-005
Last Area Residual	0.784676	-0.099044
Rep StDev		
Rep %RSD		
Rep 1 Area	1356042	2738363
Rep 1 User	BMS	BMS
Rep 1 Data File	C:\Instarch\PVOC4\Data\062619icdg\006.dat	C:\Instarch\PVOC4\Data\062619icdg\007.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Jun 26, 2019 10:28:55	Jun 26, 2019 10:35:35

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Jun 26, 2019 10:07:25
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



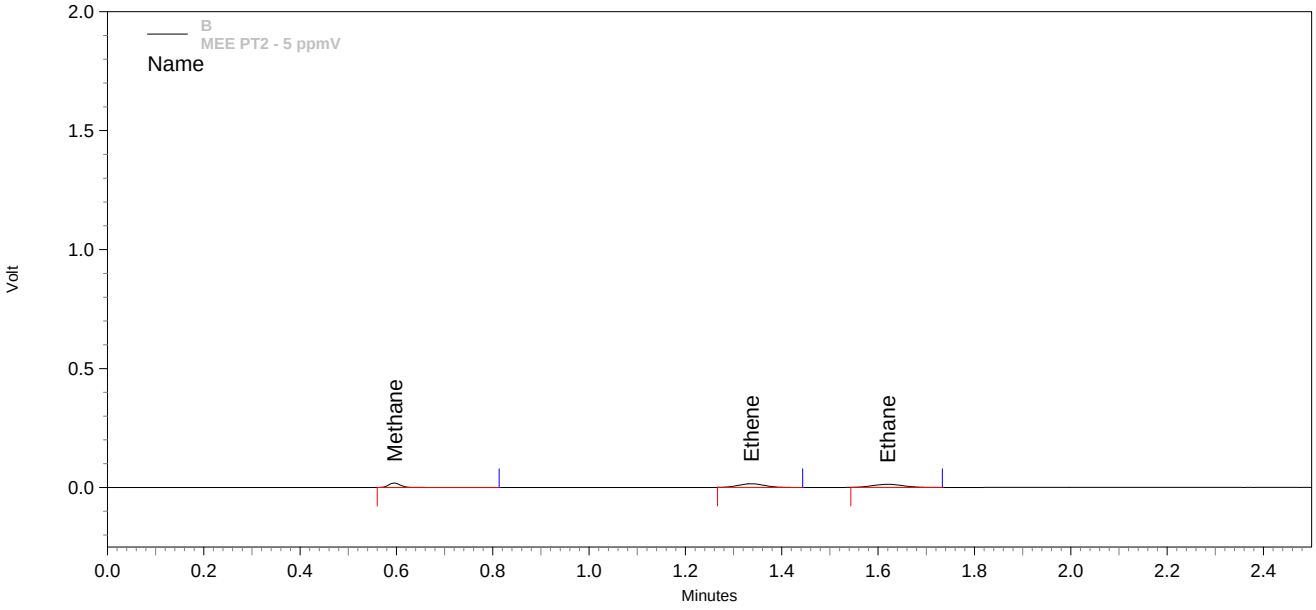
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.600**	**14334**	**2.000 CAL**	**ppmV**
2	**Ethene**	**1.340**	**1.343**	**23340**	**2.000 CAL**	**ppmV**
3	**Ethane**	**1.623**	**1.623**	**24981**	**2.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Jun 26, 2019 10:10:52
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



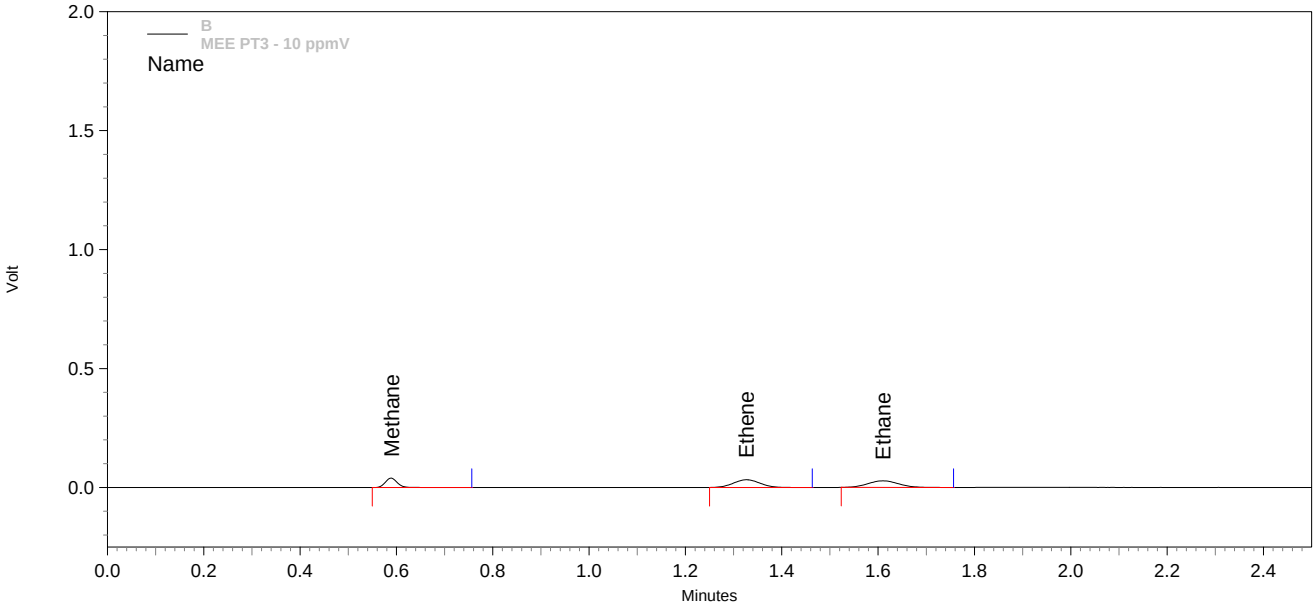
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.597**	**32916**	**5.000 CAL**	**ppmV**
2	**Ethene**	**1.337**	**1.340**	**57198**	**5.000 CAL**	**ppmV**
3	**Ethane**	**1.620**	**1.623**	**56275**	**5.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Jun 26, 2019 10:14:05
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



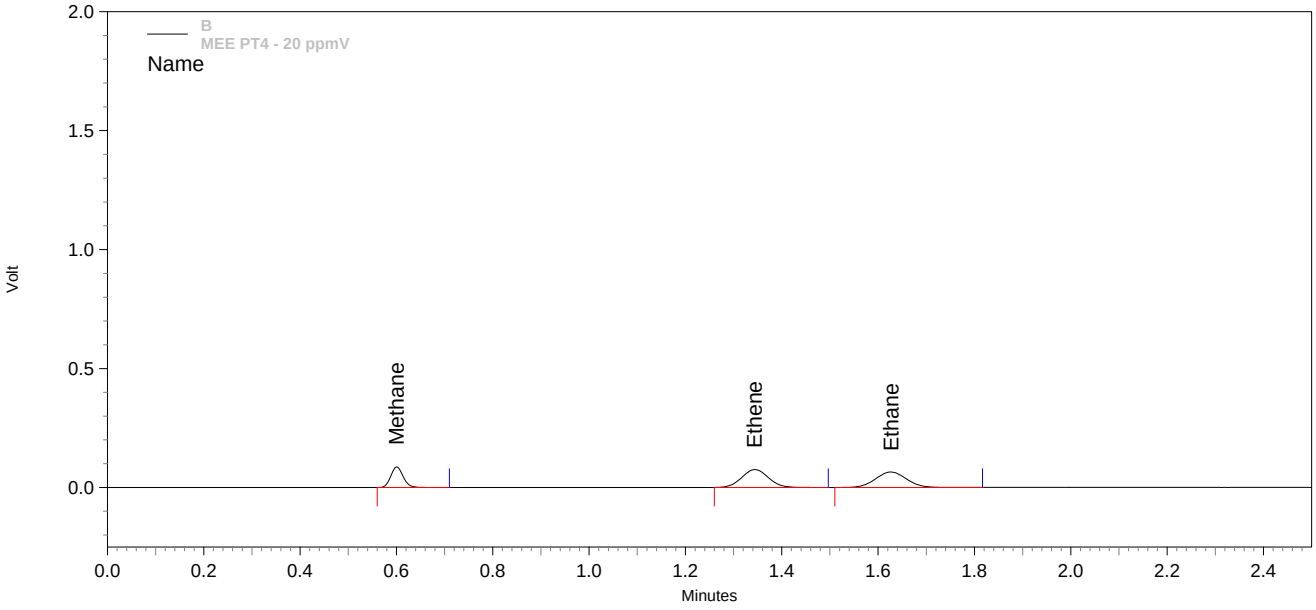
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.597**	**68507**	**10.000 CAL**	**ppmV**
2	**Ethene**	**1.327**	**1.337**	**122994**	**10.000 CAL**	**ppmV**
3	**Ethane**	**1.610**	**1.620**	**121764**	**10.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Jun 26, 2019 10:19:02
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



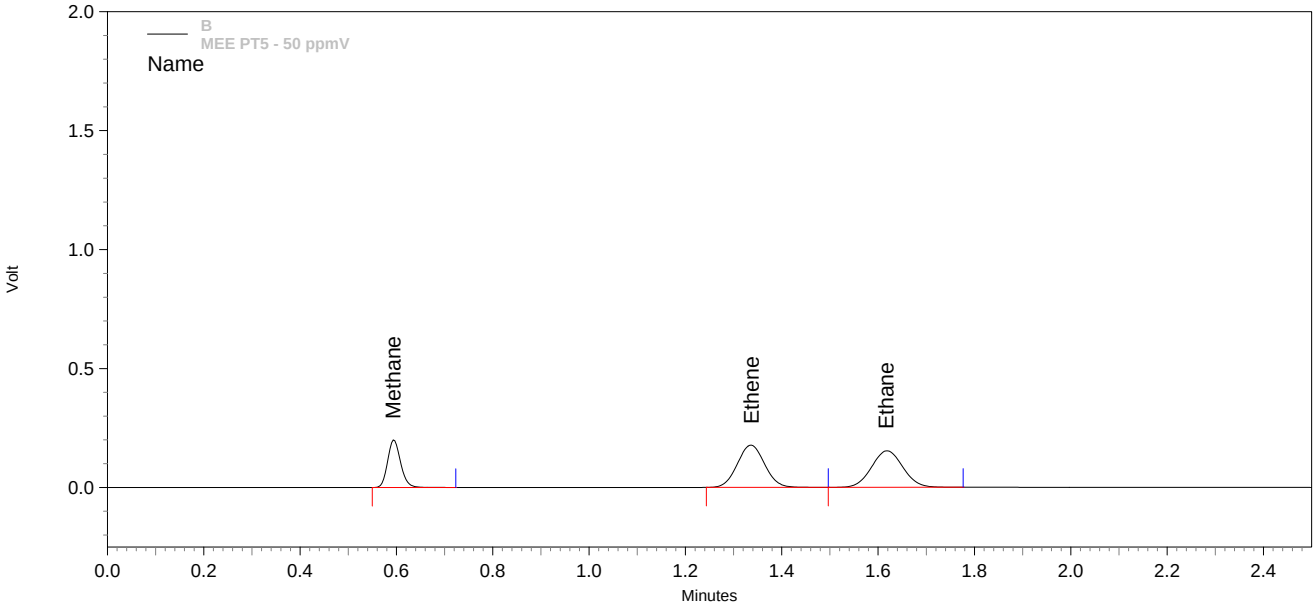
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.600**	**0.590**	**154671**	**20.000 CAL**	**ppmV**
2	**Ethene**	**1.343**	**1.327**	**288888**	**20.000 CAL**	**ppmV**
3	**Ethane**	**1.627**	**1.610**	**288819**	**20.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Jun 26, 2019 10:22:38
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



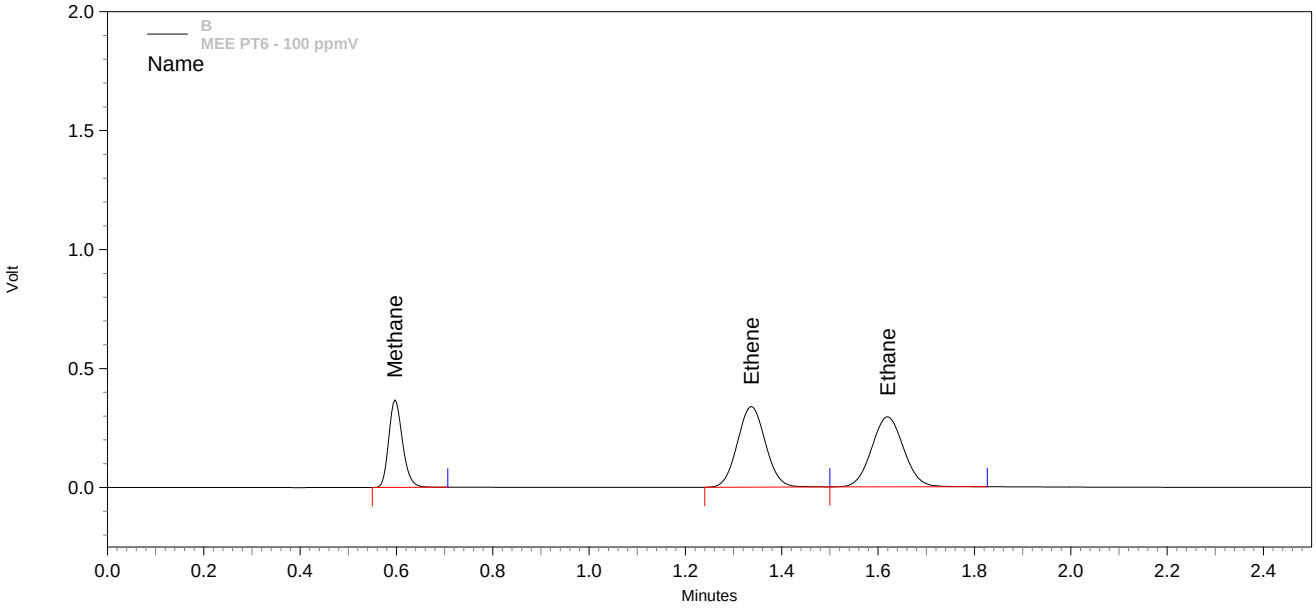
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.593**	**0.600**	**374255**	**50.000 CAL**	**ppmV**
2	**Ethene**	**1.337**	**1.343**	**697877**	**50.000 CAL**	**ppmV**
3	**Ethane**	**1.617**	**1.627**	**692548**	**50.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Jun 26, 2019 10:26:11
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



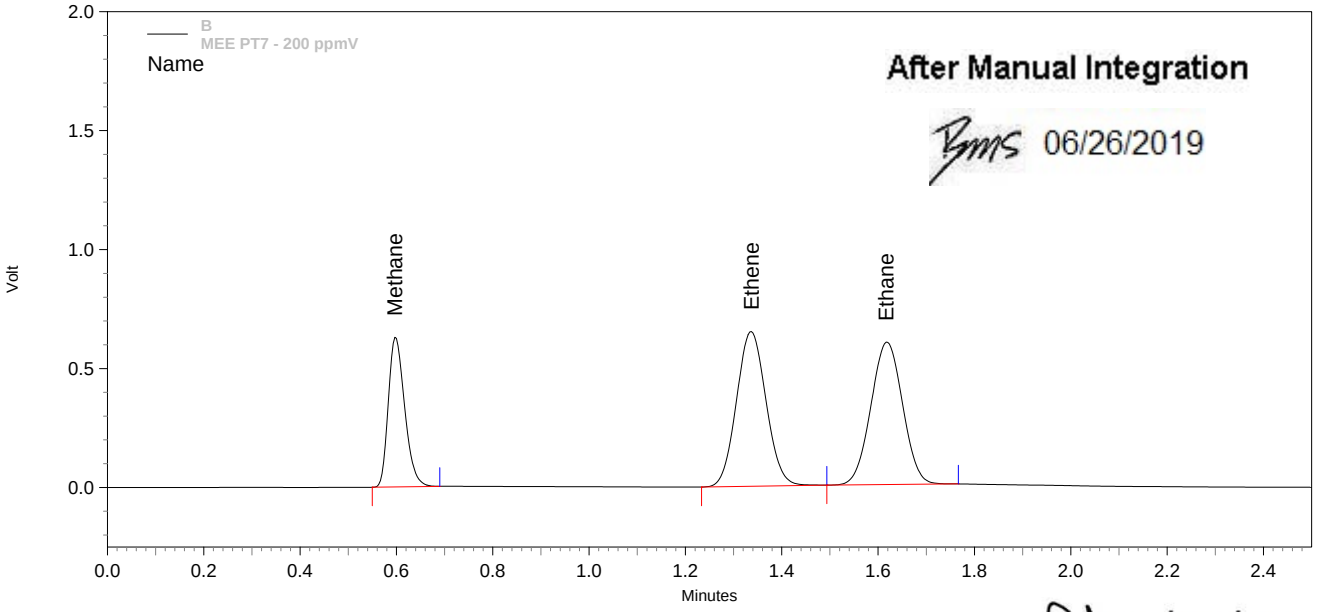
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.593**	**733515**	**100.000 CAL**	**ppmV**
2	**Ethene**	**1.337**	**1.337**	**1364653**	**100.000 CAL**	**ppmV**
3	**Ethane**	**1.620**	**1.617**	**1356042**	**100.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Jun 26, 2019 10:30:28
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



07/14/2019

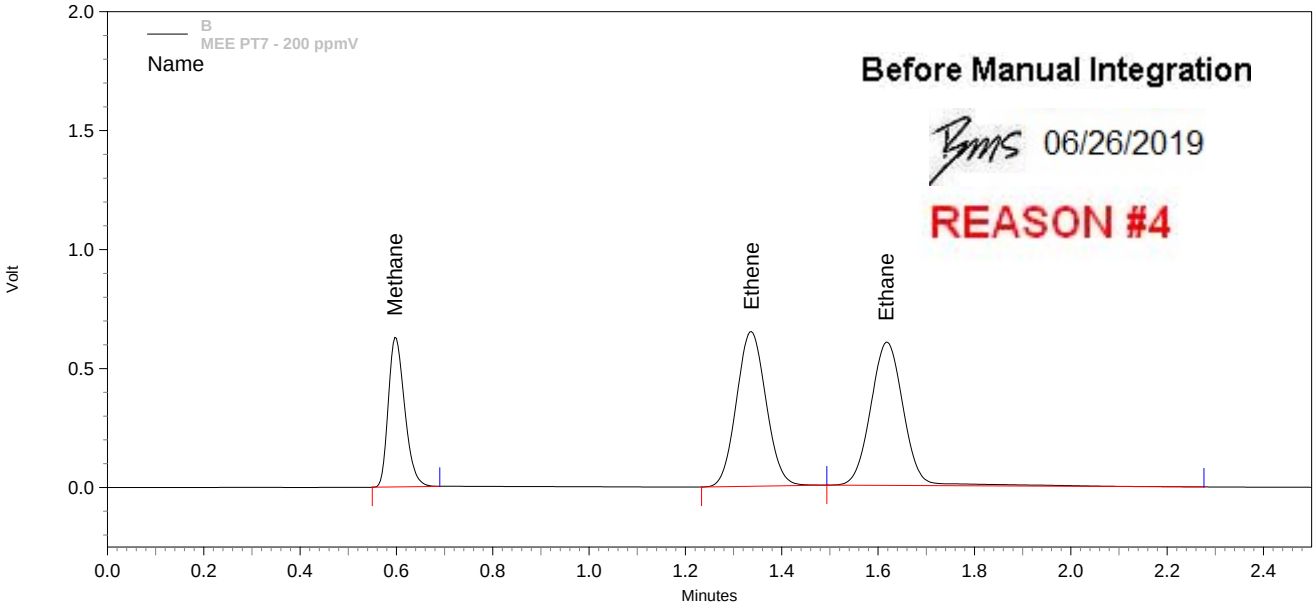
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.597**	**1489582**	**200.000 CAL**	**ppmV**
2	**Ethene**	**1.337**	**1.337**	**2769929**	**200.000 CAL**	**ppmV**
3	**Ethane**	**1.617**	**1.617**	**2738363**	**200.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Jun 26, 2019 10:30:28
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.597**	**1489582**	**202.014**	**ppmV**
2	**Ethene**	**1.337**	**1.337**	**2769929**	**201.455**	**ppmV**
3	**Ethane**	**1.617**	**1.620**	**2882059**	**211.022**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\062619 - MEE ICAL.seq
User : BMS
Printed : Jun 26, 2019 13:52:11

File	Sample ID	Acquired
C:\Instarch\PVOC4\Data\062619icdg\008.dat	ICV - 50 ppmV	Jun 26, 2019 13:52:11

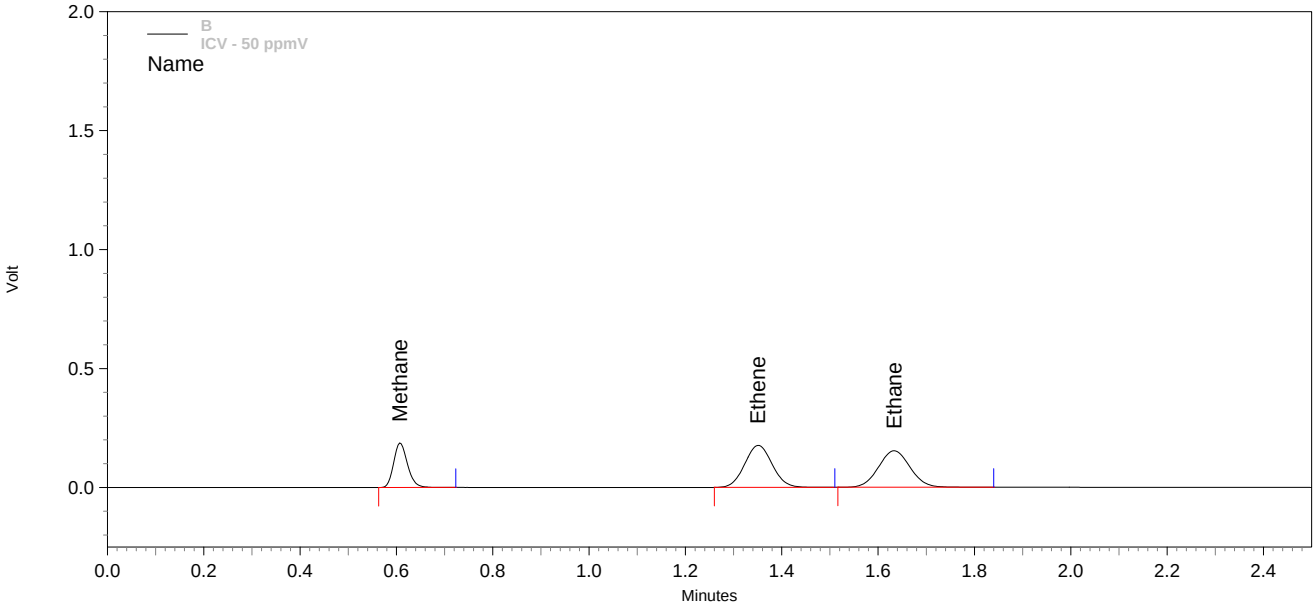
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.371	0.742	15.000	**Passed**
Ethene	50.000	50.874	1.748	15.000	**Passed**
Ethane	50.000	51.111	2.222	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: ICV - 50 ppmV
Acquired: Jun 26, 2019 10:40:59
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



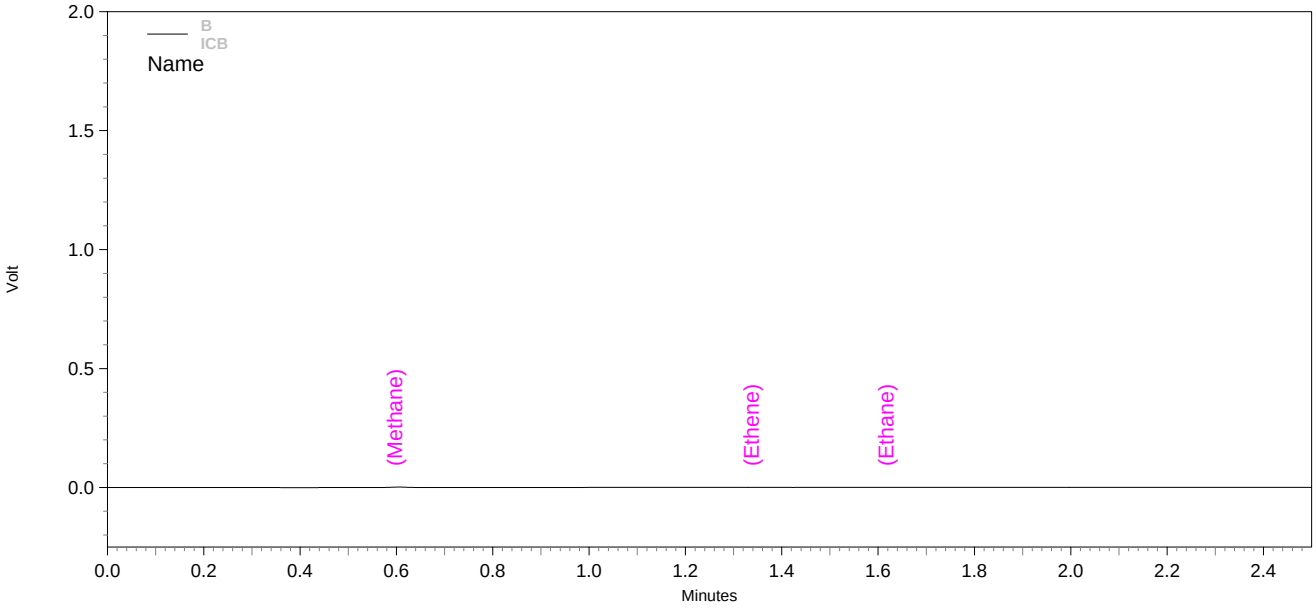
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.607**	**0.597**	**373105**	**50.371**	**ppmV**
2	**Ethene**	**1.350**	**1.337**	**699560**	**50.874**	**ppmV**
3	**Ethane**	**1.633**	**1.617**	**696911**	**51.111**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\062619icdg\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: ICB
Acquired: Jun 26, 2019 10:44:34
File Desc. INITIAL CALIB. BLANK - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.597**		**0.000 BDL**	**ppmV**
	Ethene		**1.337**		**0.000 BDL**	**ppmV**
	Ethane		**1.617**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\Instarch\Data\OCT2219\BFB2.D Vial: 22
Acq On : 22 Oct 2019 17:48 Operator: RLD-DGS
Sample : 165696,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.597 to 4.609 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	15.7	8491	PASS
75	95	30	60	56.3	30375	PASS
95	95	100	100	100.0	53946	PASS
96	95	5	9	5.9	3190	PASS
173	174	0.00	2	0.0	0	PASS
174	95	50	100	81.9	44176	PASS
175	174	5	9	8.0	3520	PASS
176	174	95	101	95.6	42224	PASS
177	176	5	9	7.4	3108	PASS

W101819.M Mon Oct 28 10:44:41 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 22 18:24:46 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	96	0.00
2	PT	Dichlorodi	0.3359	0.3830	-14.02	92	0.00
3	PT	Chloromethan	0.2872	0.2970	-3.41	95	0.00
4	PT	VinylChlorid	0.3403	0.3790	-11.37	98	0.00
5	PT	Bromomethane	0.1475	0.1403	4.88	90	0.00
6	PT	Chloroethane	0.2714	0.2746	-1.18	93	0.00
7	T	Dichloroflmethane	0.5812	0.5940	-2.20	95	0.00
8	PT	Trichlorofma	0.4457	0.5002	-12.23	96	0.00
9	T	Ethylether	0.2235	0.2137	4.38	95	0.00
10	T	dichlorotfluoroethan	0.3391	0.3799	-12.03	100	0.00
11	T	propyleneoxide	0.0520	0.0414	20.38#	81	0.00
12	T	Acrolein	0.0384	0.0360	6.25	86	0.00
13	PT	11dichlorthe	0.2625	0.2739	-4.34	95	0.00
14	PT	Trichlorotfluoroeth	0.2204	0.2499	-13.38	95	0.00
15	PT	Acetone	0.0783	0.0691#	11.75	85	0.00
16	T	Iodomethane	0.0928	0.1398	-50.65#	199	0.00
17	PT	Carbon Dislf	0.6498	0.7053	-8.54	95	0.00
18	T	allylchloride	0.3987	0.4181	-4.87	98	0.00
19	PT	methylacetate	0.1342	0.1163	13.34	88	0.00
20	PT	Methylchlorid	0.3409	0.3327	2.41	101	0.00
21	T	tbutylalcohol	0.0260	0.0232#	10.77	85	0.00
22	T	Acrylonitrile	0.0726	0.0686	5.51	84	0.00
23	PT	t12dichlorte	0.3030	0.3024	0.20	95	0.00
24	PT	MtBE	0.7885	0.7876	0.11	93	0.00
25	T	Hexane	0.3706	0.4355	-17.51	94	0.00
26	PT	11dichlorota	0.5676	0.5671	0.09	100	0.00
27	T	Vinylacetate	0.3452	0.3025	12.37	81	0.00
28	T	chloroprene	0.4018	0.4344	-8.11	95	0.00
29	T	Diisopether	0.8228	0.8310	-1.00	94	0.00
30	T	ETBE	0.7404	0.7240	2.22	95	0.00
31	T	22dichloropr	0.4721	0.4854	-2.82	98	0.00
32	PT	c12dichlorte	0.3343	0.3386	-1.29	95	0.00
33	PT	2Butanone	0.0346	0.0347#	-0.29	94	0.00
34	T	propionitrile	0.0316	0.0311	1.58	82	0.00
35	T	Ethylacetate	0.0117	0.0109#	6.84	91	0.00
36	T	methacrylonitrile	0.1336	0.1297	2.92	93	0.00
37	T	Bromochlorma	0.1585	0.1441	9.09	95	0.01
38	T	Tetrahydofur	0.0779	0.0744	4.49	91	0.00
39	PT	Chloroform	0.5934	0.5758	2.97	95	0.00
40	PT	111trichlota	0.5135	0.5260	-2.43	98	0.00
41	S	SURRDibrflma	0.2708	0.2773	-2.40	99	0.00
42	PT	Cyclohexane	0.4081	0.4619	-13.18	98	0.00
43	PT	Carbtetraclo	0.3926	0.4303	-9.60	98	0.00
44	T	11dicloprope	0.1415	0.1412	0.21	94	0.00
45	S	SURR12DCAd4	0.0722	0.0717	0.69	95	0.00
46	PT	Benzene	1.2386	1.3017	-5.09	100	0.00
47	PT	12dichlorota	0.4438	0.4351	1.96	101	0.00
48	T	TAME	0.7559	0.7597	-0.50	99	0.00

49	PT	trichloroete	0.3300	0.3363	-1.91	98	0.00
50	PT	methylcyclohexane	0.5327	0.6261	-17.53	98	0.00
51	PT	12dicloropra	0.3310	0.3424	-3.44	101	0.00
52	T	23Dicl1propene	0.4704	0.4774	-1.49	100	0.00
53	T	Dibromometha	0.2041	0.2170	-6.32	101	0.00
54	T	methylmethacrylate	0.2085	0.1954	6.28	93	0.00
55	T	14dioxane	0.0036	0.0033#	8.33	89	0.00
56	PT	Bromodiclrma	0.4551	0.4506	0.99	100	0.00
57	T	2Nitropropane	0.0889	0.0858	3.49	94	0.00
58	T	2CLEVE	0.1462	0.1121	23.32#	75	0.00
59	PT	c13dicloproe	0.5015	0.5198	-3.65	100	0.00
60	PT	4Meth2Pentan	0.2509	0.2247	10.44	87	0.00
61	S	SURRd8Tolule	1.0853	1.0962	-1.00	98	0.00
62	PT	Toluene	0.8432	0.8603	-2.03	98	0.00
63	PT	t13Dicloprop	0.4536	0.4667	-2.89	103	0.00
64	T	ethylmethacrylate	0.3873	0.3874	-0.03	97	0.00
65	PT	112Triclotha	0.2620	0.2512	4.12	96	0.00
66	PT	Tetrachlorte	0.3460	0.3576	-3.35	99	0.00
67	T	13Diclorpropa	0.5368	0.5338	0.56	98	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	101	0.00
69	PT	2Hexanone	0.2173	0.1970	9.34	86	0.00
70	PT	Clorodibrmta	0.3802	0.3606	5.16	98	0.00
71	PT	12Dibrometha	0.3534	0.3327	5.86	102	0.00
72	PT	Chlorobenzen	1.0331	1.0179	1.47	100	0.00
73	T	1Clhexane	0.4987	0.5335	-6.98	105	0.00
74	T	1112Tetclota	0.3711	0.3523	5.07	96	0.00
75	PT	Ethylbenzene	1.6831	1.7739	-5.39	101	0.00
76	PT	m p-Xylene	0.6321	0.6644	-5.11	99	0.00
77	PT	o-Xylene	0.6246	0.6506	-4.16	102	0.00
78	PT	Styrene	0.9890	1.0493	-6.10	100	0.00
79	PT	Bromoform	0.2712	0.2591	4.46	96	0.00
80	PT	Isopropylben	1.4362	1.5661	-9.04	100	0.00
81	T	cyclohexanone	0.0131	0.0109#	16.79	88	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	103	0.00
83	S	SURR4BrFBenz	0.8861	0.8924	-0.71	104	0.00
84	T	Bromobenzene	0.7271	0.7003	3.69	104	0.00
85	PT	1122Tetrclta	0.8814	0.7754	12.03	95	0.00
86	T	123Triclproa	1.0215	0.9462	7.37	97	0.00
87	T	14dichloro2butene	0.1808	0.1459	19.30	89	0.00
88	T	n-Propylbenz	2.9579	3.2369	-9.43	100	0.00
89	T	2chlorotolue	1.9151	1.9659	-2.65	102	0.00
90	T	4chlorotolue	2.1753	2.3476	-7.92	102	0.00
91	T	135Trimebenz	2.0711	2.2098	-6.70	99	0.00
92	T	tbutylbenzen	1.6805	1.8313	-8.97	100	0.00
93	T	124Trimetben	2.0735	2.2013	-6.16	98	0.00
94	T	sbutylbenzen	2.4079	2.8374	-17.84	105	0.00
95	PT	13Diclorbenz	1.3008	1.3205	-1.51	103	0.00
96	T	pIsopropylto	2.1241	2.3323	-9.80	100	0.00
97	PT	14dichlorobe	1.3833	1.3516	2.29	100	0.00
98	PT	12dichlorobe	1.3104	1.2527	4.40	103	0.00
99	T	nButylbenzen	2.2433	2.3531	-4.89	101	0.00
100	PT	12dibromo3cl	0.1761	0.1563	11.24	92	0.00
101	T	135Trichlorobenzene	0.9782	0.9266	5.27	102	0.00
102	PT	124Trichlobe	0.8151	0.7736	5.09	100	0.00
103	T	Hexachlorobu	0.4599	0.4517	1.78	99	0.00
104	T	Naphthalene	1.7541	1.6515	5.85	96	0.00
105	T	123Trichlben	0.7915	0.7462	5.72	97	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W101819.M Mon Oct 28 10:48:10 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 22 18:24:46 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	96	0.00
2	PT	Dichlorodi	10.0000	11.4036	-14.04	92	0.00
3	PT	Chloromethan	10.0000	10.3423	-3.42	95	0.00
4	PT	VinylChlorid	10.0000	11.1385	-11.39	98	0.00
5	PT	Bromomethane	10.0000	9.5150	4.85	90	0.00
6	PT	Chloroethane	10.0000	10.1202	-1.20	93	0.00
7	T	Dichloroflmethane	10.0000	10.2207	-2.21	95	0.00
8	PT	Trichlorofma	10.0000	11.2238	-12.24	96	0.00
9	T	Ethylether	10.0000	9.5581	4.42	95	0.00
10	T	dichlorotfluoroethan	10.0000	11.2031	-12.03	100	0.00
11	T	propyleneoxide	100.0000	79.5761	20.42#	81	0.00
12	T	Acrolein	50.0000	46.8515	6.30	86	0.00
13	PT	11dichlorthe	10.0000	10.4347	-4.35	95	0.00
14	PT	Trichlorotfluoroeth	20.0000	22.6829	-13.41	95	0.00
15	PT	Acetone	100.0000	88.3404	11.66	85	0.00
16	T	Iodomethane	20.0000	25.7010	-28.51#	199	0.00
17	PT	Carbon Dislf	20.0000	21.7095	-8.55	95	0.00
18	T	allylchloride	20.0000	20.9751	-4.88	98	0.00
19	PT	methylacetate	10.0000	8.6622	13.38	88	0.00
20	PT	Methylchlorid	10.0000	10.2192	-2.19	101	0.00
21	T	tbutylalcohol	500.0000	447.1481	10.57	85	0.00
22	T	Acrylonitrile	50.0000	41.8313	16.34	84	0.00
23	PT	t12dichlorte	10.0000	9.9803	0.20	95	0.00
24	PT	MtBE	10.0000	9.9886	0.11	93	0.00
25	T	Hexane	20.0000	20.2043	-1.02	94	0.00
26	PT	11dichlorota	10.0000	9.9909	0.09	100	0.00
27	T	Vinylacetate	100.0000	87.6296	12.37	81	0.00
28	T	chloroprene	20.0000	21.6233	-8.12	95	0.00
29	T	Diisopether	10.0000	10.1002	-1.00	94	0.00
30	T	ETBE	10.0000	9.7784	2.22	95	0.00
31	T	22dichloropr	10.0000	10.2823	-2.82	98	0.00
32	PT	c12dichlorte	10.0000	10.1302	-1.30	95	0.00
33	PT	2Butanone	100.0000	100.2207	-0.22	94	0.00
34	T	propionitrile	100.0000	84.5170	15.48	82	0.00
35	T	Ethylacetate	50.0000	46.6618	6.68	91	0.00
36	T	methacrylonitrile	20.0000	19.4251	2.87	93	0.00
37	T	Bromochlorma	10.0000	9.0902	9.10	95	0.01
38	T	Tetrahydofur	100.0000	95.4979	4.50	91	0.00
39	PT	Chloroform	10.0000	9.7036	2.96	95	0.00
40	PT	111trichlota	10.0000	10.2434	-2.43	98	0.00
41	S	SURRDibrflma	20.0000	20.4756	-2.38	99	0.00
42	PT	Cyclohexane	10.0000	10.1249	-1.25	98	0.00
43	PT	Carbtetraclo	10.0000	10.9599	-9.60	98	0.00
44	T	11dicloprope	10.0000	9.9724	0.28	94	0.00
45	S	SURR12DCAd4	20.0000	19.8624	0.69	95	0.00
46	PT	Benzene	10.0000	10.5096	-5.10	100	0.00
47	PT	12dichlorota	10.0000	9.8031	1.97	101	0.00
48	T	TAME	10.0000	10.0509	-0.51	99	0.00

49	PT	trichloroete	10.0000	10.1928	-1.93	98	0.00
50	PT	methylcyclohexane	10.0000	10.2417	-2.42	98	0.00
51	PT	12dicloropra	10.0000	10.3457	-3.46	101	0.00
52	T	23Dicl1propene	10.0000	10.1494	-1.49	100	0.00
53	T	Dibromometha	10.0000	10.6346	-6.35	101	0.00
54	T	methylmethacrylate	10.0000	9.3687	6.31	93	0.00
55	T	14dioxane	500.0000	459.5563	8.09	89	0.00
56	PT	Bromodiclrma	10.0000	9.9019	0.98	100	0.00
57	T	2Nitropropane	100.0000	96.5738	3.43	94	0.00
58	T	2CLEVE	50.0000	38.3382	23.32#	75	0.00
59	PT	c13dicloproe	10.0000	10.3662	-3.66	100	0.00
60	PT	4Meth2Pentan	100.0000	89.5386	10.46	87	0.00
61	S	SURRd8Tolule	20.0000	20.2008	-1.00	98	0.00
62	PT	Toluene	10.0000	10.2025	-2.03	98	0.00
63	PT	t13Dicloprop	10.0000	10.2887	-2.89	103	0.00
64	T	ethylmethacrylate	20.0000	20.0012	-0.01	97	0.00
65	PT	112Triclotha	10.0000	9.5871	4.13	96	0.00
66	PT	Tetrachlorte	10.0000	10.3365	-3.36	99	0.00
67	T	13Diclorpropa	10.0000	9.9458	0.54	98	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	101	0.00
69	PT	2Hexanone	100.0000	90.6472	9.35	86	0.00
70	PT	Clorodibrmta	10.0000	9.4850	5.15	98	0.00
71	PT	12Dibrometha	10.0000	9.4143	5.86	102	0.00
72	PT	Chlorobenzen	10.0000	9.8527	1.47	100	0.00
73	T	1Clhexane	10.0000	10.6964	-6.96	105	0.00
74	T	1112Tetclota	10.0000	9.4943	5.06	96	0.00
75	PT	Ethylbenzene	10.0000	10.5394	-5.39	101	0.00
76	PT	m p-Xylene	20.0000	21.0211	-5.11	99	0.00
77	PT	o-Xylene	10.0000	10.4166	-4.17	102	0.00
78	PT	Styrene	10.0000	10.6100	-6.10	100	0.00
79	PT	Bromoform	10.0000	9.5517	4.48	96	0.00
80	PT	Isopropylben	10.0000	10.9044	-9.04	100	0.00
81	T	cyclohexanone	200.0000	166.8388	16.58	88	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	103	0.00
83	S	SURR4BrFBenz	20.0000	20.1414	-0.71	104	0.00
84	T	Bromobenzene	10.0000	9.6315	3.68	104	0.00
85	PT	1122Tetrclta	10.0000	8.7975	12.03	95	0.00
86	T	123Triclproa	10.0000	9.2623	7.38	97	0.00
87	T	14dichloro2butene	10.0000	8.0684	19.32	89	0.00
88	T	n-Propylbenz	10.0000	10.9434	-9.43	100	0.00
89	T	2chlorotolue	10.0000	10.2652	-2.65	102	0.00
90	T	4chlorotolue	10.0000	10.7923	-7.92	102	0.00
91	T	135Trimebenz	10.0000	10.6696	-6.70	99	0.00
92	T	tbutylbenzen	10.0000	10.8975	-8.98	100	0.00
93	T	124Trimetben	10.0000	10.6164	-6.16	98	0.00
94	T	sbutylbenzen	10.0000	11.7834	-17.83	105	0.00
95	PT	13Diclorbenz	10.0000	10.1515	-1.52	103	0.00
96	T	pIsopropylto	10.0000	10.9799	-9.80	100	0.00
97	PT	14dichlorobe	10.0000	9.7707	2.29	100	0.00
98	PT	12dichlorobe	10.0000	9.5592	4.41	103	0.00
99	T	nButylbenzen	10.0000	10.4895	-4.89	101	0.00
100	PT	12dibromo3cl	10.0000	8.8750	11.25	92	0.00
101	T	135Trichlorobenzene	10.0000	9.4721	5.28	102	0.00
102	PT	124Trichlobe	10.0000	9.4909	5.09	100	0.00
103	T	Hexachlorobu	10.0000	9.8219	1.78	99	0.00
104	T	Naphthalene	10.0000	9.4148	5.85	96	0.00
105	T	123Trichlben	10.0000	9.4273	5.73	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101819.M Mon Oct 28 10:48:32 2019

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1206169	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1016784	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	634665	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	334426	20.476	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.21	102	86509	19.862	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.64	98	1322226	20.201	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.18	95	566383	20.141	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	230997	11.4036	ug/L	97
3) Chloromethan	2.08	50	179141	10.3423	ug/L	99
4) VinylChlorid	2.24	62	228579	11.1385	ug/L	99
5) Bromomethane	2.69	94	84632	9.5150	ug/L	84
6) Chloroethane	2.86	64	165636	10.1202	ug/L	99
7) Dichloroflmethane	3.16	67	358248	10.2207	ug/L	98
8) Trichlorofma	3.23	101	301689	11.2238	ug/L	96
9) Ethylether	3.67	59	128853	9.5581	ug/L	98
10) dichlorotfluoroethan	3.68	67	229125	11.2031	ug/L	96
11) propyleneoxide	3.73	58	249425	79.5761	ug/L	98
12) Acrolein	3.82	56	108416	46.8515	ug/L	98
13) 11dichlorthe	3.95	96	165207	10.4347	ug/L	97
14) Trichlorotfluoroeth	3.99	101	301465	22.6829	ug/L	98
15) Acetone	4.03	43	417002	88.3404	ug/L	97
16) Iodomethane	4.13	142	168563	25.7010	ug/L	98
17) Carbon Dislf	4.22	76	850716	21.7095	ug/L	99
18) allylchloride	4.44	41	504331	20.9751	ug/L	95
19) methylacetate	4.49	74	70109	8.6622	ug/L	94
20) Methylchlorid	4.59	84	200642	10.2192	ug/L	98
21) tbutylalcohol	4.80	59	700327	447.1481	ug/L	100
22) Acrylonitrile	4.91	53	206994	41.8313	ug/L	99
23) t12dichlorte	4.96	96	182359	9.9803	ug/L	94
24) MtBE	4.99	73	474998	9.9886	ug/L	99
25) Hexane	5.35	57	525244	20.2043	ug/L	100
26) 11dichlorota	5.49	63	341995	9.9909	ug/L	99
27) Vinylacetate	5.58	43	1824384	87.6296	ug/L	99
28) chloroprene	5.61	53	524011	21.6233	ug/L	99
29) Diisopether	5.63	45	501172	10.1002	ug/L	98
30) ETBE	6.08	59	436635	9.7784	ug/L	98
31) 22dichloropr	6.22	77	292737	10.2823	ug/L	98
32) c12dichlorte	6.22	96	204217	10.1302	ug/L	95
33) 2Butanone	6.23	72	209224	100.2207	ug/L	90
34) propionitrile	6.28	54	187737	84.5170	ug/L	95
35) Ethylacetate	6.34	88	32962	46.6618	ug/L	98
36) methacrylonitrile	6.48	67	156467	19.4251	ug/L	98
37) Bromochlorma	6.50	128	86885	9.0902	ug/L	96
38) Tetrahydofur	6.59	42	448535	95.4979	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	347243	9.7036	ug/L	97
40)	111trichlota	6.84	97	317230	10.2434	ug/L	97
42)	Cyclohexane	6.93	56	278557	10.1249	ug/L	98
43)	Carbtetraclo	7.06	119	259520	10.9599	ug/L	95
44)	11dicloprope	7.05	110	85126	9.9724	ug/L	95
46)	Benzene	7.30	78	785041	10.5096	ug/L	98
47)	12dichlorota	7.30	62	262385	9.8031	ug/L	99
48)	TAME	7.46	73	458189	10.0509	ug/L	99
49)	trichloroete	8.10	95	202839	10.1928	ug/L	93
50)	methylcyclohexane	8.36	83	377602	10.2417	ug/L	98
51)	12dicloropra	8.36	63	206514	10.3457	ug/L	98
52)	23Dicl1propene	8.42	75	287939	10.1494	ug/L	97
53)	Dibromometha	8.50	93	130880	10.6346	ug/L	93
54)	methylmethacrylate	8.54	69	117822	9.3687	ug/L	97
55)	14dioxane	8.55	88	100107	459.5563	ug/L	97
56)	Bromodiclrma	8.70	83	271763	9.9019	ug/L	97
57)	2Nitropropane	8.97	43	517511	96.5738	ug/L	96
58)	2CLEVE	9.09	63	337963	38.3382	ug/L	100
59)	c13dicloproe	9.28	75	313493	10.3662	ug/L	99
60)	4Meth2Pentan	9.48	43	1355032	89.5386	ug/L	99
62)	Toluene	9.73	92	518839	10.2025	ug/L	96
63)	t13Dicloprop	9.99	75	281455	10.2887	ug/L	97
64)	ethylmethacrylate	10.13	69	467227	20.0012	ug/L	96
65)	112Triclotha	10.22	83	151495	9.5871	ug/L	97
66)	Tetrachlorte	10.46	166	215686	10.3365	ug/L	97
67)	13Diclorpropa	10.45	76	321952	9.9458	ug/L	97
69)	2Hexanone	10.57	43	1001635	90.6472	ug/L	98
70)	Clorodibrmta	10.75	129	183331	9.4850	ug/L	99
71)	12Dibrometha	10.90	107	169132	9.4143	ug/L	96
72)	Chlorobenzen	11.59	112	517486	9.8527	ug/L	98
73)	1Clhexane	11.56	91	271208	10.6964	ug/L	98
74)	1112Tetclota	11.69	131	179124	9.4943	ug/L	96
75)	Ethylbenzene	11.75	91	901826	10.5394	ug/L	100
76)	m p-Xylene	11.91	106	675506	21.0211	ug/L	100
77)	o-Xylene	12.45	106	330782	10.4166	ug/L	99
78)	Styrene	12.47	104	533464	10.6100	ug/L	97
79)	Bromoform	12.70	173	131712	9.5517	ug/L	99
80)	Isopropylben	12.97	105	796200	10.9044	ug/L	100
81)	cyclohexanone	13.07	55	110846	166.8388	ug/L	98
84)	Bromobenzene	13.39	156	222219	9.6315	ug/L	94
85)	1122Tetrclta	13.36	83	246052	8.7975	ug/L	100
86)	123Triclproa	13.42	75	300252	9.2623	ug/L	99
87)	14dichloro2butene	13.45	53	46294	8.0684	ug/L	85
88)	n-Propylbenz	13.56	91	1027183	10.9434	ug/L	99
89)	2chlorotolue	13.67	91	623829	10.2652	ug/L	98
90)	4chlorotolue	13.83	91	744983	10.7923	ug/L	98
91)	135Trimebenz	13.82	105	701243	10.6696	ug/L	98
92)	tbutylbenzen	14.28	119	581129	10.8975	ug/L	99
93)	124Trimetben	14.35	105	698543	10.6164	ug/L	98
94)	sbutylbenzen	14.60	105	900396	11.7834	ug/L	97
95)	13Diclorbenz	14.74	146	419033	10.1515	ug/L	99
96)	pIsopropylto	14.82	119	740107	10.9799	ug/L	99
97)	14dichlorobe	14.87	146	428905	9.7707	ug/L	98
98)	12dichlorobe	15.41	146	397507	9.5592	ug/L	100
99)	nButylbenzen	15.41	91	746725	10.4895	ug/L	99
100)	12dibromo3cl	16.51	157	49607	8.8750	ug/L	95
101)	135Trichlorobenzene	16.84	180	294035	9.4721	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	245482	9.4909	ug/L	99
103) Hexachlorobu	17.90	225	143332	9.8219	ug/L	95
104) Naphthalene	17.96	128	524068	9.4148	ug/L	99
105) 123Trichlben	18.27	180	236784	9.4273	ug/L	99

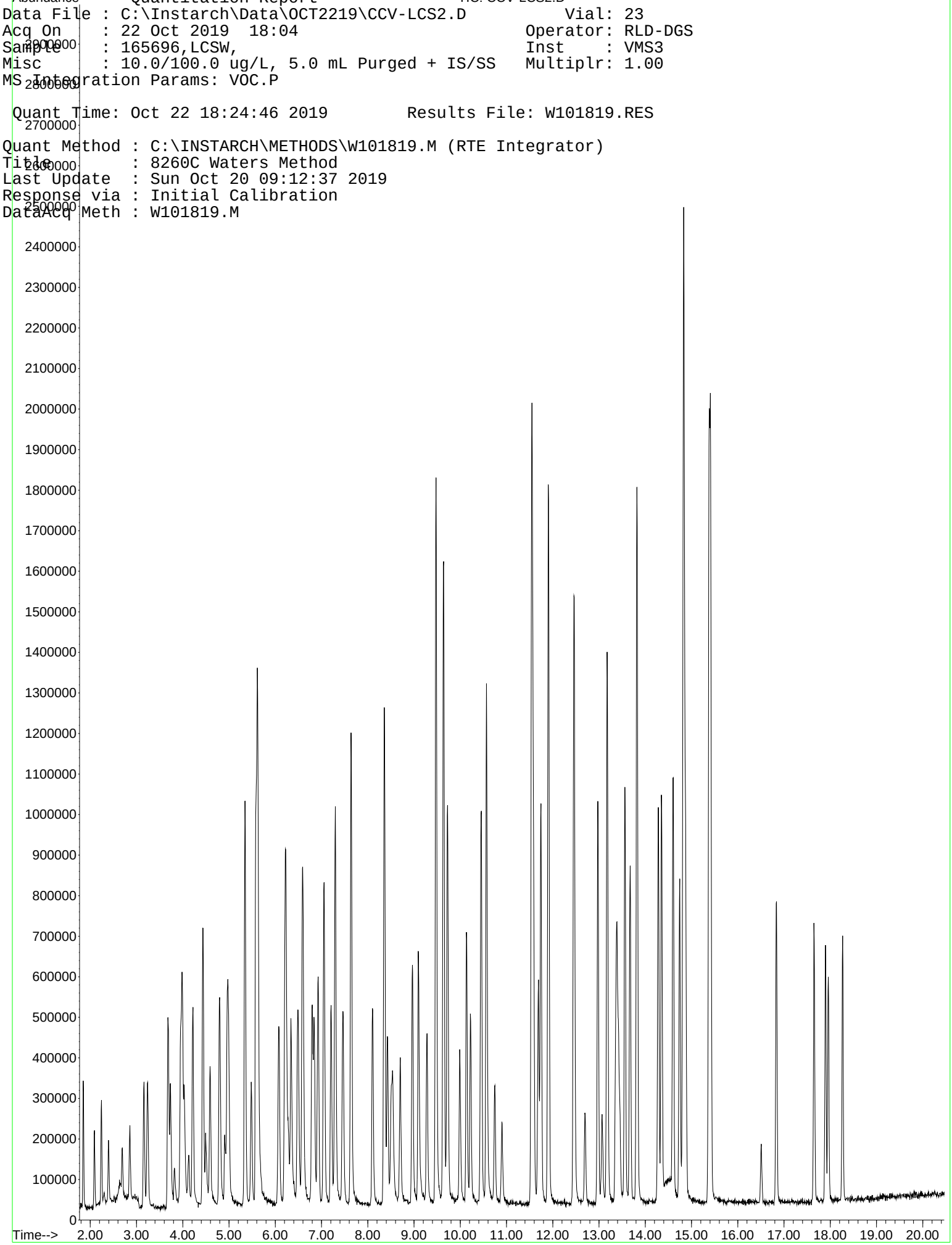
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS2.D

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



BFB

Data File : C:\Instarch\Data\OCT2219\BFB3.D Vial: 37
Acq On : 23 Oct 2019 6:53 Operator: RLD-DGS
Sample : 165696,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.579 to 4.597 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.7	7447	PASS
75	95	30	60	55.7	19087	PASS
95	95	100	100	100.0	34264	PASS
96	95	5	9	7.5	2567	PASS
173	174	0.00	2	0.4	113	PASS
174	95	50	100	79.4	27192	PASS
175	174	5	9	6.1	1647	PASS
176	174	95	101	98.2	26698	PASS
177	176	5	9	7.5	2003	PASS

W101819.M Mon Oct 28 10:45:04 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCVF2.D Vial: 38
Acq On : 23 Oct 2019 7:10 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 23 07:30:45 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	80	0.00
2	PT	Dichlorodi	0.3359	0.4044	-20.39	81	0.00
3	PT	Chloromethan	0.2872	0.3052	-6.27	81	0.00
4	PT	VinylChlorid	0.3403	0.4170	-22.54	89	0.00
5	PT	Bromomethane	0.1475	0.1716	-16.34	91	0.00
6	PT	Chloroethane	0.2714	0.3164	-16.58	89	0.00
7	T	Dichloroflmethane	0.5812	0.6325	-8.83	84	0.00
8	PT	Trichlorofma	0.4457	0.5253	-17.86	84	0.00
9	T	Ethylether	0.2235	0.2070	7.38	76	0.00
10	T	dichlorotfluoroethan	0.3391	0.3878	-14.36	85	0.00
11	T	propyleneoxide	0.0520	0.0471	9.42	76	0.00
12	T	Acrolein	0.0384	0.0392	-2.08	78	0.00
13	PT	11dichlorthe	0.2625	0.2966	-12.99	86	0.00
14	PT	Trichlorotfluoroeth	0.2204	0.2660	-20.69	84	0.00
15	PT	Acetone	0.0783	0.0745#	4.85	76	0.00
16	T	Iodomethane	0.0928	0.0615	33.73	73	0.00
17	PT	Carbon Dislf	0.6498	0.7667	-17.99	86	0.00
18	T	allylchloride	0.3987	0.4015	-0.70	79	0.00
19	PT	methylacetate	0.1342	0.1286	4.17	81	0.00
20	PT	Methylchlorid	0.3409	0.3457	-1.41	87	0.00
21	T	tbutylalcohol	0.0260	0.0239#	8.08	73	0.00
22	T	Acrylonitrile	0.0726	0.0786	-8.26	80	0.00
23	PT	t12dichlorte	0.3030	0.3142	-3.70	82	0.00
24	PT	MtBE	0.7885	0.7811	0.94	77	0.00
25	T	Hexane	0.3706	0.3888	-4.91	70	0.00
26	PT	11dichlorota	0.5676	0.5744	-1.20	84	0.00
27	T	Vinylacetate	0.3452	0.2370	31.34	52	0.00
28	T	chloroprene	0.4018	0.4398	-9.46	80	0.00
29	T	Diisopether	0.8228	0.8316	-1.07	78	0.00
30	T	ETBE	0.7404	0.7041	4.90	77	0.00
31	T	22dichloropr	0.4721	0.3936	16.63	66	0.00
32	PT	c12dichlorte	0.3343	0.3347	-0.12	78	0.00
33	PT	2Butanone	0.0346	0.0383#	-10.69	86	0.00
34	T	propionitrile	0.0316	0.0376	-18.99	82	0.00
35	T	Ethylacetate	0.0117	0.0120#	-2.56	83	0.00
36	T	methacrylonitrile	0.1336	0.1351	-1.12	80	0.00
37	T	Bromochlorma	0.1585	0.1466	7.51	81	0.00
38	T	Tetrahydofur	0.0779	0.0824	-5.78	84	0.00
39	PT	Chloroform	0.5934	0.6063	-2.17	83	0.00
40	PT	111trichlota	0.5135	0.5311	-3.43	82	0.00
41	S	SURRDibrflma	0.2708	0.2864	-5.76	85	0.00
42	PT	Cyclohexane	0.4081	0.4582	-12.28	81	0.00
43	PT	Carbtetraclo	0.3926	0.4351	-10.83	83	0.00
44	T	11dicloprope	0.1415	0.1422	-0.49	78	0.00
45	S	SURR12DCAd4	0.0722	0.0757	-4.85	83	0.00
46	PT	Benzene	1.2386	1.3038	-5.26	84	0.00
47	PT	12dichlorota	0.4438	0.4468	-0.68	86	0.00
48	T	TAME	0.7559	0.7060	6.60	76	0.00

49	PT	trichloroete	0.3300	0.3567	-8.09	86	0.00
50	PT	methylcyclohexane	0.5327	0.5916	-11.06	77	0.00
51	PT	12dicloropra	0.3310	0.3494	-5.56	85	0.00
52	T	23Dicl1propene	0.4704	0.4806	-2.17	84	0.00
53	T	Dibromometha	0.2041	0.2081	-1.96	80	0.00
54	T	methylmethacrylate	0.2085	0.2037	2.30	81	0.00
55	T	14dioxane	0.0036	0.0027#	25.00	61	0.00
56	PT	Bromodiclrma	0.4551	0.4623	-1.58	85	0.00
57	T	2Nitropropane	0.0889	0.0909	-2.25	83	0.00
58	T	2CLEVE	0.1462	0.1410	3.56	78	0.00
59	PT	c13dicloproe	0.5015	0.4918	1.93	79	0.00
60	PT	4Meth2Pentan	0.2509	0.2620	-4.42	84	0.00
61	S	SURRd8Tolule	1.0853	1.1149	-2.73	83	0.00
62	PT	Toluene	0.8432	0.8612	-2.13	82	0.00
63	PT	t13Dicloprop	0.4536	0.4297	5.27	79	0.00
64	T	ethylmethacrylate	0.3873	0.3899	-0.67	81	0.00
65	PT	112Triclotha	0.2620	0.2688	-2.60	85	0.00
66	PT	Tetrachlorte	0.3460	0.3524	-1.85	81	0.00
67	T	13Diclorpropa	0.5368	0.5422	-1.01	82	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	81	0.00
69	PT	2Hexanone	0.2173	0.2384	-9.71	83	0.00
70	PT	Clorodibrmta	0.3802	0.3580	5.84	78	0.00
71	PT	12Dibrometha	0.3534	0.3520	0.40	86	0.00
72	PT	Chlorobenzen	1.0331	1.0627	-2.87	84	0.00
73	T	1Clhexane	0.4987	0.5077	-1.80	80	0.00
74	T	1112Tetclota	0.3711	0.3691	0.54	81	0.00
75	PT	Ethylbenzene	1.6831	1.7744	-5.42	81	0.00
76	PT	m p-Xylene	0.6321	0.6512	-3.02	78	0.00
77	PT	o-Xylene	0.6246	0.6009	3.79	75	0.00
78	PT	Styrene	0.9890	1.0350	-4.65	79	0.00
79	PT	Bromoform	0.2712	0.2487	8.30	74	0.00
80	PT	Isopropylben	1.4362	1.4745	-2.67	76	0.00
81	T	cyclohexanone	0.0131	0.0102#	22.14	66	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	85	0.00
83	S	SURR4BrFBenz	0.8861	0.8978	-1.32	86	0.00
84	T	Bromobenzene	0.7271	0.6555	9.85	80	0.00
85	PT	1122Tetrclta	0.8814	0.8092	8.19	82	0.00
86	T	123Triclproa	1.0215	0.9894	3.14	83	0.00
87	T	14dichloro2butene	0.1808	0.1448	19.91	73	0.00
88	T	n-Propylbenz	2.9579	3.1306	-5.84	80	0.00
89	T	2chlorotolue	1.9151	1.9215	-0.33	82	0.00
90	T	4chlorotolue	2.1753	2.1879	-0.58	78	0.00
91	T	135Trimebenz	2.0711	2.0948	-1.14	77	0.00
92	T	tbutylbenzen	1.6805	1.6577	1.36	75	0.00
93	T	124Trimetben	2.0735	2.0868	-0.64	77	0.00
94	T	sbutylbenzen	2.4079	2.5910	-7.60	79	0.00
95	PT	13Diclorbenz	1.3008	1.2516	3.78	80	0.00
96	T	pIsopropylto	2.1241	2.1695	-2.14	77	0.00
97	PT	14dichlorobe	1.3833	1.3025	5.84	79	0.00
98	PT	12dichlorobe	1.3104	1.2321	5.98	83	0.00
99	T	nButylbenzen	2.2433	2.2668	-1.05	80	0.00
100	PT	12dibromo3cl	0.1761	0.1502	14.71	73	0.00
101	T	135Trichlorobenzene	0.9782	0.8585	12.24	78	0.00
102	PT	124Trichlobe	0.8151	0.7106	12.82	76	0.00
103	T	Hexachlorobu	0.4599	0.4473	2.74	81	0.00
104	T	Naphthalene	1.7541	1.5900	9.36	76	0.00
105	T	123Trichlben	0.7915	0.7322	7.49	79	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W101819.M Mon Oct 28 10:51:43 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCVF2.D Vial: 38
Acq On : 23 Oct 2019 7:10 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 23 07:30:45 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	80	0.00
2	PT	Dichlorodi	10.0000	12.0390	-20.39	81	0.00
3	PT	Chloromethan	10.0000	10.6271	-6.27	81	0.00
4	PT	VinylChlorid	10.0000	12.2555	-22.55	89	0.00
5	PT	Bromomethane	10.0000	11.6341	-16.34	91	0.00
6	PT	Chloroethane	10.0000	11.6595	-16.59	89	0.00
7	T	Dichloroflmethane	10.0000	10.8822	-8.82	84	0.00
8	PT	Trichlorofma	10.0000	11.7852	-17.85	84	0.00
9	T	Ethylether	10.0000	9.2623	7.38	76	0.00
10	T	dichlorotfluoroethan	10.0000	11.4348	-14.35	85	0.00
11	T	propyleneoxide	100.0000	90.6603	9.34	76	0.00
12	T	Acrolein	50.0000	51.0865	-2.17	78	0.00
13	PT	11dichlorthe	10.0000	11.2983	-12.98	86	0.00
14	PT	Trichlorotfluoroeth	20.0000	24.1418	-20.71	84	0.00
15	PT	Acetone	100.0000	95.2366	4.76	76	0.00
16	T	Iodomethane	20.0000	14.7590	26.21	73	0.00
17	PT	Carbon Dislf	20.0000	23.6004	-18.00	86	0.00
18	T	allylchloride	20.0000	20.1410	-0.70	79	0.00
19	PT	methylacetate	10.0000	9.5849	4.15	81	0.00
20	PT	Methylchlorid	10.0000	10.6342	-6.34	87	0.00
21	T	tbutylalcohol	500.0000	459.2292	8.15	73	0.00
22	T	Acrylonitrile	50.0000	47.5199	4.96	80	0.00
23	PT	t12dichlorte	10.0000	10.3704	-3.70	82	0.00
24	PT	MtBE	10.0000	9.9060	0.94	77	0.00
25	T	Hexane	20.0000	18.0982	9.51	70	0.00
26	PT	11dichlorota	10.0000	10.1198	-1.20	84	0.00
27	T	Vinylacetate	100.0000	68.6630	31.34	52	0.00
28	T	chloroprene	20.0000	21.8876	-9.44	80	0.00
29	T	Diisopether	10.0000	10.1069	-1.07	78	0.00
30	T	ETBE	10.0000	9.5101	4.90	77	0.00
31	T	22dichloropr	10.0000	8.3370	16.63	66	0.00
32	PT	c12dichlorte	10.0000	10.0128	-0.13	78	0.00
33	PT	2Butanone	100.0000	110.5678	-10.57	86	0.00
34	T	propionitrile	100.0000	100.7328	-0.73	82	0.00
35	T	Ethylacetate	50.0000	51.1584	-2.32	83	0.00
36	T	methacrylonitrile	20.0000	20.2230	-1.11	80	0.00
37	T	Bromochlorma	10.0000	9.2504	7.50	81	0.00
38	T	Tetrahydofur	100.0000	105.8279	-5.83	84	0.00
39	PT	Chloroform	10.0000	10.2176	-2.18	83	0.00
40	PT	111trichlota	10.0000	10.3434	-3.43	82	0.00
41	S	SURRDibrflma	20.0000	21.1516	-5.76	85	0.00
42	PT	Cyclohexane	10.0000	10.0481	-0.48	81	0.00
43	PT	Carbtetraclo	10.0000	11.0810	-10.81	83	0.00
44	T	11dicloprope	10.0000	10.0456	-0.46	78	0.00
45	S	SURR12DCAd4	20.0000	20.9644	-4.82	83	0.00
46	PT	Benzene	10.0000	10.5261	-5.26	84	0.00
47	PT	12dichlorota	10.0000	10.0665	-0.66	86	0.00
48	T	TAME	10.0000	9.3399	6.60	76	0.00

49	PT	trichloroete	10.0000	10.8104	-8.10	86	0.00
50	PT	methylcyclohexane	10.0000	9.7060	2.94	77	0.00
51	PT	12dicloropra	10.0000	10.5560	-5.56	85	0.00
52	T	23Dicl1propene	10.0000	10.2175	-2.17	84	0.00
53	T	Dibromometha	10.0000	10.1973	-1.97	80	0.00
54	T	methylmethacrylate	10.0000	9.7680	2.32	81	0.00
55	T	14dioxane	500.0000	380.3963	23.92	61	0.00
56	PT	Bromodiclrma	10.0000	10.1589	-1.59	85	0.00
57	T	2Nitropropane	100.0000	102.2593	-2.26	83	0.00
58	T	2CLEVE	50.0000	48.2343	3.53	78	0.00
59	PT	c13dicloproe	10.0000	9.8066	1.93	79	0.00
60	PT	4Meth2Pentan	100.0000	104.4036	-4.40	84	0.00
61	S	SURRd8Tolule	20.0000	20.5444	-2.72	83	0.00
62	PT	Toluene	10.0000	10.2136	-2.14	82	0.00
63	PT	t13Dicloprop	10.0000	9.4724	5.28	79	0.00
64	T	ethylmethacrylate	20.0000	20.1313	-0.66	81	0.00
65	PT	112Triclotha	10.0000	10.2574	-2.57	85	0.00
66	PT	Tetrachlorte	10.0000	10.1844	-1.84	81	0.00
67	T	13Diclorpropa	10.0000	10.1012	-1.01	82	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	81	0.00
69	PT	2Hexanone	100.0000	109.7051	-9.71	83	0.00
70	PT	Clorodibrmta	10.0000	9.4161	5.84	78	0.00
71	PT	12Dibrometha	10.0000	9.9617	0.38	86	0.00
72	PT	Chlorobenzen	10.0000	10.2861	-2.86	84	0.00
73	T	1Clhexane	10.0000	10.1794	-1.79	80	0.00
74	T	1112Tetclota	10.0000	9.9457	0.54	81	0.00
75	PT	Ethylbenzene	10.0000	10.5423	-5.42	81	0.00
76	PT	m p-Xylene	20.0000	20.6047	-3.02	78	0.00
77	PT	o-Xylene	10.0000	9.6203	3.80	75	0.00
78	PT	Styrene	10.0000	10.4651	-4.65	79	0.00
79	PT	Bromoform	10.0000	9.1708	8.29	74	0.00
80	PT	Isopropylben	10.0000	10.2666	-2.67	76	0.00
81	T	cyclohexanone	200.0000	155.8739	22.06	66	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	85	0.00
83	S	SURR4BrFBenz	20.0000	20.2641	-1.32	86	0.00
84	T	Bromobenzene	10.0000	9.0159	9.84	80	0.00
85	PT	1122Tetrclta	10.0000	9.1815	8.19	82	0.00
86	T	123Triclproa	10.0000	9.6849	3.15	83	0.00
87	T	14dichloro2butene	10.0000	8.0077	19.92	73	0.00
88	T	n-Propylbenz	10.0000	10.5841	-5.84	80	0.00
89	T	2chlorotolue	10.0000	10.0334	-0.33	82	0.00
90	T	4chlorotolue	10.0000	10.0579	-0.58	78	0.00
91	T	135Trimebenz	10.0000	10.1142	-1.14	77	0.00
92	T	tbutylbenzen	10.0000	9.8644	1.36	75	0.00
93	T	124Trimetben	10.0000	10.0642	-0.64	77	0.00
94	T	sbutylbenzen	10.0000	10.7602	-7.60	79	0.00
95	PT	13Diclorbenz	10.0000	9.6218	3.78	80	0.00
96	T	pIsopropylto	10.0000	10.2135	-2.13	77	0.00
97	PT	14dichlorobe	10.0000	9.4159	5.84	79	0.00
98	PT	12dichlorobe	10.0000	9.4023	5.98	83	0.00
99	T	nButylbenzen	10.0000	10.1046	-1.05	80	0.00
100	PT	12dibromo3cl	10.0000	8.5259	14.74	73	0.00
101	T	135Trichlorobenzene	10.0000	8.7765	12.23	78	0.00
102	PT	124Trichlobe	10.0000	8.7180	12.82	76	0.00
103	T	Hexachlorobu	10.0000	9.7273	2.73	81	0.00
104	T	Naphthalene	10.0000	9.0645	9.35	76	0.00
105	T	123Trichlben	10.0000	9.2503	7.50	79	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101819.M Mon Oct 28 10:52:03 2019

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCVF2.D Vial: 38
Acq On : 23 Oct 2019 7:10 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 07:30:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1002292	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	813704	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	521709	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.80	113	287073	21.152	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 106	%		
45) SURR12DCAd4	7.21	102	75875	20.964	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 105	%		
61) SURRd8Tolule	9.63	98	1117421	20.544	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 103	%		
83) SURR4BrFBenz	13.18	95	468415	20.264	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	202647	12.0390	ug/L	96
3) Chloromethan	2.09	50	152960	10.6271	ug/L	99
4) VinylChlorid	2.24	62	208991	12.2555	ug/L	98
5) Bromomethane	2.70	94	85989	11.6341	ug/L	88
6) Chloroethane	2.86	64	158574	11.6595	ug/L	100
7) Dichloroflmethane	3.16	67	316962	10.8822	ug/L	97
8) Trichlorofma	3.24	101	263233	11.7852	ug/L	99
9) Ethylether	3.68	59	103760	9.2623	ug/L	96
10) dichlorotfluoroethan	3.68	67	194334	11.4348	ug/L	96
11) propyleneoxide	3.73	58	236135	90.6603	ug/L	96
12) Acrolein	3.82	56	98234	51.0865	ug/L	92
13) 11dichlorthe	3.95	96	148644	11.2983	ug/L	96
14) Trichlorotfluoroeth	3.98	101	266621	24.1418	ug/L	99
15) Acetone	4.03	43	373567	95.2366	ug/L	97
16) Iodomethane	4.13	142	61612	14.7590	ug/L	92
17) Carbon Dislf	4.21	76	768495	23.6004	ug/L	100
18) allylchloride	4.43	41	402419	20.1410	ug/L	98
19) methylacetate	4.49	74	64464	9.5849	ug/L	96
20) Methylchlorid	4.59	84	173271	10.6342	ug/L	95
21) tbutylalcohol	4.79	59	597675	459.2292	ug/L	93
22) Acrylonitrile	4.91	53	196934	47.5199	ug/L	95
23) t12dichlorte	4.96	96	157459	10.3704	ug/L	94
24) MtBE	4.99	73	391447	9.9060	ug/L	98
25) Hexane	5.35	57	389740	18.0982	ug/L	96
26) 11dichlorota	5.48	63	287854	10.1198	ug/L	99
27) Vinylacetate	5.58	43	1187885	68.6630	ug/L	97
28) chloroprene	5.61	53	440761	21.8876	ug/L	99
29) Diisopether	5.63	45	416737	10.1069	ug/L	98
30) ETBE	6.08	59	352878	9.5101	ug/L	100
31) 22dichloropr	6.21	77	197234	8.3370	ug/L	97
32) c12dichlorte	6.22	96	167731	10.0128	ug/L	97
33) 2Butanone	6.23	72	191809	110.5678	ug/L	93
34) propionitrile	6.28	54	188378	100.7328	ug/L	91
35) Ethylacetate	6.34	88	30030	51.1584	ug/L	98
36) methacrylonitrile	6.47	67	135360	20.2230	ug/L	96
37) Bromochlorma	6.50	128	73471	9.2504	ug/L	96
38) Tetrahydofur	6.58	42	413037	105.8279	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCVF2.D Vial: 38
Acq On : 23 Oct 2019 7:10 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 07:30:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	303834	10.2176	ug/L	99
40)	111trichlota	6.84	97	266181	10.3434	ug/L	96
42)	Cyclohexane	6.93	56	229634	10.0481	ug/L	98
43)	Carbtetraclo	7.06	119	218036	11.0810	ug/L	99
44)	11dicloprope	7.05	110	71257	10.0456	ug/L	94
46)	Benzene	7.30	78	653370	10.5261	ug/L	98
47)	12dichlorota	7.29	62	223893	10.0665	ug/L	98
48)	TAME	7.47	73	353808	9.3399	ug/L	96
49)	trichloroete	8.10	95	178766	10.8104	ug/L	97
50)	methylcyclohexane	8.36	83	296457	9.7060	ug/L	98
51)	12dicloropra	8.36	63	175097	10.5560	ug/L	92
52)	23Dicl1propene	8.42	75	240874	10.2175	ug/L	96
53)	Dibromometha	8.50	93	104286	10.1973	ug/L	94
54)	methylmethacrylate	8.54	69	102080	9.7680	ug/L	96
55)	14dioxane	8.55	88	68857	380.3963	ug/L	98
56)	Bromodiclrma	8.70	83	231687	10.1589	ug/L	99
57)	2Nitropropane	8.96	43	455354	102.2593	ug/L	97
58)	2CLEVE	9.10	63	353329	48.2343	ug/L	97
59)	c13dicloproe	9.28	75	246442	9.8066	ug/L	99
60)	4Meth2Pentan	9.48	43	1312927	104.4036	ug/L	99
62)	Toluene	9.72	92	431610	10.2136	ug/L	100
63)	t13Dicloprop	9.99	75	215326	9.4724	ug/L	97
64)	ethylmethacrylate	10.13	69	390777	20.1313	ug/L	97
65)	112Triclotha	10.22	83	134690	10.2574	ug/L	95
66)	Tetrachlorte	10.46	166	176591	10.1844	ug/L	99
67)	13Diclorpropa	10.44	76	271712	10.1012	ug/L	98
69)	2Hexanone	10.57	43	970107	109.7051	ug/L	99
70)	Clorodibrmta	10.75	129	145649	9.4161	ug/L	95
71)	12Dibrometha	10.90	107	143222	9.9617	ug/L	95
72)	Chlorobenzen	11.58	112	432347	10.2861	ug/L	97
73)	1Clhexane	11.56	91	206549	10.1794	ug/L	98
74)	1112Tetclota	11.69	131	150164	9.9457	ug/L	97
75)	Ethylbenzene	11.74	91	721905	10.5423	ug/L	99
76)	m p-Xylene	11.91	106	529880	20.6047	ug/L	94
77)	o-Xylene	12.45	106	244480	9.6203	ug/L	90
78)	Styrene	12.47	104	421086	10.4651	ug/L	99
79)	Bromoform	12.70	173	101202	9.1708	ug/L	99
80)	Isopropylben	12.97	105	599909	10.2666	ug/L	99
81)	cyclohexanone	13.06	55	82877	155.8739	ug/L	95
84)	Bromobenzene	13.38	156	170994	9.0159	ug/L	98
85)	1122Tetrclta	13.36	83	211089	9.1815	ug/L	97
86)	123Triclproa	13.42	75	258077	9.6849	ug/L	99
87)	14dichloro2butene	13.45	53	37768	8.0077	ug/L	98
88)	n-Propylbenz	13.56	91	816643	10.5841	ug/L	99
89)	2chlorotolue	13.67	91	501223	10.0334	ug/L	100
90)	4chlorotolue	13.83	91	570718	10.0579	ug/L	100
91)	135Trimebenz	13.81	105	546429	10.1142	ug/L	100
92)	tbutylbenzen	14.28	119	432414	9.8644	ug/L	97
93)	124Trimetben	14.35	105	544351	10.0642	ug/L	99
94)	sbutylbenzen	14.60	105	675871	10.7602	ug/L	96
95)	13Diclorbenz	14.74	146	326478	9.6218	ug/L	100
96)	pIsopropylto	14.82	119	565923	10.2135	ug/L	99
97)	14dichlorobe	14.87	146	339767	9.4159	ug/L	98
98)	12dichlorobe	15.41	146	321396	9.4023	ug/L	99
99)	nButylbenzen	15.41	91	591303	10.1046	ug/L	98
100)	12dibromo3cl	16.50	157	39174	8.5259	ug/L	89
101)	135Trichlorobenzene	16.84	180	223954	8.7765	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCVF2.D Vial: 28
Acq On : 23 Oct 2019 7:10 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 07:30:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	185360	8.7180	ug/L	93
103) Hexachlorobu	17.89	225	116688	9.7273	ug/L	99
104) Naphthalene	17.96	128	414771	9.0645	ug/L	99
105) 123Trichlben	18.26	180	190987	9.2503	ug/L	96

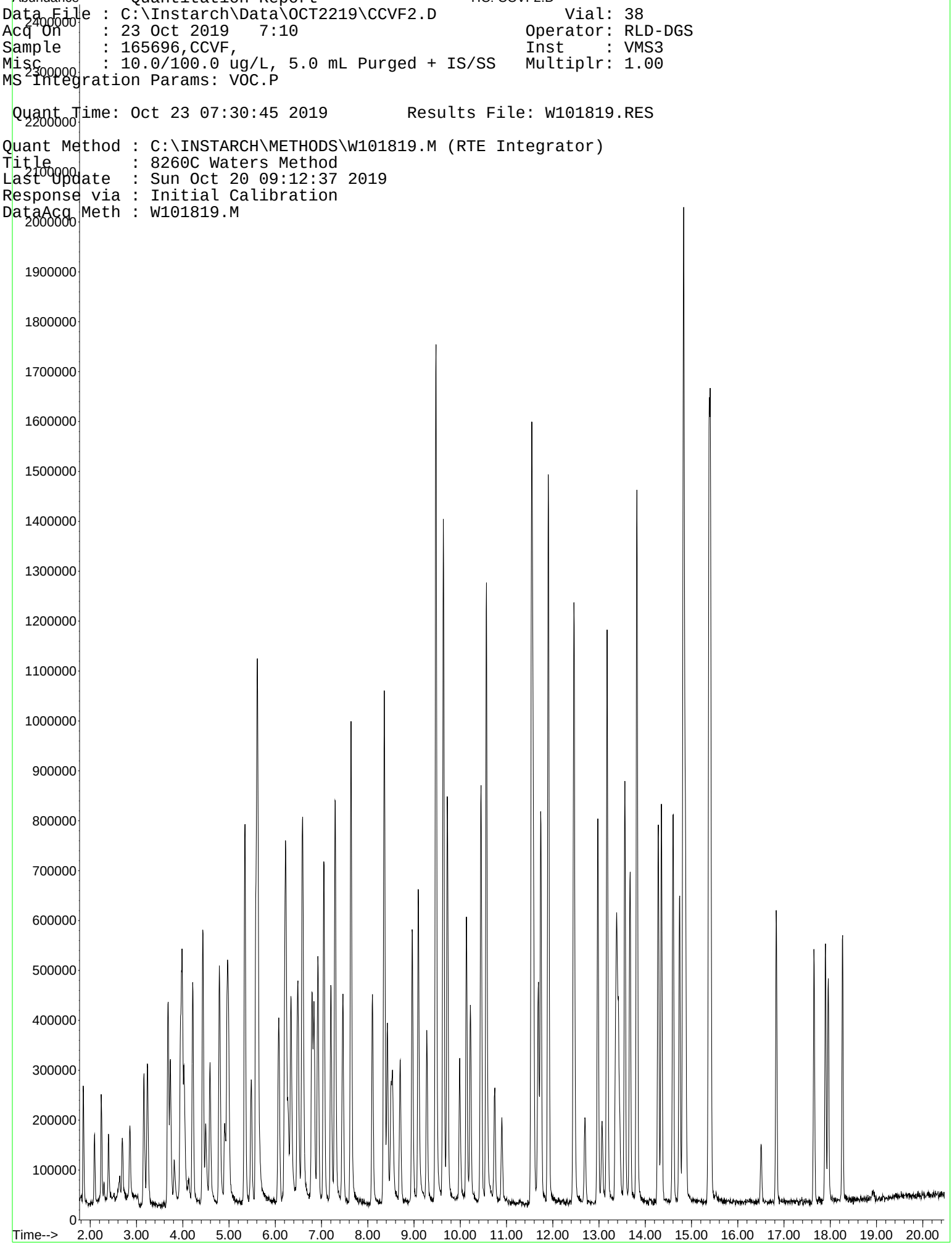
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF2.D

Data File : C:\Instarch\Data\OCT2219\CCVF2.D Vial: 38
Acq On : 23 Oct 2019 7:10 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 07:30:45 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



BFB

Data File : C:\Instarch\Data\OCT2219\BFB4.D Vial: 39
Acq On : 23 Oct 2019 7:32 Operator: RLD-DGS
Sample : 165696,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.567 to 4.573 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.5	6529	PASS
75	95	30	60	54.7	20472	PASS
95	95	100	100	100.0	37408	PASS
96	95	5	9	5.8	2187	PASS
173	174	0.00	2	1.7	476	PASS
174	95	50	100	76.5	28612	PASS
175	174	5	9	8.0	2275	PASS
176	174	95	101	97.4	27860	PASS
177	176	5	9	6.3	1753	PASS

W101819.M Mon Oct 28 10:45:27 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCV3.D Vial: 40
Acq On : 23 Oct 2019 7:49 Operator: RLD-DGS
Sample : 165696,CCV, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 30 10:33:21 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	91	0.00
2	PT	Dichlorodi	0.3359	0.4089	-21.73#	93	0.00
3	PT	Chloromethan	0.2872	0.3085	-7.42	93	0.00
4	PT	VinylChlorid	0.3403	0.4035	-18.57	98	0.00
5	PT	Bromomethane	0.1475	0.1598	-8.34	97	0.00
6	PT	Chloroethane	0.2714	0.2845	-4.83	91	0.00
7	T	Dichloroflmethane	0.5812	0.6084	-4.68	92	0.00
8	PT	Trichlorofma	0.4457	0.5275	-18.35	96	0.00
9	T	Ethylether	0.2235	0.2243	-0.36	94	0.00
10	T	dichlorotfluoroethan	0.3391	0.3755	-10.73	93	0.00
11	T	propyleneoxide	0.0520	0.0525	-0.96	97	0.00
12	T	Acrolein	0.0384	0.0419	-9.11	94	0.00
13	PT	11dichlorthe	0.2625	0.2902	-10.55	96	0.00
14	PT	Trichlorotfluoroeth	0.2204	0.2673	-21.28#	96	0.00
15	PT	Acetone	0.0783	0.0768#	1.92	89	0.00
16	T	Iodomethane	0.0928	0.0784	15.52	106	0.00
17	PT	Carbon Dislf	0.6498	0.7298	-12.31	93	0.00
18	T	allylchloride	0.3987	0.3969	0.45	88	0.00
19	PT	methylacetate	0.1342	0.1434	-6.86	103	0.01
20	PT	Methylchlorid	0.3409	0.3360	1.44	97	0.00
21	T	tbutylalcohol	0.0260	0.0253#	2.69	88	0.00
22	T	Acrylonitrile	0.0726	0.0774	-6.61	90	0.00
23	PT	t12dichlorte	0.3030	0.3080	-1.65	92	0.00
24	PT	MtBE	0.7885	0.7988	-1.31	89	0.00
25	T	Hexane	0.3706	0.4289	-15.73	88	0.00
26	PT	11dichlorota	0.5676	0.5669	0.12	95	0.00
27	T	Vinylacetate	0.3452	0.3773	-9.30	95	0.00
28	T	chloroprene	0.4018	0.4279	-6.50	88	0.00
29	T	Diisopether	0.8228	0.8139	1.08	87	0.00
30	T	ETBE	0.7404	0.6839	7.63	85	0.00
31	T	22dichloropr	0.4721	0.4877	-3.30	93	0.00
32	PT	c12dichlorte	0.3343	0.3352	-0.27	89	0.00
33	PT	2Butanone	0.0346	0.0378#	-9.25	96	0.00
34	T	propionitrile	0.0316	0.0391	-23.73#	97	0.00
35	T	Ethylacetate	0.0117	0.0139#	-18.80	109	0.01
36	T	methacrylonitrile	0.1336	0.1478	-10.63	100	0.00
37	T	Bromochlorma	0.1585	0.1533	3.28	96	0.01
38	T	Tetrahydofur	0.0779	0.0833	-6.93	97	0.00
39	PT	Chloroform	0.5934	0.5904	0.51	92	0.00
40	PT	111trichlota	0.5135	0.5176	-0.80	91	0.00
41	S	SURRDibrflma	0.2708	0.2780	-2.66	94	0.00
42	PT	Cyclohexane	0.4081	0.4491	-10.05	90	0.00
43	PT	Carbtetraclo	0.3926	0.4241	-8.02	92	0.00
44	T	11dicloprope	0.1415	0.1466	-3.60	92	0.00
45	S	SURR12DCAd4	0.0722	0.0703	2.63	88	0.00
46	PT	Benzene	1.2386	1.2648	-2.12	92	0.00
47	PT	12dichlorota	0.4438	0.4277	3.63	93	0.00
48	T	TAME	0.7559	0.7175	5.08	88	0.00

49	PT	trichloroete	0.3300	0.3122	5.39	86	0.00
50	PT	methylcyclohexane	0.5327	0.5875	-10.29	87	0.00
51	PT	12dicloropra	0.3310	0.3267	1.30	91	0.00
52	T	23Dicl1propene	0.4704	0.4770	-1.40	94	0.00
53	T	Dibromometha	0.2041	0.2092	-2.50	91	0.00
54	T	methylmethacrylate	0.2085	0.1981	4.99	89	0.00
55	T	14dioxane	0.0036	0.0029#	19.44	74	0.00
56	PT	Bromodiclrma	0.4551	0.4365	4.09	92	0.00
57	T	2Nitropropane	0.0889	0.0933	-4.95	97	0.00
58	T	2CLEVE	0.1462	0.1556	-6.43	98	0.00
59	PT	c13dicloproe	0.5015	0.5018	-0.06	92	0.00
60	PT	4Meth2Pentan	0.2509	0.2546	-1.47	93	0.00
61	S	SURRd8Tolule	1.0853	1.0949	-0.88	92	0.00
62	PT	Toluene	0.8432	0.8279	1.81	89	0.00
63	PT	t13Dicloprop	0.4536	0.4253	6.24	89	0.00
64	T	ethylmethacrylate	0.3873	0.3837	0.93	90	0.00
65	PT	112Triclotha	0.2620	0.2559	2.33	92	0.00
66	PT	Tetrachlorte	0.3460	0.3582	-3.53	93	0.00
67	T	13Diclorpropa	0.5368	0.5309	1.10	92	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	92	0.00
69	PT	2Hexanone	0.2173	0.2351	-8.19	93	0.00
70	PT	Clorodibrmta	0.3802	0.3562	6.31	88	0.00
71	PT	12Dibrometha	0.3534	0.3392	4.02	94	0.00
72	PT	Chlorobenzen	1.0331	1.0010	3.11	90	0.00
73	T	1Clhexane	0.4987	0.4889	1.97	88	0.00
74	T	1112Tetclota	0.3711	0.3476	6.33	86	0.00
75	PT	Ethylbenzene	1.6831	1.6867	-0.21	87	0.00
76	PT	m p-Xylene	0.6321	0.6271	0.79	85	0.00
77	PT	o-Xylene	0.6246	0.5829	6.68	83	0.00
78	PT	Styrene	0.9890	1.0070	-1.82	88	0.00
79	PT	Bromoform	0.2712	0.2454	9.51	83	0.00
80	PT	Isopropylben	1.4362	1.4809	-3.11	86	0.00
81	T	cyclohexanone	0.0131	0.0109#	16.79	80	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	94	0.00
83	S	SURR4BrFBenz	0.8861	0.8802	0.67	93	0.00
84	T	Bromobenzene	0.7271	0.6669	8.28	90	0.00
85	PT	1122Tetrclta	0.8814	0.8506	3.49	95	0.00
86	T	123Triclproa	1.0215	1.0059	1.53	94	0.00
87	T	14dichloro2butene	0.1808	0.1645	9.02	91	0.00
88	T	n-Propylbenz	2.9579	3.1612	-6.87	89	0.00
89	T	2chlorotolue	1.9151	1.8593	2.91	88	0.00
90	T	4chlorotolue	2.1753	2.2543	-3.63	89	0.00
91	T	135Trimebenz	2.0711	2.1346	-3.07	87	0.00
92	T	tbutylbenzen	1.6805	1.6930	-0.74	84	0.00
93	T	124Trimetben	2.0735	2.0805	-0.34	84	0.00
94	T	sbutylbenzen	2.4079	2.5159	-4.49	85	0.00
95	PT	13Diclorbenz	1.3008	1.2447	4.31	88	0.00
96	T	pIsopropylto	2.1241	2.2030	-3.71	86	0.00
97	PT	14dichlorobe	1.3833	1.2927	6.55	87	0.00
98	PT	12dichlorobe	1.3104	1.2033	8.17	90	0.00
99	T	nButylbenzen	2.2433	2.2014	1.87	86	0.00
100	PT	12dibromo3cl	0.1761	0.1670	5.17	89	0.00
101	T	135Trichlorobenzene	0.9782	0.8530	12.80	86	0.00
102	PT	124Trichlobe	0.8151	0.7365	9.64	87	0.00
103	T	Hexachlorobu	0.4599	0.4674	-1.63	94	0.00
104	T	Naphthalene	1.7541	1.6182	7.75	85	0.00
105	T	123Trichlben	0.7915	0.7632	3.58	91	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W101819.M Wed Oct 30 10:36:49 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCV3.D Vial: 40
Acq On : 23 Oct 2019 7:49 Operator: RLD-DGS
Sample : 165696,CCV, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 30 10:33:21 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	91	0.00
2	PT	Dichlorodi	10.0000	12.1746	-21.75#	93	0.00
3	PT	Chloromethan	10.0000	10.7403	-7.40	93	0.00
4	PT	VinylChlorid	10.0000	11.8584	-18.58	98	0.00
5	PT	Bromomethane	10.0000	10.8316	-8.32	97	0.00
6	PT	Chloroethane	10.0000	10.4839	-4.84	91	0.00
7	T	Dichloroflmethane	10.0000	10.4686	-4.69	92	0.00
8	PT	Trichlorofma	10.0000	11.8362	-18.36	96	0.00
9	T	Ethylether	10.0000	10.0345	-0.34	94	0.00
10	T	dichlorotfluoroethan	10.0000	11.0736	-10.74	93	0.00
11	T	propyleneoxide	100.0000	101.0524	-1.05	97	0.00
12	T	Acrolein	50.0000	54.5793	-9.16	94	0.00
13	PT	11dichlorthe	10.0000	11.0539	-10.54	96	0.00
14	PT	Trichlorotfluoroeth	20.0000	24.2597	-21.30#	96	0.00
15	PT	Acetone	100.0000	98.0904	1.91	89	0.00
16	T	Iodomethane	20.0000	17.1707	14.15	106	0.00
17	PT	Carbon Dislf	20.0000	22.4627	-12.31	93	0.00
18	T	allylchloride	20.0000	19.9118	0.44	88	0.00
19	PT	methylacetate	10.0000	10.6824	-6.82	103	0.01
20	PT	Methylchlorid	10.0000	10.3234	-3.23	97	0.00
21	T	tbutylalcohol	500.0000	488.0534	2.39	88	0.00
22	T	Acrylonitrile	50.0000	46.8184	6.36	90	0.00
23	PT	t12dichlorte	10.0000	10.1660	-1.66	92	0.00
24	PT	MtBE	10.0000	10.1310	-1.31	89	0.00
25	T	Hexane	20.0000	19.9079	0.46	88	0.00
26	PT	11dichlorota	10.0000	9.9869	0.13	95	0.00
27	T	Vinylacetate	100.0000	109.3054	-9.31	95	0.00
28	T	chloroprene	20.0000	21.2998	-6.50	88	0.00
29	T	Diisopether	10.0000	9.8925	1.07	87	0.00
30	T	ETBE	10.0000	9.2363	7.64	85	0.00
31	T	22dichloropr	10.0000	10.3311	-3.31	93	0.00
32	PT	c12dichlorte	10.0000	10.0265	-0.27	89	0.00
33	PT	2Butanone	100.0000	109.2755	-9.28	96	0.00
34	T	propionitrile	100.0000	104.6122	-4.61	97	0.00
35	T	Ethylacetate	50.0000	59.2662	-18.53	109	0.01
36	T	methacrylonitrile	20.0000	22.1307	-10.65	100	0.00
37	T	Bromochlorma	10.0000	9.6740	3.26	96	0.01
38	T	Tetrahydofur	100.0000	107.0064	-7.01	97	0.00
39	PT	Chloroform	10.0000	9.9502	0.50	92	0.00
40	PT	111trichlota	10.0000	10.0786	-0.79	91	0.00
41	S	SURRDibrflma	20.0000	20.5320	-2.66	94	0.00
42	PT	Cyclohexane	10.0000	9.8583	1.42	90	0.00
43	PT	Carbtetraclo	10.0000	10.8006	-8.01	92	0.00
44	T	11dicloprope	10.0000	10.3597	-3.60	92	0.00
45	S	SURR12DCAd4	20.0000	19.4724	2.64	88	0.00
46	PT	Benzene	10.0000	10.2114	-2.11	92	0.00
47	PT	12dichlorota	10.0000	9.6366	3.63	93	0.00
48	T	TAME	10.0000	9.4921	5.08	88	0.00

49	PT	trichloroete	10.0000	9.4613	5.39	86	0.00
50	PT	methylcyclohexane	10.0000	9.6424	3.58	87	0.00
51	PT	12dicloropra	10.0000	9.8691	1.31	91	0.00
52	T	23Dicl1propene	10.0000	10.1404	-1.40	94	0.00
53	T	Dibromometha	10.0000	10.2527	-2.53	91	0.00
54	T	methylmethacrylate	10.0000	9.5002	5.00	89	0.00
55	T	14dioxane	500.0000	401.8602	19.63	74	0.00
56	PT	Bromodiclrma	10.0000	9.5907	4.09	92	0.00
57	T	2Nitropropane	100.0000	105.0030	-5.00	97	0.00
58	T	2CLEVE	50.0000	53.2252	-6.45	98	0.00
59	PT	c13dicloproe	10.0000	10.0074	-0.07	92	0.00
60	PT	4Meth2Pentan	100.0000	101.4713	-1.47	93	0.00
61	S	SURRd8Tolule	20.0000	20.1772	-0.89	92	0.00
62	PT	Toluene	10.0000	9.8181	1.82	89	0.00
63	PT	t13Dicloprop	10.0000	9.3761	6.24	89	0.00
64	T	ethylmethacrylate	20.0000	19.8138	0.93	90	0.00
65	PT	112Triclotha	10.0000	9.7649	2.35	92	0.00
66	PT	Tetrachlorte	10.0000	10.3537	-3.54	93	0.00
67	T	13Diclorpropa	10.0000	9.8916	1.08	92	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	92	0.00
69	PT	2Hexanone	100.0000	108.1812	-8.18	93	0.00
70	PT	Clorodibrmta	10.0000	9.3698	6.30	88	0.00
71	PT	12Dibrometha	10.0000	9.5980	4.02	94	0.00
72	PT	Chlorobenzen	10.0000	9.6891	3.11	90	0.00
73	T	1Clhexane	10.0000	9.8029	1.97	88	0.00
74	T	1112Tetclota	10.0000	9.3668	6.33	86	0.00
75	PT	Ethylbenzene	10.0000	10.0213	-0.21	87	0.00
76	PT	m p-Xylene	20.0000	19.8410	0.79	85	0.00
77	PT	o-Xylene	10.0000	9.3318	6.68	83	0.00
78	PT	Styrene	10.0000	10.1818	-1.82	88	0.00
79	PT	Bromoform	10.0000	9.0490	9.51	83	0.00
80	PT	Isopropylben	10.0000	10.3114	-3.11	86	0.00
81	T	cyclohexanone	200.0000	166.9857	16.51	80	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	94	0.00
83	S	SURR4BrFBenz	20.0000	19.8658	0.67	93	0.00
84	T	Bromobenzene	10.0000	9.1725	8.28	90	0.00
85	PT	1122Tetrclta	10.0000	9.6509	3.49	95	0.00
86	T	123Triclproa	10.0000	9.8473	1.53	94	0.00
87	T	14dichloro2butene	10.0000	9.0993	9.01	91	0.00
88	T	n-Propylbenz	10.0000	10.6875	-6.88	89	0.00
89	T	2chlorotolue	10.0000	9.7087	2.91	88	0.00
90	T	4chlorotolue	10.0000	10.3632	-3.63	89	0.00
91	T	135Trimebenz	10.0000	10.3063	-3.06	87	0.00
92	T	tbutylbenzen	10.0000	10.0746	-0.75	84	0.00
93	T	124Trimetben	10.0000	10.0338	-0.34	84	0.00
94	T	sbutylbenzen	10.0000	10.4481	-4.48	85	0.00
95	PT	13Diclorbenz	10.0000	9.5686	4.31	88	0.00
96	T	pIsopropylto	10.0000	10.3713	-3.71	86	0.00
97	PT	14dichlorobe	10.0000	9.3450	6.55	87	0.00
98	PT	12dichlorobe	10.0000	9.1822	8.18	90	0.00
99	T	nButylbenzen	10.0000	9.8132	1.87	86	0.00
100	PT	12dibromo3cl	10.0000	9.4792	5.21	89	0.00
101	T	135Trichlorobenzene	10.0000	8.7195	12.81	86	0.00
102	PT	124Trichlobe	10.0000	9.0365	9.63	87	0.00
103	T	Hexachlorobu	10.0000	10.1637	-1.64	94	0.00
104	T	Naphthalene	10.0000	9.2250	7.75	85	0.00
105	T	123Trichlben	10.0000	9.6426	3.57	91	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101819.M Wed Oct 30 10:37:16 2019

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV3.D Vial: 40
Acq On : 23 Oct 2019 7:49 Operator: RLD-DGS
Sample : 165696,CCV, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 30 10:33:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 30 10:33:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1138904	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	924131	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	577045	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	316645	20.532	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
45) SURR12DCAd4	7.20	102	80081	19.472	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 97	%		
61) SURRd8Tolule	9.64	98	1247030	20.177	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.18	95	507915	19.866	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	232861	12.1746	ug/L	99
3) Chloromethan	2.09	50	175661	10.7403	ug/L	99
4) VinylChlorid	2.24	62	229782	11.8584	ug/L	97
5) Bromomethane	2.70	94	90970	10.8316	ug/L	88
6) Chloroethane	2.86	64	162019	10.4839	ug/L	98
7) Dichloroflmethane	3.17	67	346475	10.4686	ug/L	98
8) Trichlorofma	3.24	101	300406	11.8362	ug/L	97
9) Ethylether	3.68	59	127732	10.0345	ug/L	98
10) dichlorotfluoroethan	3.68	67	213847	11.0736	ug/L	98
11) propyleneoxide	3.73	58	299077	101.0524	ug/L	97
12) Acrolein	3.82	56	119255	54.5793	ug/L	100
13) 11dichlorthe	3.95	96	165250	11.0539	ug/L	95
14) Trichlorotfluoroeth	3.98	101	304440	24.2597	ug/L	98
15) Acetone	4.03	43	437204	98.0904	ug/L	95
16) Iodomethane	4.13	142	89345	17.1707	ug/L	99
17) Carbon Dislf	4.22	76	831145	22.4627	ug/L	99
18) allylchloride	4.43	41	452064	19.9118	ug/L	97
19) methylacetate	4.51	74	81638	10.6824	ug/L	90
20) Methylchlorid	4.60	84	191321	10.3234	ug/L	95
21) tbutylalcohol	4.79	59	721765	488.0534	ug/L	96
22) Acrylonitrile	4.91	53	220289	46.8184	ug/L	96
23) t12dichlorte	4.96	96	175394	10.1660	ug/L	99
24) MtBE	4.99	73	454900	10.1310	ug/L	99
25) Hexane	5.35	57	488500	19.9079	ug/L	96
26) 11dichlorota	5.49	63	322795	9.9869	ug/L	97
27) Vinylacetate	5.58	43	2148751	109.3054	ug/L	99
28) chloroprene	5.61	53	487385	21.2998	ug/L	96
29) Diisopether	5.63	45	463493	9.8925	ug/L	97
30) ETBE	6.08	59	389431	9.2363	ug/L	98
31) 22dichloropr	6.21	77	277724	10.3311	ug/L	100
32) c12dichlorte	6.22	96	190853	10.0265	ug/L	96
33) 2Butanone	6.23	72	215405	109.2755	ug/L	90
34) propionitrile	6.28	54	222826	104.6122	ug/L	98
35) Ethylacetate	6.35	88	39531	59.2662	ug/L #	84
36) methacrylonitrile	6.48	67	168319	22.1307	ug/L	93
37) Bromochlorma	6.50	128	87308	9.6740	ug/L	92
38) Tetrahydofur	6.58	42	474560	107.0064	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV3.D Vial: 40
Acq On : 23 Oct 2019 7:49 Operator: RLD-DGS
Sample : 165696,CCV, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 30 10:33:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 30 10:33:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	336212	9.9502	ug/L	97
40)	111trichlota	6.84	97	294720	10.0786	ug/L	99
42)	Cyclohexane	6.93	56	255762	9.8583	ug/L	98
43)	Carbtetraclo	7.06	119	241486	10.8006	ug/L	96
44)	11dicloprope	7.05	110	83501	10.3597	ug/L	99
46)	Benzene	7.29	78	720229	10.2114	ug/L	99
47)	12dichlorota	7.30	62	243544	9.6366	ug/L	98
48)	TAME	7.46	73	408585	9.4921	ug/L	99
49)	trichloroete	8.10	95	177781	9.4613	ug/L	95
50)	methylcyclohexane	8.36	83	334526	9.6424	ug/L	99
51)	12dicloropra	8.36	63	186015	9.8691	ug/L	92
52)	23Dicl1propene	8.42	75	271640	10.1404	ug/L	97
53)	Dibromometha	8.50	93	119144	10.2527	ug/L	90
54)	methylmethacrylate	8.53	69	112813	9.5002	ug/L	98
55)	14dioxane	8.56	88	82657	401.8602	ug/L	93
56)	Bromodiclrma	8.70	83	248543	9.5907	ug/L	99
57)	2Nitropropane	8.97	43	531301	105.0030	ug/L	96
58)	2CLEVE	9.09	63	443030	53.2252	ug/L	99
59)	c13dicloproe	9.28	75	285765	10.0074	ug/L	99
60)	4Meth2Pentan	9.48	43	1449978	101.4713	ug/L	99
62)	Toluene	9.73	92	471448	9.8181	ug/L	96
63)	t13Dicloprop	9.99	75	242187	9.3761	ug/L	99
64)	ethylmethacrylate	10.13	69	437036	19.8138	ug/L	98
65)	112Triclotha	10.22	83	145699	9.7649	ug/L	97
66)	Tetrachlorte	10.46	166	203996	10.3537	ug/L	94
67)	13Diclorpropa	10.45	76	302341	9.8916	ug/L	96
69)	2Hexanone	10.57	43	1086455	108.1812	ug/L	99
70)	Clorodibrmta	10.74	129	164602	9.3698	ug/L	97
71)	12Dibrometha	10.90	107	156720	9.5980	ug/L	94
72)	Chlorobenzen	11.59	112	462519	9.6891	ug/L	99
73)	1Clhexane	11.56	91	225904	9.8029	ug/L	100
74)	1112Tetclota	11.68	131	160616	9.3668	ug/L	97
75)	Ethylbenzene	11.75	91	779358	10.0213	ug/L	98
76)	m p-Xylene	11.91	106	579483	19.8410	ug/L	95
77)	o-Xylene	12.46	106	269332	9.3318	ug/L	90
78)	Styrene	12.46	104	465287	10.1818	ug/L	99
79)	Bromoform	12.69	173	113410	9.0490	ug/L	94
80)	Isopropylben	12.97	105	684291	10.3114	ug/L	97
81)	cyclohexanone	13.07	55	100834	166.9857	ug/L	100
84)	Bromobenzene	13.39	156	192415	9.1725	ug/L	96
85)	1122Tetrclta	13.36	83	245413	9.6509	ug/L	99
86)	123Triclproa	13.42	75	290236	9.8473	ug/L	100
87)	14dichloro2butene	13.45	53	47469	9.0993	ug/L	92
88)	n-Propylbenz	13.56	91	912081	10.6875	ug/L	98
89)	2chlorotolue	13.67	91	536443	9.7087	ug/L	98
90)	4chlorotolue	13.83	91	650417	10.3632	ug/L	98
91)	135Trimebenz	13.82	105	615869	10.3063	ug/L	99
92)	tbutylbenzen	14.28	119	488469	10.0746	ug/L	99
93)	124Trimetben	14.35	105	600269	10.0338	ug/L	97
94)	sbutylbenzen	14.60	105	725881	10.4481	ug/L	99
95)	13Diclorbenz	14.74	146	359112	9.5686	ug/L	98
96)	pIsopropylto	14.82	119	635616	10.3713	ug/L	100
97)	14dichlorobe	14.87	146	372973	9.3450	ug/L	99
98)	12dichlorobe	15.41	146	347167	9.1822	ug/L	99
99)	nButylbenzen	15.41	91	635158	9.8132	ug/L	100
100)	12dibromo3cl	16.50	157	48174	9.4792	ug/L	93
101)	135Trichlorobenzene	16.83	180	246099	8.7195	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV3.D Vial: 40
Acq On : 23 Oct 2019 7:49 Operator: RLD-DGS
Sample : 165696,CCV, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 30 10:33:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 30 10:33:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	212511	9.0365	ug/L	97
103) Hexachlorobu	17.90	225	134854	10.1637	ug/L	96
104) Naphthalene	17.96	128	466883	9.2250	ug/L	99
105) 123Trichlben	18.27	180	220202	9.6426	ug/L	95

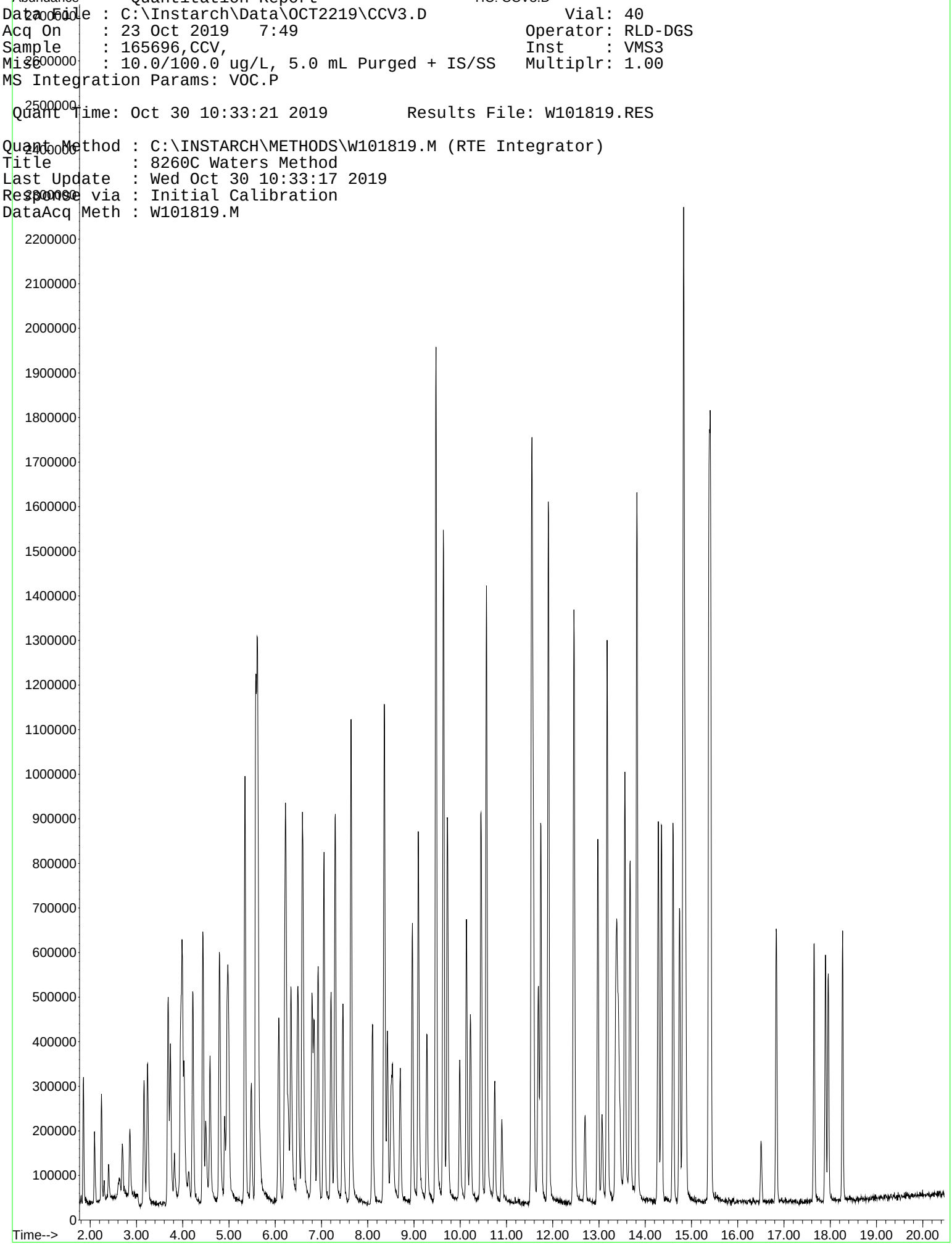
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: CCV3.D)

Data File : C:\Instarch\Data\OCT2219\CCV3.D Vial: 40
Acq On : 23 Oct 2019 7:49 Operator: RLD-DGS
Sample : 165696,CCV, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 30 10:33:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 30 10:33:17 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\CCB2.D Vial: 42
Acq On : 23 Oct 2019 8:49 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:10:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1065797	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	902787	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	496021	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.79	113	312741	21.670 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 108 %		
45) SURR12DCAd4	7.21	102	80669	20.961 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 105 %		
61) SURRd8Tolule	9.64	98	1146583	19.824 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %		
83) SURR4BrFBenz	13.18	95	443782	20.193 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.23	76	3972	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\CCB2.D Vial: 42
Acq On : 23 Oct 2019 8:49 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:10:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.38	91	3841	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\CCB2.D Vial: 42
Acq On : 23 Oct 2019 8:49 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:10:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

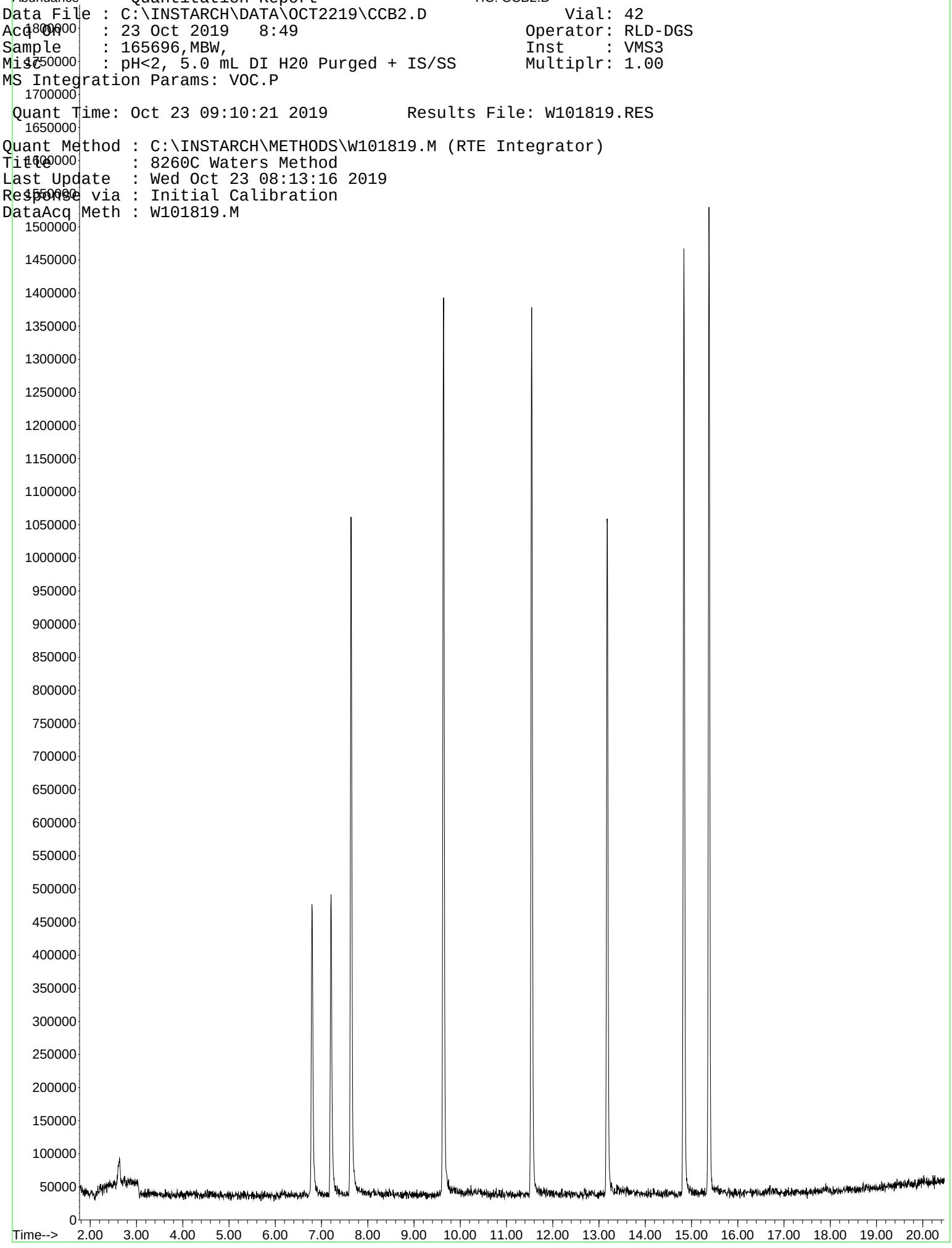
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT2219\CCB2.D Vial: 42
Acq On : 23 Oct 2019 8:49 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 09:10:21 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCVF3.D Vial: 53
Acq On : 23 Oct 2019 14:16 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 23 14:36:56 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	96	0.00
2	PT	Dichlorodi	0.3359	0.4480	-33.37	107	0.00
3	PT	Chloromethan	0.2872	0.3276	-14.07	104	0.00
4	PT	VinylChlorid	0.3403	0.4316	-26.83	111	0.00
5	PT	Bromomethane	0.1475	0.1701	-15.32	109	0.00
6	PT	Chloroethane	0.2714	0.3058	-12.68	103	0.00
7	T	Dichloroflmethane	0.5812	0.6303	-8.45	101	0.00
8	PT	Trichlorofma	0.4457	0.5363	-20.33	103	0.00
9	T	Ethylether	0.2235	0.2264	-1.30	100	0.00
10	T	dichlorotfluoroethan	0.3391	0.3954	-16.60	104	0.00
11	T	propyleneoxide	0.0520	0.0483	7.12	94	0.00
12	T	Acrolein	0.0384	0.0402	-4.69	96	0.00
13	PT	11dichlorthe	0.2625	0.2982	-13.60	104	0.00
14	PT	Trichlorotfluoroeth	0.2204	0.2767	-25.54	105	0.00
15	PT	Acetone	0.0783	0.0655#	16.35	80	0.00
16	T	Iodomethane	0.0928	0.1699	-83.08#	242#	0.00
17	PT	Carbon Dislf	0.6498	0.7657	-17.84	104	0.00
18	T	allylchloride	0.3987	0.4290	-7.60	101	0.00
19	PT	methylacetate	0.1342	0.1341	0.07	102	0.00
20	PT	Methylchlorid	0.3409	0.3487	-2.29	106	0.00
21	T	tbutylalcohol	0.0260	0.0212#	18.46	78	0.00
22	T	Acrylonitrile	0.0726	0.0742	-2.20	91	0.00
23	PT	t12dichlorte	0.3030	0.3337	-10.13	105	0.00
24	PT	MtBE	0.7885	0.8786	-11.43	104	0.00
25	T	Hexane	0.3706	0.4390	-18.46	95	0.00
26	PT	11dichlorota	0.5676	0.5778	-1.80	102	0.00
27	T	Vinylacetate	0.3452	0.3737	-8.26	99	0.00
28	T	chloroprene	0.4018	0.4356	-8.41	95	0.00
29	T	Diisopether	0.8228	0.8406	-2.16	95	0.00
30	T	ETBE	0.7404	0.7509	-1.42	99	0.00
31	T	22dichloropr	0.4721	0.4864	-3.03	98	0.00
32	PT	c12dichlorte	0.3343	0.3692	-10.44	104	0.00
33	PT	2Butanone	0.0346	0.0365#	-5.49	99	0.00
34	T	propionitrile	0.0316	0.0342	-8.23	90	0.01
35	T	Ethylacetate	0.0117	0.0126#	-7.69	105	0.00
36	T	methacrylonitrile	0.1336	0.1479	-10.70	105	0.00
37	T	Bromochlorma	0.1585	0.1545	2.52	102	0.00
38	T	Tetrahydofur	0.0779	0.0770	1.16	94	0.00
39	PT	Chloroform	0.5934	0.6205	-4.57	102	0.00
40	PT	111trichlota	0.5135	0.5557	-8.22	104	0.00
41	S	SURRDibrflma	0.2708	0.2787	-2.92	100	0.00
42	PT	Cyclohexane	0.4081	0.4758	-16.59	101	0.00
43	PT	Carbtetraclo	0.3926	0.4401	-12.10	101	0.00
44	T	11dicloprope	0.1415	0.1547	-9.33	103	0.00
45	S	SURR12DCAd4	0.0722	0.0727	-0.69	96	0.00
46	PT	Benzene	1.2386	1.3244	-6.93	102	0.00
47	PT	12dichlorota	0.4438	0.4654	-4.87	108	0.00
48	T	TAME	0.7559	0.7990	-5.70	104	0.00

49	PT	trichloroete	0.3300	0.3322	-0.67	96	0.00
50	PT	methylcyclohexane	0.5327	0.6360	-19.39	99	0.00
51	PT	12dicloropra	0.3310	0.3493	-5.53	103	0.00
52	T	23Dicl1propene	0.4704	0.5037	-7.08	105	0.00
53	T	Dibromometha	0.2041	0.2173	-6.47	101	0.00
54	T	methylmethacrylate	0.2085	0.2015	3.36	96	0.00
55	T	14dioxane	0.0036	0.0017#	52.78#	46#	0.00
56	PT	Bromodiclrma	0.4551	0.4634	-1.82	103	0.00
57	T	2Nitropropane	0.0889	0.0893	-0.45	98	0.00
58	T	2CLEVE	0.1462	0.1550	-6.02	103	0.00
59	PT	c13dicloproe	0.5015	0.5373	-7.14	104	0.00
60	PT	4Meth2Pentan	0.2509	0.2466	1.71	95	0.00
61	S	SURRd8Tolule	1.0853	1.0888	-0.32	97	0.00
62	PT	Toluene	0.8432	0.8858	-5.05	101	0.00
63	PT	t13Dicloprop	0.4536	0.4675	-3.06	104	0.00
64	T	ethylmethacrylate	0.3873	0.4052	-4.62	101	0.00
65	PT	112Triclotha	0.2620	0.2705	-3.24	103	0.00
66	PT	Tetrachlorte	0.3460	0.3758	-8.61	104	0.00
67	T	13Diclorpropa	0.5368	0.5528	-2.98	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	99	0.00
69	PT	2Hexanone	0.2173	0.2144	1.33	92	0.00
70	PT	Clorodibrmta	0.3802	0.3753	1.29	100	0.00
71	PT	12Dibrometha	0.3534	0.3517	0.48	105	0.00
72	PT	Chlorobenzen	1.0331	1.0555	-2.17	102	0.00
73	T	1Clhexane	0.4987	0.5081	-1.88	98	0.00
74	T	1112Tetclota	0.3711	0.3684	0.73	98	0.00
75	PT	Ethylbenzene	1.6831	1.8151	-7.84	101	0.00
76	PT	m p-Xylene	0.6321	0.6801	-7.59	99	0.00
77	PT	o-Xylene	0.6246	0.6554	-4.93	100	0.00
78	PT	Styrene	0.9890	1.1049	-11.72	104	0.00
79	PT	Bromoform	0.2712	0.2554	5.83	92	0.00
80	PT	Isopropylben	1.4362	1.5888	-10.63	99	0.00
81	T	cyclohexanone	0.0131	0.0070#	46.56	55	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	100	0.00
83	S	SURR4BrFBenz	0.8861	0.8765	1.08	99	0.00
84	T	Bromobenzene	0.7271	0.7410	-1.91	107	0.00
85	PT	1122Tetrclta	0.8814	0.8493	3.64	101	0.00
86	T	123Triclproa	1.0215	0.9888	3.20	98	0.00
87	T	14dichloro2butene	0.1808	0.1427	21.07	84	0.00
88	T	n-Propylbenz	2.9579	3.3199	-12.24	100	0.00
89	T	2chlorotolue	1.9151	1.9809	-3.44	100	0.00
90	T	4chlorotolue	2.1753	2.3215	-6.72	98	0.00
91	T	135Trimebenz	2.0711	2.2492	-8.60	98	0.00
92	T	tbutylbenzen	1.6805	1.8014	-7.19	96	0.00
93	T	124Trimetben	2.0735	2.2006	-6.13	95	0.00
94	T	sbutylbenzen	2.4079	2.6600	-10.47	96	0.00
95	PT	13Diclorbenz	1.3008	1.3283	-2.11	100	0.00
96	T	pIsopropylto	2.1241	2.3534	-10.80	98	0.00
97	PT	14dichlorobe	1.3833	1.4187	-2.56	102	0.00
98	PT	12dichlorobe	1.3104	1.2755	2.66	101	0.00
99	T	nButylbenzen	2.2433	2.3358	-4.12	97	0.00
100	PT	12dibromo3cl	0.1761	0.1583	10.11	90	0.00
101	T	135Trichlorobenzene	0.9782	0.9831	-0.50	105	0.00
102	PT	124Trichlobe	0.8151	0.8388	-2.91	105	0.00
103	T	Hexachlorobu	0.4599	0.4734	-2.94	101	0.00
104	T	Naphthalene	1.7541	1.7517	0.14	98	0.00
105	T	123Trichlben	0.7915	0.7949	-0.43	101	0.00

(#) = Out of Range SPCC's out = 2 CCC's out = 0

W101819.M Mon Oct 28 10:53:04 2019

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCVF3.D Vial: 53
Acq On : 23 Oct 2019 14:16 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 23 14:36:56 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	96	0.00
2	PT	Dichlorodi	10.0000	13.3374	-33.37	107	0.00
3	PT	Chloromethan	10.0000	11.4067	-14.07	104	0.00
4	PT	VinylChlorid	10.0000	12.6836	-26.84	111	0.00
5	PT	Bromomethane	10.0000	11.5355	-15.36	109	0.00
6	PT	Chloroethane	10.0000	11.2675	-12.68	103	0.00
7	T	Dichloroflmethane	10.0000	10.8445	-8.45	101	0.00
8	PT	Trichlorofma	10.0000	12.0320	-20.32	103	0.00
9	T	Ethylether	10.0000	10.1297	-1.30	100	0.00
10	T	dichlorotfluoroethan	10.0000	11.6608	-16.61	104	0.00
11	T	propyleneoxide	100.0000	93.0235	6.98	94	0.00
12	T	Acrolein	50.0000	52.3898	-4.78	96	0.00
13	PT	11dichlorthe	10.0000	11.3597	-13.60	104	0.00
14	PT	Trichlorotfluoroeth	20.0000	25.1093	-25.55	105	0.00
15	PT	Acetone	100.0000	83.7166	16.28	80	0.00
16	T	Iodomethane	20.0000	29.7928	-48.96	242	0.00
17	PT	Carbon Dislf	20.0000	23.5672	-17.84	104	0.00
18	T	allylchloride	20.0000	21.5221	-7.61	101	0.00
19	PT	methylacetate	10.0000	9.9952	0.05	102	0.00
20	PT	Methylchlorid	10.0000	10.7269	-7.27	106	0.00
21	T	tbutylalcohol	500.0000	408.3607	18.33	78	0.00
22	T	Acrylonitrile	50.0000	44.9946	10.01	91	0.00
23	PT	t12dichlorte	10.0000	11.0139	-10.14	105	0.00
24	PT	MtBE	10.0000	11.1426	-11.43	104	0.00
25	T	Hexane	20.0000	20.3640	-1.82	95	0.00
26	PT	11dichlorota	10.0000	10.1800	-1.80	102	0.00
27	T	Vinylacetate	100.0000	108.2665	-8.27	99	0.00
28	T	chloroprene	20.0000	21.6790	-8.39	95	0.00
29	T	Diisopether	10.0000	10.2165	-2.16	95	0.00
30	T	ETBE	10.0000	10.1423	-1.42	99	0.00
31	T	22dichloropr	10.0000	10.3028	-3.03	98	0.00
32	PT	c12dichlorte	10.0000	11.0454	-10.45	104	0.00
33	PT	2Butanone	100.0000	105.5749	-5.57	99	0.00
34	T	propionitrile	100.0000	92.3238	7.68	90	0.01
35	T	Ethylacetate	50.0000	53.7531	-7.51	105	0.00
36	T	methacrylonitrile	20.0000	22.1526	-10.76	105	0.00
37	T	Bromochlorma	10.0000	9.7461	2.54	102	0.00
38	T	Tetrahydofur	100.0000	98.8882	1.11	94	0.00
39	PT	Chloroform	10.0000	10.4573	-4.57	102	0.00
40	PT	111trichlota	10.0000	10.8216	-8.22	104	0.00
41	S	SURRDibrflma	20.0000	20.5845	-2.92	100	0.00
42	PT	Cyclohexane	10.0000	10.4162	-4.16	101	0.00
43	PT	Carbtetraclo	10.0000	11.2092	-12.09	101	0.00
44	T	11dicloprope	10.0000	10.9281	-9.28	103	0.00
45	S	SURR12DCAd4	20.0000	20.1433	-0.72	96	0.00
46	PT	Benzene	10.0000	10.6932	-6.93	102	0.00
47	PT	12dichlorota	10.0000	10.4876	-4.88	108	0.00
48	T	TAME	10.0000	10.5703	-5.70	104	0.00

49	PT	trichloroete	10.0000	10.0672	-0.67	96	0.00
50	PT	methylcyclohexane	10.0000	10.3952	-3.95	99	0.00
51	PT	12dicloropra	10.0000	10.5523	-5.52	103	0.00
52	T	23Dicl1propene	10.0000	10.7081	-7.08	105	0.00
53	T	Dibromometha	10.0000	10.6490	-6.49	101	0.00
54	T	methylmethacrylate	10.0000	9.6625	3.38	96	0.00
55	T	14dioxane	500.0000	237.4146	52.52#	46	0.00
56	PT	Bromodiclrma	10.0000	10.1834	-1.83	103	0.00
57	T	2Nitropropane	100.0000	100.4526	-0.45	98	0.00
58	T	2CLEVE	50.0000	53.0186	-6.04	103	0.00
59	PT	c13dicloproe	10.0000	10.7149	-7.15	104	0.00
60	PT	4Meth2Pentan	100.0000	98.2854	1.71	95	0.00
61	S	SURRd8Tolule	20.0000	20.0640	-0.32	97	0.00
62	PT	Toluene	10.0000	10.5048	-5.05	101	0.00
63	PT	t13Dicloprop	10.0000	10.3066	-3.07	104	0.00
64	T	ethylmethacrylate	20.0000	20.9211	-4.61	101	0.00
65	PT	112Triclotha	10.0000	10.3246	-3.25	103	0.00
66	PT	Tetrachlorte	10.0000	10.8623	-8.62	104	0.00
67	T	13Diclorpropa	10.0000	10.2992	-2.99	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	99	0.00
69	PT	2Hexanone	100.0000	98.6489	1.35	92	0.00
70	PT	Clorodibrmta	10.0000	9.8722	1.28	100	0.00
71	PT	12Dibrometha	10.0000	9.9535	0.46	105	0.00
72	PT	Chlorobenzen	10.0000	10.2167	-2.17	102	0.00
73	T	1Clhexane	10.0000	10.1873	-1.87	98	0.00
74	T	1112Tetclota	10.0000	9.9262	0.74	98	0.00
75	PT	Ethylbenzene	10.0000	10.7844	-7.84	101	0.00
76	PT	m p-Xylene	20.0000	21.5207	-7.60	99	0.00
77	PT	o-Xylene	10.0000	10.4930	-4.93	100	0.00
78	PT	Styrene	10.0000	11.1722	-11.72	104	0.00
79	PT	Bromoform	10.0000	9.4163	5.84	92	0.00
80	PT	Isopropylben	10.0000	11.0623	-10.62	99	0.00
81	T	cyclohexanone	200.0000	107.4136	46.29	55	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	100	0.00
83	S	SURR4BrFBenz	20.0000	19.7829	1.09	99	0.00
84	T	Bromobenzene	10.0000	10.1913	-1.91	107	0.00
85	PT	1122Tetrclta	10.0000	9.6366	3.63	101	0.00
86	T	123Triclproa	10.0000	9.6796	3.20	98	0.00
87	T	14dichloro2butene	10.0000	7.8901	21.10	84	0.00
88	T	n-Propylbenz	10.0000	11.2238	-12.24	100	0.00
89	T	2chlorotolue	10.0000	10.3436	-3.44	100	0.00
90	T	4chlorotolue	10.0000	10.6721	-6.72	98	0.00
91	T	135Trimebenz	10.0000	10.8598	-8.60	98	0.00
92	T	tbutylbenzen	10.0000	10.7194	-7.19	96	0.00
93	T	124Trimetben	10.0000	10.6130	-6.13	95	0.00
94	T	sbutylbenzen	10.0000	11.0466	-10.47	96	0.00
95	PT	13Diclorbenz	10.0000	10.2119	-2.12	100	0.00
96	T	pIsopropylto	10.0000	11.0793	-10.79	98	0.00
97	PT	14dichlorobe	10.0000	10.2559	-2.56	102	0.00
98	PT	12dichlorobe	10.0000	9.7336	2.66	101	0.00
99	T	nButylbenzen	10.0000	10.4121	-4.12	97	0.00
100	PT	12dibromo3cl	10.0000	8.9885	10.11	90	0.00
101	T	135Trichlorobenzene	10.0000	10.0503	-0.50	105	0.00
102	PT	124Trichlobe	10.0000	10.2910	-2.91	105	0.00
103	T	Hexachlorobu	10.0000	10.2937	-2.94	101	0.00
104	T	Naphthalene	10.0000	9.9862	0.14	98	0.00
105	T	123Trichlben	10.0000	10.0429	-0.43	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101819.M Mon Oct 28 10:53:25 2019

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCVF3.D Vial: 53
Acq On : 23 Oct 2019 14:16 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:36:56 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1205843	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	994978	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	614912	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.80	113	336113	20.584	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
45) SURR12DCAd4	7.21	102	87709	20.143	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.63	98	1312917	20.064	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.18	95	538989	19.783	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	270097	13.3374	ug/L	96
3) Chloromethan	2.09	50	197525	11.4067	ug/L	97
4) VinylChlorid	2.24	62	260217	12.6836	ug/L	100
5) Bromomethane	2.70	94	102576	11.5355	ug/L	93
6) Chloroethane	2.86	64	184364	11.2675	ug/L	95
7) Dichloroflmethane	3.16	67	380012	10.8445	ug/L	98
8) Trichlorofma	3.24	101	323326	12.0320	ug/L	99
9) Ethylether	3.68	59	136522	10.1297	ug/L	96
10) dichlorotfluoroethan	3.69	67	238423	11.6608	ug/L	98
11) propyleneoxide	3.73	58	291496	93.0235	ug/L	98
12) Acrolein	3.82	56	121199	52.3898	ug/L	96
13) 11dichlorthe	3.95	96	179804	11.3597	ug/L	98
14) Trichlorotfluoroeth	3.99	101	333622	25.1093	ug/L	99
15) Acetone	4.03	43	395069	83.7166	ug/L	96
16) Iodomethane	4.13	142	204813	29.7928	ug/L	98
17) Carbon Dislf	4.22	76	923265	23.5672	ug/L	99
18) allylchloride	4.44	41	517342	21.5221	ug/L	96
19) methylacetate	4.49	74	80876	9.9952	ug/L	92
20) Methylchlorid	4.59	84	210216	10.7269	ug/L	96
21) tbutylalcohol	4.79	59	639405	408.3607	ug/L	99
22) Acrylonitrile	4.90	53	223629	44.9946	ug/L	99
23) t12dichlorte	4.96	96	201192	11.0139	ug/L	97
24) MtBE	4.99	73	529733	11.1426	ug/L	97
25) Hexane	5.35	57	529351	20.3640	ug/L	95
26) 11dichlorota	5.48	63	348375	10.1800	ug/L	100
27) Vinylacetate	5.58	43	2253419	108.2665	ug/L	97
28) chloroprene	5.61	53	525218	21.6790	ug/L	92
29) Diisopether	5.63	45	506809	10.2165	ug/L	91
30) ETBE	6.08	59	452762	10.1423	ug/L	95
31) 22dichloropr	6.21	77	293240	10.3028	ug/L	100
32) c12dichlorte	6.22	96	222605	11.0454	ug/L	98
33) 2Butanone	6.23	72	220342	105.5749	ug/L	92
34) propionitrile	6.28	54	206463	92.3238	ug/L	93
35) Ethylacetate	6.34	88	37961	53.7531	ug/L #	92
36) methacrylonitrile	6.48	67	178388	22.1526	ug/L	91
37) Bromochlorma	6.50	128	93129	9.7461	ug/L	94
38) Tetrahydofur	6.59	42	464333	98.8882	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCVF3.D Vial: 53
Acq On : 23 Oct 2019 14:16 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:36:56 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.60	83	374114	10.4573 ug/L	98
40)	111trichlota	6.84	97	335046	10.8216 ug/L	97
42)	Cyclohexane	6.93	56	286879	10.4162 ug/L	98
43)	Carbtetraclo	7.06	119	265351	11.2092 ug/L	96
44)	11dicloprope	7.05	110	93259	10.9281 ug/L	99
46)	Benzene	7.30	78	798538	10.6932 ug/L	98
47)	12dichlorota	7.30	62	280629	10.4876 ug/L	98
48)	TAME	7.46	73	481739	10.5703 ug/L	98
49)	trichloroete	8.10	95	200284	10.0672 ug/L	91
50)	methylcyclohexane	8.36	83	383467	10.3952 ug/L	98
51)	12dicloropra	8.36	63	210582	10.5523 ug/L	97
52)	23Dicl1propene	8.42	75	303708	10.7081 ug/L	97
53)	Dibromometha	8.51	93	131022	10.6490 ug/L	95
54)	methylmethacrylate	8.53	69	121484	9.6625 ug/L	96
55)	14dioxane	8.55	88	51703	237.4146 ug/L	92
56)	Bromodiclrma	8.70	83	279412	10.1834 ug/L	99
57)	2Nitropropane	8.97	43	538151	100.4526 ug/L	97
58)	2CLEVE	9.09	63	467248	53.0186 ug/L	98
59)	c13dicloproe	9.28	75	323950	10.7149 ug/L	97
60)	4Meth2Pentan	9.48	43	1486999	98.2854 ug/L	99
62)	Toluene	9.73	92	534072	10.5048 ug/L	96
63)	t13Dicloprop	9.99	75	281870	10.3066 ug/L	96
64)	ethylmethacrylate	10.14	69	488584	20.9211 ug/L	97
65)	112Triclotha	10.22	83	163104	10.3246 ug/L	98
66)	Tetrachlorte	10.46	166	226596	10.8623 ug/L	99
67)	13Diclorpropa	10.44	76	333302	10.2992 ug/L	98
69)	2Hexanone	10.57	43	1066675	98.6489 ug/L	98
70)	Clorodibrmta	10.75	129	186723	9.8722 ug/L	97
71)	12Dibrometha	10.89	107	174985	9.9535 ug/L	94
72)	Chlorobenzen	11.58	112	525097	10.2167 ug/L	100
73)	1Clhexane	11.56	91	252760	10.1873 ug/L	98
74)	1112Tetclota	11.69	131	183257	9.9262 ug/L	97
75)	Ethylbenzene	11.74	91	903005	10.7844 ug/L	99
76)	m p-Xylene	11.91	106	676729	21.5207 ug/L	100
77)	o-Xylene	12.45	106	326061	10.4930 ug/L	97
78)	Styrene	12.46	104	549685	11.1722 ug/L	99
79)	Bromoform	12.69	173	127061	9.4163 ug/L	97
80)	Isopropylben	12.97	105	790406	11.0623 ug/L	98
81)	cyclohexanone	13.07	55	69834	107.4136 ug/L	95
84)	Bromobenzene	13.39	156	227816	10.1913 ug/L	92
85)	1122Tetrclta	13.36	83	261130	9.6366 ug/L	97
86)	123Triclproa	13.42	75	304015	9.6796 ug/L	99
87)	14dichloro2butene	13.45	53	43862	7.8901 ug/L	89
88)	n-Propylbenz	13.56	91	1020709	11.2238 ug/L	100
89)	2chlorotolue	13.67	91	609028	10.3436 ug/L	99
90)	4chlorotolue	13.82	91	713759	10.6721 ug/L	99
91)	135Trimebenz	13.82	105	691526	10.8598 ug/L	99
92)	tbutylbenzen	14.28	119	553841	10.7194 ug/L	98
93)	124Trimetben	14.36	105	676585	10.6130 ug/L	97
94)	sbutylbenzen	14.60	105	817818	11.0466 ug/L	99
95)	13Diclorbenz	14.74	146	408404	10.2119 ug/L	97
96)	pIsopropylto	14.82	119	723565	11.0793 ug/L	99
97)	14dichlorobe	14.87	146	436192	10.2559 ug/L	97
98)	12dichlorobe	15.41	146	392163	9.7336 ug/L	97
99)	nButylbenzen	15.41	91	718146	10.4121 ug/L	99
100)	12dibromo3cl	16.50	157	48678	8.9885 ug/L	99
101)	135Trichlorobenzene	16.83	180	302273	10.0503 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCVF3.D Vial: 53
Acq On : 23 Oct 2019 14:16 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:36:56 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	257893	10.2910	ug/L	94
103) Hexachlorobu	17.90	225	145542	10.2937	ug/L	96
104) Naphthalene	17.96	128	538574	9.9862	ug/L	99
105) 123Trichlben	18.27	180	244393	10.0429	ug/L	97

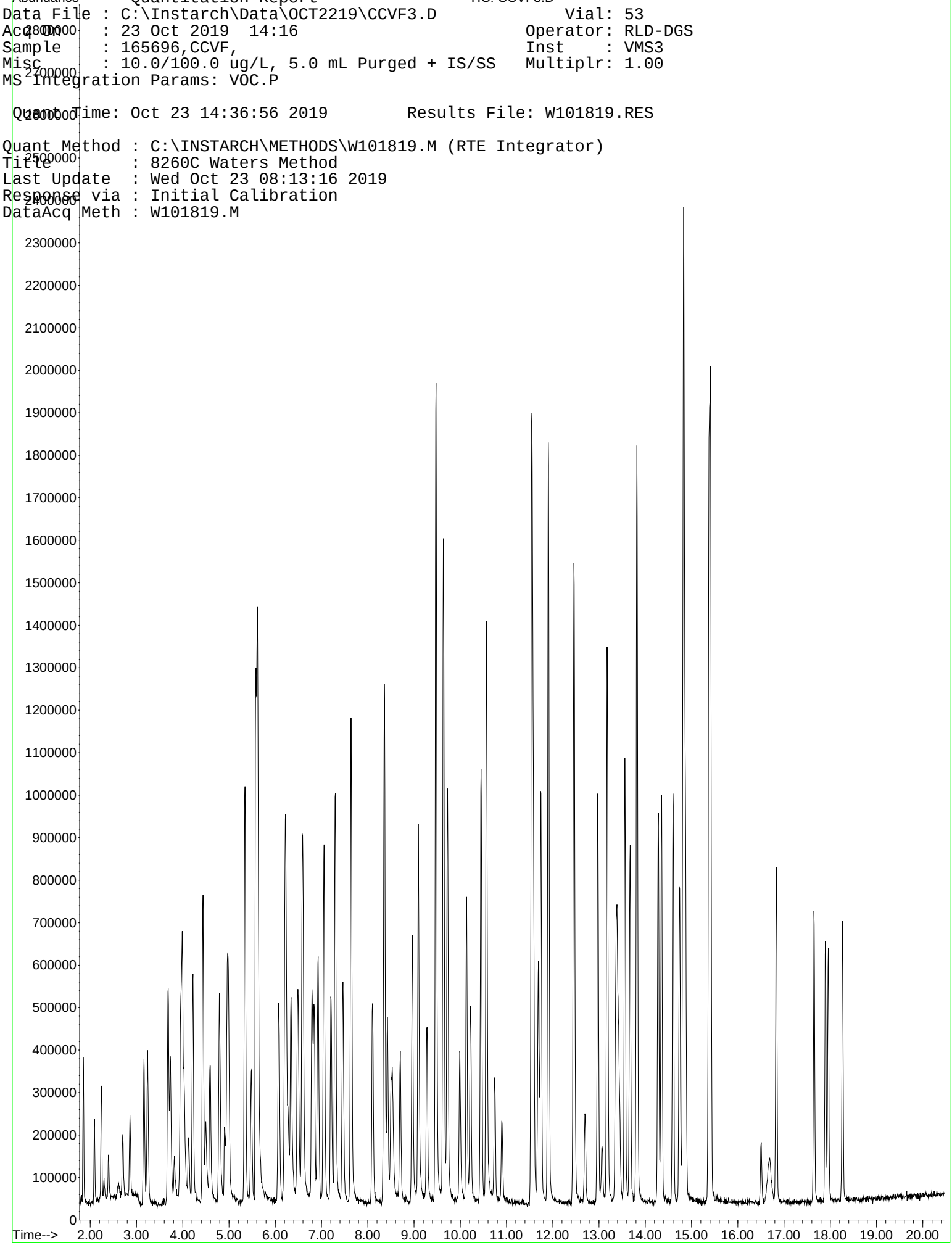
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF3.D

Data File : C:\Instarch\Data\OCT2219\CCVF3.D Vial: 53
Acq On : 23 Oct 2019 14:16 Operator: RLD-DGS
Sample : 165696,CCVF, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:36:56 2019 Results File: W101819.RES

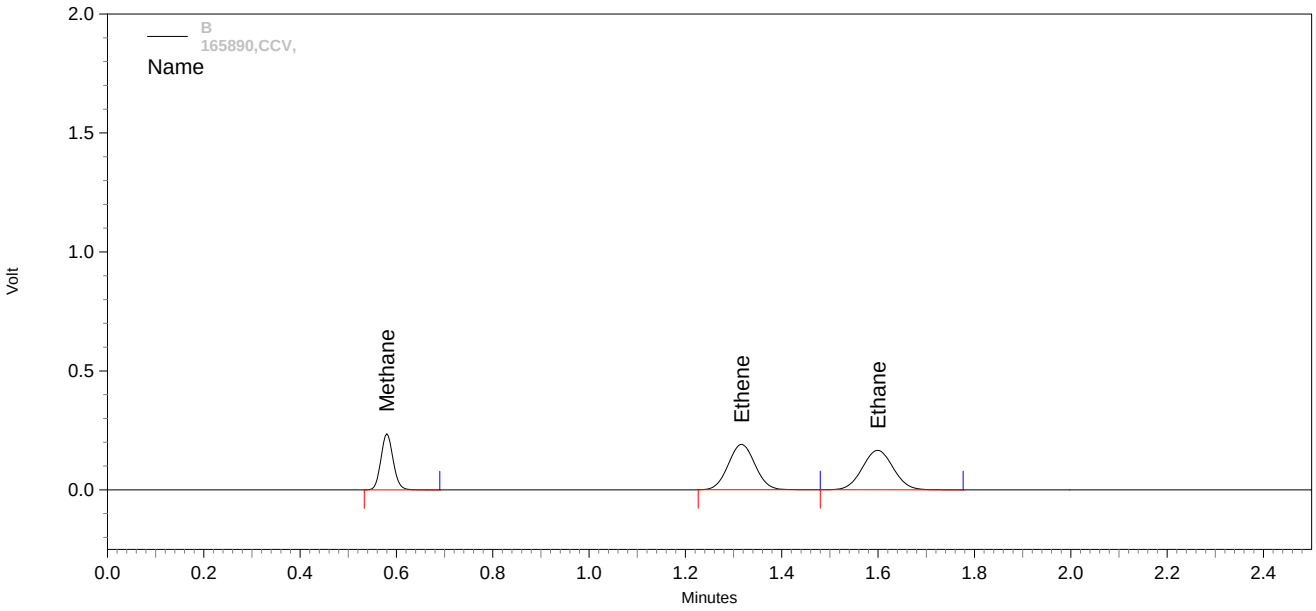
Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,CCV,
Acquired: Oct 24, 2019 10:47:28
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	Methane	0.580	0.580	415052	56.007	ppmV
2	Ethene	1.317	1.317	737254	53.594	ppmV
3	Ethane	1.600	1.600	738751	54.165	ppmV

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\102419 - 165890.seq
User : AGK
Printed : Oct 29, 2019 15:29:08

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\102419 -\002.dat	165890,CCV,	Oct 29, 2019 15:29:08

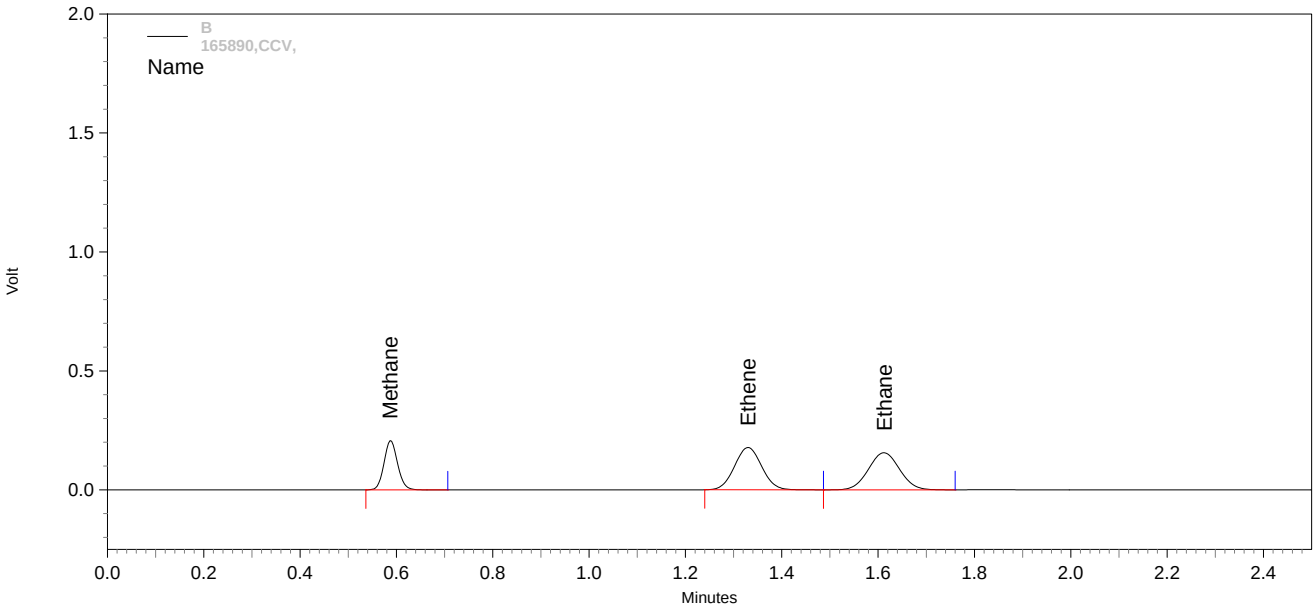
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	56.007	12.014	15.000	**Passed**
Ethene	50.000	53.594	7.188	15.000	**Passed**
Ethane	50.000	54.165	8.329	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,CCV,
Acquired: Oct 24, 2019 11:47:28
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	Methane	0.587	0.580	405804	54.765	ppmV
2	Ethene	1.330	1.317	696320	50.640	ppmV
3	Ethane	1.613	1.600	699401	51.293	ppmV

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\102419 - 165890.seq
User : AGK
Printed : Oct 29, 2019 15:29:57

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\102419 -\017.dat	165890,CCV,	Oct 29, 2019 15:29:57

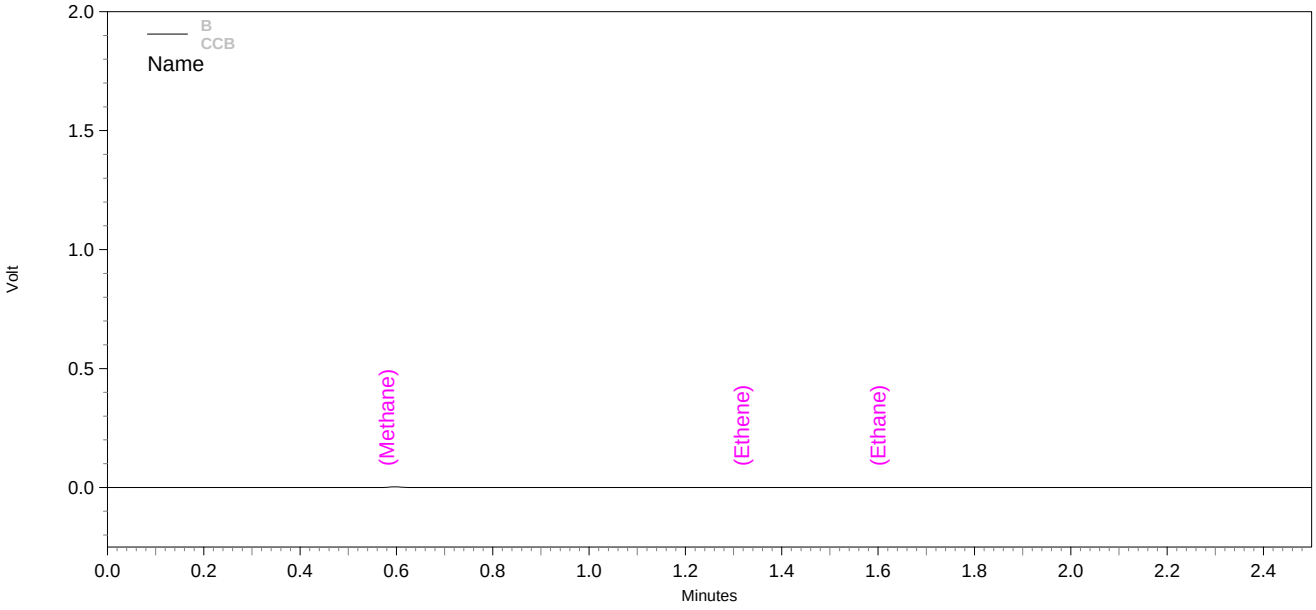
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	54.765	9.529	15.000	**Passed**
Ethene	50.000	50.640	1.280	15.000	**Passed**
Ethane	50.000	51.293	2.585	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: CCB
Acquired: Oct 24, 2019 11:53:57
File Desc. MEE Continuing Calibration BLANK



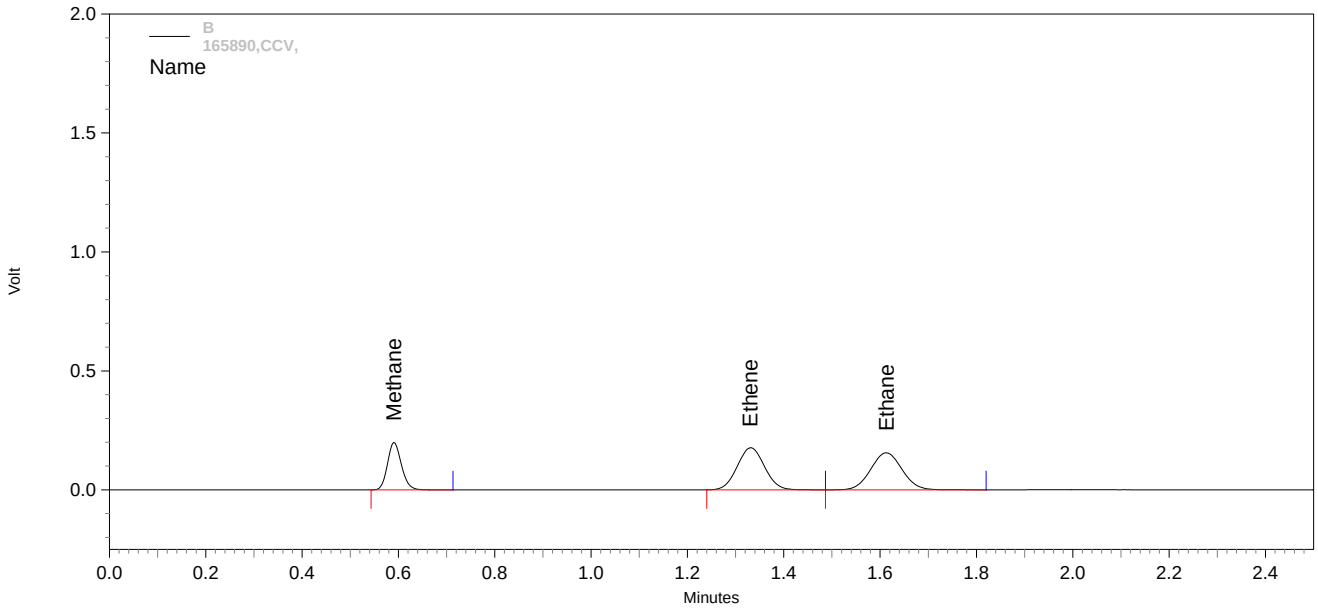
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.580**		**0.000 BDL**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,CCV,
Acquired: Oct 24, 2019 12:53:41
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.580**	**399887**	**53.970**	**ppmV**
2	**Ethene**	**1.330**	**1.317**	**695347**	**50.570**	**ppmV**
3	**Ethane**	**1.613**	**1.600**	**700969**	**51.407**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\102419 - 165890.seq
User : AGK
Printed : Oct 29, 2019 15:30:14

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\102419 -\023.dat	165890,CCV,	Oct 29, 2019 15:30:14

B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	53.970	7.939	15.000	**Passed**
Ethene	50.000	50.570	1.140	15.000	**Passed**
Ethane	50.000	51.407	2.814	15.000	**Passed**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Oct 22 18:24:46 2019

Quant Method : C:\INSTARCH\METHODS\W101819.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W101819.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	96	0.00
2	PT	Dichlorodi	10.0000	11.4036	-14.04	92	0.00
3	PT	Chloromethan	10.0000	10.3423	-3.42	95	0.00
4	PT	VinylChlorid	10.0000	11.1385	-11.39	98	0.00
5	PT	Bromomethane	10.0000	9.5150	4.85	90	0.00
6	PT	Chloroethane	10.0000	10.1202	-1.20	93	0.00
7	T	Dichloroflmethane	10.0000	10.2207	-2.21	95	0.00
8	PT	Trichlorofma	10.0000	11.2238	-12.24	96	0.00
9	T	Ethylether	10.0000	9.5581	4.42	95	0.00
10	T	dichlorotfluoroethan	10.0000	11.2031	-12.03	100	0.00
11	T	propyleneoxide	100.0000	79.5761	20.42#	81	0.00
12	T	Acrolein	50.0000	46.8515	6.30	86	0.00
13	PT	11dichlorthe	10.0000	10.4347	-4.35	95	0.00
14	PT	Trichlorotfluoroeth	20.0000	22.6829	-13.41	95	0.00
15	PT	Acetone	100.0000	88.3404	11.66	85	0.00
16	T	Iodomethane	20.0000	25.7010	-28.51#	199	0.00
17	PT	Carbon Dislf	20.0000	21.7095	-8.55	95	0.00
18	T	allylchloride	20.0000	20.9751	-4.88	98	0.00
19	PT	methylacetate	10.0000	8.6622	13.38	88	0.00
20	PT	Methylchlorid	10.0000	10.2192	-2.19	101	0.00
21	T	tbutylalcohol	500.0000	447.1481	10.57	85	0.00
22	T	Acrylonitrile	50.0000	41.8313	16.34	84	0.00
23	PT	t12dichlorte	10.0000	9.9803	0.20	95	0.00
24	PT	MtBE	10.0000	9.9886	0.11	93	0.00
25	T	Hexane	20.0000	20.2043	-1.02	94	0.00
26	PT	11dichlorota	10.0000	9.9909	0.09	100	0.00
27	T	Vinylacetate	100.0000	87.6296	12.37	81	0.00
28	T	chloroprene	20.0000	21.6233	-8.12	95	0.00
29	T	Diisopether	10.0000	10.1002	-1.00	94	0.00
30	T	ETBE	10.0000	9.7784	2.22	95	0.00
31	T	22dichloropr	10.0000	10.2823	-2.82	98	0.00
32	PT	c12dichlorte	10.0000	10.1302	-1.30	95	0.00
33	PT	2Butanone	100.0000	100.2207	-0.22	94	0.00
34	T	propionitrile	100.0000	84.5170	15.48	82	0.00
35	T	Ethylacetate	50.0000	46.6618	6.68	91	0.00
36	T	methacrylonitrile	20.0000	19.4251	2.87	93	0.00
37	T	Bromochlorma	10.0000	9.0902	9.10	95	0.01
38	T	Tetrahydofur	100.0000	95.4979	4.50	91	0.00
39	PT	Chloroform	10.0000	9.7036	2.96	95	0.00
40	PT	111trichlota	10.0000	10.2434	-2.43	98	0.00
41	S	SURRDibrflma	20.0000	20.4756	-2.38	99	0.00
42	PT	Cyclohexane	10.0000	10.1249	-1.25	98	0.00
43	PT	Carbtetraclo	10.0000	10.9599	-9.60	98	0.00
44	T	11dicloprope	10.0000	9.9724	0.28	94	0.00
45	S	SURR12DCAd4	20.0000	19.8624	0.69	95	0.00
46	PT	Benzene	10.0000	10.5096	-5.10	100	0.00
47	PT	12dichlorota	10.0000	9.8031	1.97	101	0.00
48	T	TAME	10.0000	10.0509	-0.51	99	0.00

49	PT	trichloroete	10.0000	10.1928	-1.93	98	0.00
50	PT	methylcyclohexane	10.0000	10.2417	-2.42	98	0.00
51	PT	12dicloropra	10.0000	10.3457	-3.46	101	0.00
52	T	23Dicl1propene	10.0000	10.1494	-1.49	100	0.00
53	T	Dibromometha	10.0000	10.6346	-6.35	101	0.00
54	T	methylmethacrylate	10.0000	9.3687	6.31	93	0.00
55	T	14dioxane	500.0000	459.5563	8.09	89	0.00
56	PT	Bromodiclrma	10.0000	9.9019	0.98	100	0.00
57	T	2Nitropropane	100.0000	96.5738	3.43	94	0.00
58	T	2CLEVE	50.0000	38.3382	23.32#	75	0.00
59	PT	c13dicloproe	10.0000	10.3662	-3.66	100	0.00
60	PT	4Meth2Pentan	100.0000	89.5386	10.46	87	0.00
61	S	SURRd8Tolule	20.0000	20.2008	-1.00	98	0.00
62	PT	Toluene	10.0000	10.2025	-2.03	98	0.00
63	PT	t13Dicloprop	10.0000	10.2887	-2.89	103	0.00
64	T	ethylmethacrylate	20.0000	20.0012	-0.01	97	0.00
65	PT	112Triclotha	10.0000	9.5871	4.13	96	0.00
66	PT	Tetrachlorte	10.0000	10.3365	-3.36	99	0.00
67	T	13Diclorpropa	10.0000	9.9458	0.54	98	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	101	0.00
69	PT	2Hexanone	100.0000	90.6472	9.35	86	0.00
70	PT	Clorodibrmta	10.0000	9.4850	5.15	98	0.00
71	PT	12Dibrometha	10.0000	9.4143	5.86	102	0.00
72	PT	Chlorobenzen	10.0000	9.8527	1.47	100	0.00
73	T	1Clhexane	10.0000	10.6964	-6.96	105	0.00
74	T	1112Tetclota	10.0000	9.4943	5.06	96	0.00
75	PT	Ethylbenzene	10.0000	10.5394	-5.39	101	0.00
76	PT	m p-Xylene	20.0000	21.0211	-5.11	99	0.00
77	PT	o-Xylene	10.0000	10.4166	-4.17	102	0.00
78	PT	Styrene	10.0000	10.6100	-6.10	100	0.00
79	PT	Bromoform	10.0000	9.5517	4.48	96	0.00
80	PT	Isopropylben	10.0000	10.9044	-9.04	100	0.00
81	T	cyclohexanone	200.0000	166.8388	16.58	88	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	103	0.00
83	S	SURR4BrFBenz	20.0000	20.1414	-0.71	104	0.00
84	T	Bromobenzene	10.0000	9.6315	3.68	104	0.00
85	PT	1122Tetrclta	10.0000	8.7975	12.03	95	0.00
86	T	123Triclproa	10.0000	9.2623	7.38	97	0.00
87	T	14dichloro2butene	10.0000	8.0684	19.32	89	0.00
88	T	n-Propylbenz	10.0000	10.9434	-9.43	100	0.00
89	T	2chlorotolue	10.0000	10.2652	-2.65	102	0.00
90	T	4chlorotolue	10.0000	10.7923	-7.92	102	0.00
91	T	135Trimebenz	10.0000	10.6696	-6.70	99	0.00
92	T	tbutylbenzen	10.0000	10.8975	-8.98	100	0.00
93	T	124Trimetben	10.0000	10.6164	-6.16	98	0.00
94	T	sbutylbenzen	10.0000	11.7834	-17.83	105	0.00
95	PT	13Diclorbenz	10.0000	10.1515	-1.52	103	0.00
96	T	pIsopropylto	10.0000	10.9799	-9.80	100	0.00
97	PT	14dichlorobe	10.0000	9.7707	2.29	100	0.00
98	PT	12dichlorobe	10.0000	9.5592	4.41	103	0.00
99	T	nButylbenzen	10.0000	10.4895	-4.89	101	0.00
100	PT	12dibromo3cl	10.0000	8.8750	11.25	92	0.00
101	T	135Trichlorobenzene	10.0000	9.4721	5.28	102	0.00
102	PT	124Trichlobe	10.0000	9.4909	5.09	100	0.00
103	T	Hexachlorobu	10.0000	9.8219	1.78	99	0.00
104	T	Naphthalene	10.0000	9.4148	5.85	96	0.00
105	T	123Trichlben	10.0000	9.4273	5.73	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W101819.M Mon Oct 28 10:48:32 2019

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1206169	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1016784	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	634665	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	334426	20.476	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.21	102	86509	19.862	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.64	98	1322226	20.201	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.18	95	566383	20.141	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	230997	11.4036	ug/L	97
3) Chloromethan	2.08	50	179141	10.3423	ug/L	99
4) VinylChlorid	2.24	62	228579	11.1385	ug/L	99
5) Bromomethane	2.69	94	84632	9.5150	ug/L	84
6) Chloroethane	2.86	64	165636	10.1202	ug/L	99
7) Dichloroflmethane	3.16	67	358248	10.2207	ug/L	98
8) Trichlorofma	3.23	101	301689	11.2238	ug/L	96
9) Ethylether	3.67	59	128853	9.5581	ug/L	98
10) dichlorotfluoroethan	3.68	67	229125	11.2031	ug/L	96
11) propyleneoxide	3.73	58	249425	79.5761	ug/L	98
12) Acrolein	3.82	56	108416	46.8515	ug/L	98
13) 11dichlorthe	3.95	96	165207	10.4347	ug/L	97
14) Trichlorotfluoroeth	3.99	101	301465	22.6829	ug/L	98
15) Acetone	4.03	43	417002	88.3404	ug/L	97
16) Iodomethane	4.13	142	168563	25.7010	ug/L	98
17) Carbon Dislf	4.22	76	850716	21.7095	ug/L	99
18) allylchloride	4.44	41	504331	20.9751	ug/L	95
19) methylacetate	4.49	74	70109	8.6622	ug/L	94
20) Methylchlorid	4.59	84	200642	10.2192	ug/L	98
21) tbutylalcohol	4.80	59	700327	447.1481	ug/L	100
22) Acrylonitrile	4.91	53	206994	41.8313	ug/L	99
23) t12dichlorte	4.96	96	182359	9.9803	ug/L	94
24) MtBE	4.99	73	474998	9.9886	ug/L	99
25) Hexane	5.35	57	525244	20.2043	ug/L	100
26) 11dichlorota	5.49	63	341995	9.9909	ug/L	99
27) Vinylacetate	5.58	43	1824384	87.6296	ug/L	99
28) chloroprene	5.61	53	524011	21.6233	ug/L	99
29) Diisopether	5.63	45	501172	10.1002	ug/L	98
30) ETBE	6.08	59	436635	9.7784	ug/L	98
31) 22dichloropr	6.22	77	292737	10.2823	ug/L	98
32) c12dichlorte	6.22	96	204217	10.1302	ug/L	95
33) 2Butanone	6.23	72	209224	100.2207	ug/L	90
34) propionitrile	6.28	54	187737	84.5170	ug/L	95
35) Ethylacetate	6.34	88	32962	46.6618	ug/L	98
36) methacrylonitrile	6.48	67	156467	19.4251	ug/L	98
37) Bromochlorma	6.50	128	86885	9.0902	ug/L	96
38) Tetrahydofur	6.59	42	448535	95.4979	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	347243	9.7036	ug/L	97
40)	111trichlota	6.84	97	317230	10.2434	ug/L	97
42)	Cyclohexane	6.93	56	278557	10.1249	ug/L	98
43)	Carbtetraclo	7.06	119	259520	10.9599	ug/L	95
44)	11dicloprope	7.05	110	85126	9.9724	ug/L	95
46)	Benzene	7.30	78	785041	10.5096	ug/L	98
47)	12dichlorota	7.30	62	262385	9.8031	ug/L	99
48)	TAME	7.46	73	458189	10.0509	ug/L	99
49)	trichloroete	8.10	95	202839	10.1928	ug/L	93
50)	methylcyclohexane	8.36	83	377602	10.2417	ug/L	98
51)	12dicloropra	8.36	63	206514	10.3457	ug/L	98
52)	23Dicl1propene	8.42	75	287939	10.1494	ug/L	97
53)	Dibromometha	8.50	93	130880	10.6346	ug/L	93
54)	methylmethacrylate	8.54	69	117822	9.3687	ug/L	97
55)	14dioxane	8.55	88	100107	459.5563	ug/L	97
56)	Bromodiclrma	8.70	83	271763	9.9019	ug/L	97
57)	2Nitropropane	8.97	43	517511	96.5738	ug/L	96
58)	2CLEVE	9.09	63	337963	38.3382	ug/L	100
59)	c13dicloproe	9.28	75	313493	10.3662	ug/L	99
60)	4Meth2Pentan	9.48	43	1355032	89.5386	ug/L	99
62)	Toluene	9.73	92	518839	10.2025	ug/L	96
63)	t13Dicloprop	9.99	75	281455	10.2887	ug/L	97
64)	ethylmethacrylate	10.13	69	467227	20.0012	ug/L	96
65)	112Triclotha	10.22	83	151495	9.5871	ug/L	97
66)	Tetrachlorte	10.46	166	215686	10.3365	ug/L	97
67)	13Diclorpropa	10.45	76	321952	9.9458	ug/L	97
69)	2Hexanone	10.57	43	1001635	90.6472	ug/L	98
70)	Clorodibrmta	10.75	129	183331	9.4850	ug/L	99
71)	12Dibrometha	10.90	107	169132	9.4143	ug/L	96
72)	Chlorobenzen	11.59	112	517486	9.8527	ug/L	98
73)	1Clhexane	11.56	91	271208	10.6964	ug/L	98
74)	1112Tetclota	11.69	131	179124	9.4943	ug/L	96
75)	Ethylbenzene	11.75	91	901826	10.5394	ug/L	100
76)	m p-Xylene	11.91	106	675506	21.0211	ug/L	100
77)	o-Xylene	12.45	106	330782	10.4166	ug/L	99
78)	Styrene	12.47	104	533464	10.6100	ug/L	97
79)	Bromoform	12.70	173	131712	9.5517	ug/L	99
80)	Isopropylben	12.97	105	796200	10.9044	ug/L	100
81)	cyclohexanone	13.07	55	110846	166.8388	ug/L	98
84)	Bromobenzene	13.39	156	222219	9.6315	ug/L	94
85)	1122Tetrclta	13.36	83	246052	8.7975	ug/L	100
86)	123Triclproa	13.42	75	300252	9.2623	ug/L	99
87)	14dichloro2butene	13.45	53	46294	8.0684	ug/L	85
88)	n-Propylbenz	13.56	91	1027183	10.9434	ug/L	99
89)	2chlorotolue	13.67	91	623829	10.2652	ug/L	98
90)	4chlorotolue	13.83	91	744983	10.7923	ug/L	98
91)	135Trimebenz	13.82	105	701243	10.6696	ug/L	98
92)	tbutylbenzen	14.28	119	581129	10.8975	ug/L	99
93)	124Trimetben	14.35	105	698543	10.6164	ug/L	98
94)	sbutylbenzen	14.60	105	900396	11.7834	ug/L	97
95)	13Diclorbenz	14.74	146	419033	10.1515	ug/L	99
96)	pIsopropylto	14.82	119	740107	10.9799	ug/L	99
97)	14dichlorobe	14.87	146	428905	9.7707	ug/L	98
98)	12dichlorobe	15.41	146	397507	9.5592	ug/L	100
99)	nButylbenzen	15.41	91	746725	10.4895	ug/L	99
100)	12dibromo3cl	16.51	157	49607	8.8750	ug/L	95
101)	135Trichlorobenzene	16.84	180	294035	9.4721	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	245482	9.4909	ug/L	99
103) Hexachlorobu	17.90	225	143332	9.8219	ug/L	95
104) Naphthalene	17.96	128	524068	9.4148	ug/L	99
105) 123Trichlben	18.27	180	236784	9.4273	ug/L	99

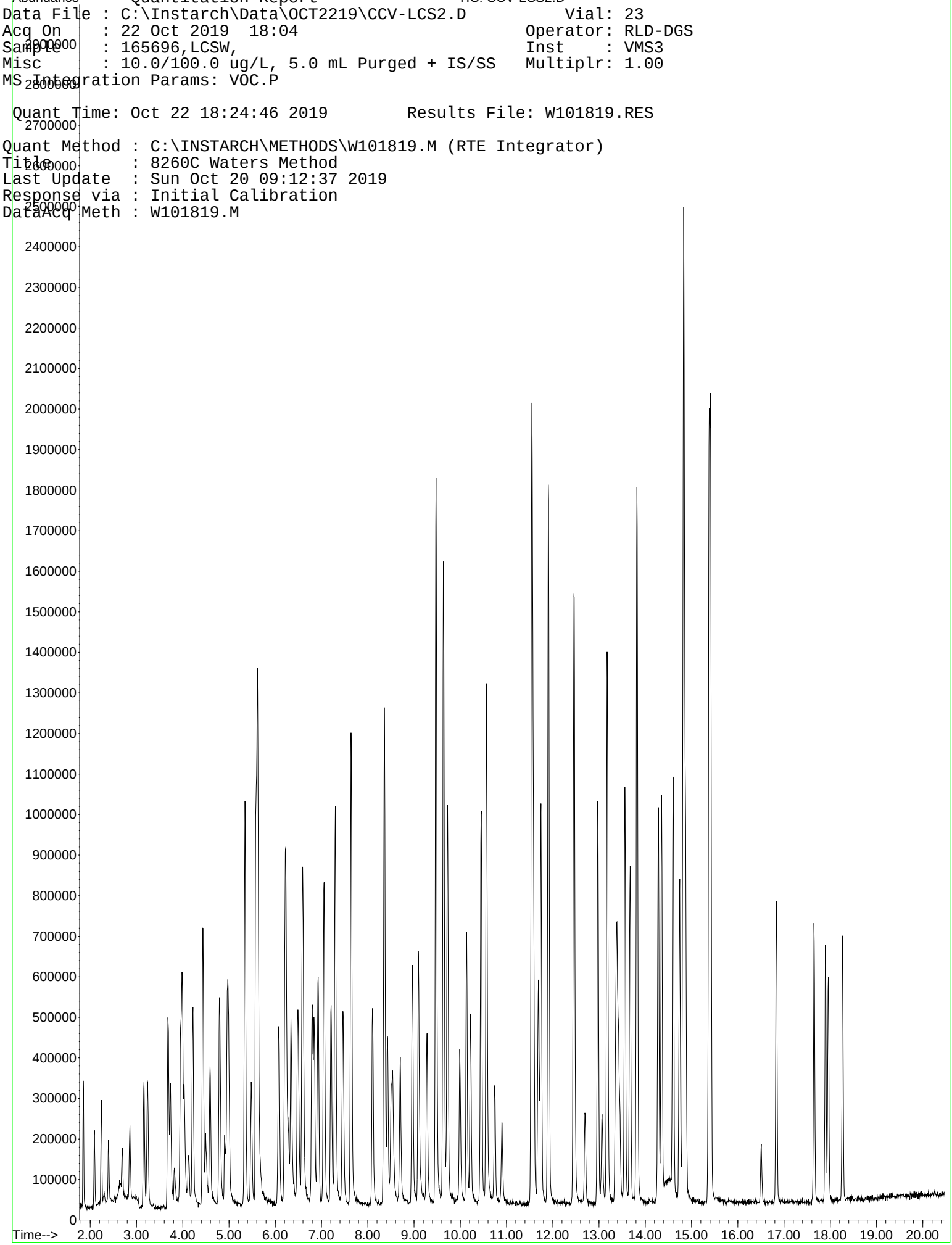
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS2.D

Data File : C:\Instarch\Data\OCT2219\CCV-LCS2.D Vial: 23
Acq On : 22 Oct 2019 18:04 Operator: RLD-DGS
Sample : 165696,LCSW, Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 18:24:46 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\MB2.D Vial: 25
Acq On : 22 Oct 2019 19:03 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:24:15 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1417569	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	1177024	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	675828	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	399123	20.793	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.21	102	104125	20.342	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.63	98	1487243	19.333	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97	%		
83) SURR4BrFBenz	13.18	95	574100	19.172	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.61	94	2528	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	2768	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.21	76	4798	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.59	84	2936	Below	Cal #	84
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\MB2.D Vial: 25
Acq On : 22 Oct 2019 19:03 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:24:15 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	13.35	75	3436	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	13.85	91	2691	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.37	91	4049	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\MB2.D Vial: 25
Acq On : 22 Oct 2019 19:03 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:24:15 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.95	128	2616	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

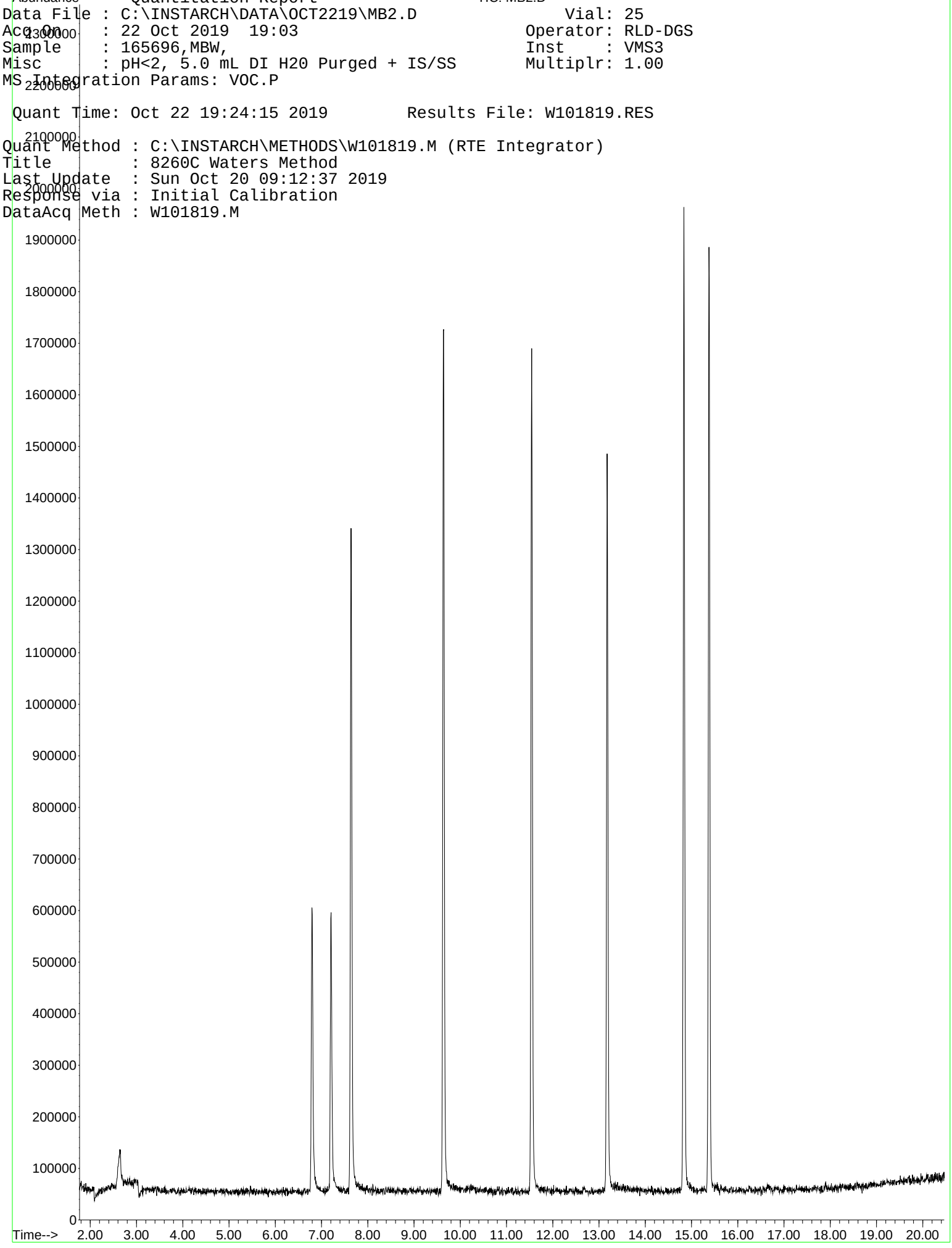
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB2.D

Data File : C:\INSTARCH\DATA\OCT2219\MB2.D Vial: 25
Acq On : 22 Oct 2019 19:03 Operator: RLD-DGS
Sample : 165696,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 22 19:24:15 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sun Oct 20 09:12:37 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848MS.D Vial: 51
Acq On : 23 Oct 2019 13:16 Operator: RLD-DGS
Sample : 165696,MSW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:36:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1120350	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	922212	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	566585	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	303637	20.015	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.21	102	84702	20.937	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 105	%		
61) SURRd8Tolule	9.64	98	1214878	19.982	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.18	95	509916	20.312	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	244904	13.0162	ug/L	95
3) Chloromethan	2.09	50	184360	11.4589	ug/L	97
4) VinylChlorid	2.24	62	252963	13.2709	ug/L	97
5) Bromomethane	2.71	94	96670	11.7010	ug/L	91
6) Chloroethane	2.86	64	168781	11.1023	ug/L	100
7) Dichloroflmethane	3.16	67	360988	11.0877	ug/L	99
8) Trichlorofma	3.24	101	311179	12.4637	ug/L	98
9) Ethylether	3.68	59	112610	8.9931	ug/L	94
10) dichlorotfluoroethan	3.68	67	227289	11.9646	ug/L	96
11) propyleneoxide	3.68	58	3409	N.D.		
12) Acrolein	3.82	56	83778	38.9776	ug/L	96
13) 11dichlorthe	3.95	96	168551	11.4614	ug/L	99
14) Trichlorotfluoroeth	3.98	101	326982	26.4875	ug/L	99
15) Acetone	4.03	43	335576	76.5362	ug/L	100
16) Iodomethane	4.13	142	131284	22.5920	ug/L	97
17) Carbon Dislf	4.22	76	916220	25.1721	ug/L	100
18) allylchloride	4.43	41	446763	20.0042	ug/L	97
19) methylacetate	4.50	74	50753	6.7511	ug/L	93
20) Methylchlorid	4.59	84	187315	10.2730	ug/L	99
21) tbutylalcohol	4.79	59	458114	314.9043	ug/L	96
22) Acrylonitrile	4.91	53	195896	42.5711	ug/L	98
23) t12dichlorte	4.96	96	180194	10.6172	ug/L	96
24) MtBE	4.99	73	451269	10.2165	ug/L	98
25) Hexane	5.35	57	468214	19.4100	ug/L	99
26) 11dichlorota	5.49	63	323667	10.1797	ug/L	99
27) Vinylacetate	5.58	43	1785284	92.3201	ug/L	99
28) chloroprene	5.61	53	515273	22.8915	ug/L	97
29) Diisopether	5.63	45	480101	10.4167	ug/L	97
30) ETBE	6.08	59	410688	9.9018	ug/L	97
31) 22dichloropr	6.21	77	203416	7.6922	ug/L	98
32) c12dichlorte	6.22	96	196908	10.5159	ug/L	99
33) 2Butanone	6.23	72	179654	92.6483	ug/L	98
34) propionitrile	6.28	54	157336	76.9090	ug/L	93
35) Ethylacetate	6.34	88	27600	42.0641	ug/L	94
36) methacrylonitrile	6.48	67	136214	18.2061	ug/L	97
37) Bromochlorma	6.50	128	86633	9.7582	ug/L	95
38) Tetrahydofur	6.59	42	402946	92.3632	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848MS.D Vial: 51
Acq On : 23 Oct 2019 13:16 Operator: RLD-DGS
Sample : 165696,MSW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:36:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.60	83	334446	10.0619 ug/L		97
40)	111trichlota	6.84	97	317875	11.0505 ug/L		98
42)	Cyclohexane	6.93	56	280782	10.9485 ug/L		99
43)	Carbtetraclo	7.06	119	262245	11.9233 ug/L		98
44)	11dicloprope	7.06	110	84819	10.6975 ug/L		95
46)	Benzene	7.30	78	750040	10.8102 ug/L		99
47)	12dichlorota	7.30	62	251467	10.1149 ug/L		99
48)	TAME	7.46	73	429225	10.1368 ug/L		99
49)	trichloroete	8.11	95	190720	10.3180 ug/L		95
50)	methylcyclohexane	8.36	83	369266	10.7552 ug/L		99
51)	12dicloropra	8.36	63	194529	10.4917 ug/L		98
52)	23Dicl1propene	8.43	75	265217	10.0646 ug/L		99
53)	Dibromometha	8.50	93	118624	10.3771 ug/L		98
54)	methylmethacrylate	8.54	69	107975	9.2434 ug/L		96
55)	14dioxane	8.55	88	18314	90.5132 ug/L	#	74
56)	Bromodiclrma	8.70	83	257087	10.0847 ug/L		100
57)	2Nitropropane	8.97	43	471289	94.6851 ug/L		96
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.28	75	245958	8.7560 ug/L		94
60)	4Meth2Pentan	9.47	43	1325600	94.3035 ug/L		98
62)	Toluene	9.73	92	487674	10.3242 ug/L		95
63)	t13Dicloprop	9.99	75	235165	9.2550 ug/L		96
64)	ethylmethacrylate	10.13	69	434435	20.0220 ug/L		97
65)	112Triclotha	10.22	83	141800	9.6610 ug/L		97
66)	Tetrachlorte	10.45	166	209223	10.7949 ug/L		98
67)	13Diclorpropa	10.45	76	297508	9.8947 ug/L		99
69)	2Hexanone	10.57	43	960370	95.8256 ug/L		100
70)	Clorodibrmta	10.75	129	159958	9.1244 ug/L		97
71)	12Dibrometha	10.90	107	152502	9.3591 ug/L		94
72)	Chlorobenzen	11.58	112	468884	9.8428 ug/L		97
73)	1Clhexane	11.56	91	258956	11.2605 ug/L		96
74)	1112Tetclota	11.68	131	170407	9.9585 ug/L		99
75)	Ethylbenzene	11.75	91	830831	10.7054 ug/L		99
76)	m p-Xylene	11.90	106	616749	21.1609 ug/L		95
77)	o-Xylene	12.45	106	290745	10.0947 ug/L		95
78)	Styrene	12.46	104	472674	10.3650 ug/L		98
79)	Bromoform	12.70	173	111174	8.8890 ug/L		97
80)	Isopropylben	12.97	105	719619	10.8663 ug/L		99
81)	cyclohexanone	13.07	55	52553	87.2113 ug/L		97
84)	Bromobenzene	13.39	156	195217	9.4779 ug/L		97
85)	1122Tetrclta	13.36	83	234205	9.3801 ug/L		98
86)	123Triclproa	13.42	75	258874	8.9454 ug/L		99
87)	14dichloro2butene	13.45	53	34070	6.6515 ug/L		90
88)	n-Propylbenz	13.56	91	922678	11.0112 ug/L		98
89)	2chlorotolue	13.67	91	567800	10.4659 ug/L		99
90)	4chlorotolue	13.82	91	671104	10.8903 ug/L		97
91)	135Trimebenz	13.81	105	633809	10.8023 ug/L		100
92)	tbutylbenzen	14.28	119	511159	10.7372 ug/L		99
93)	124Trimetben	14.35	105	631368	10.7485 ug/L		99
94)	sbutylbenzen	14.60	105	765204	11.2175 ug/L		99
95)	13Diclorbenz	14.74	146	366003	9.9323 ug/L		97
96)	pIsopropylto	14.82	119	657235	10.9220 ug/L		100
97)	14dichlorobe	14.87	146	385335	9.8330 ug/L		98
98)	12dichlorobe	15.40	146	366516	9.8730 ug/L		99
99)	nButylbenzen	15.41	91	662658	10.4271 ug/L		99
100)	12dibromo3cl	16.51	157	41154	8.2474 ug/L		96
101)	135Trichlorobenzene	16.83	180	258289	9.3203 ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\OCT2219\343848MS.D Vial: 51
Acq On : 23 Oct 2019 13:16 Operator: RLD-DGS
Sample : 165696,MSW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:36:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

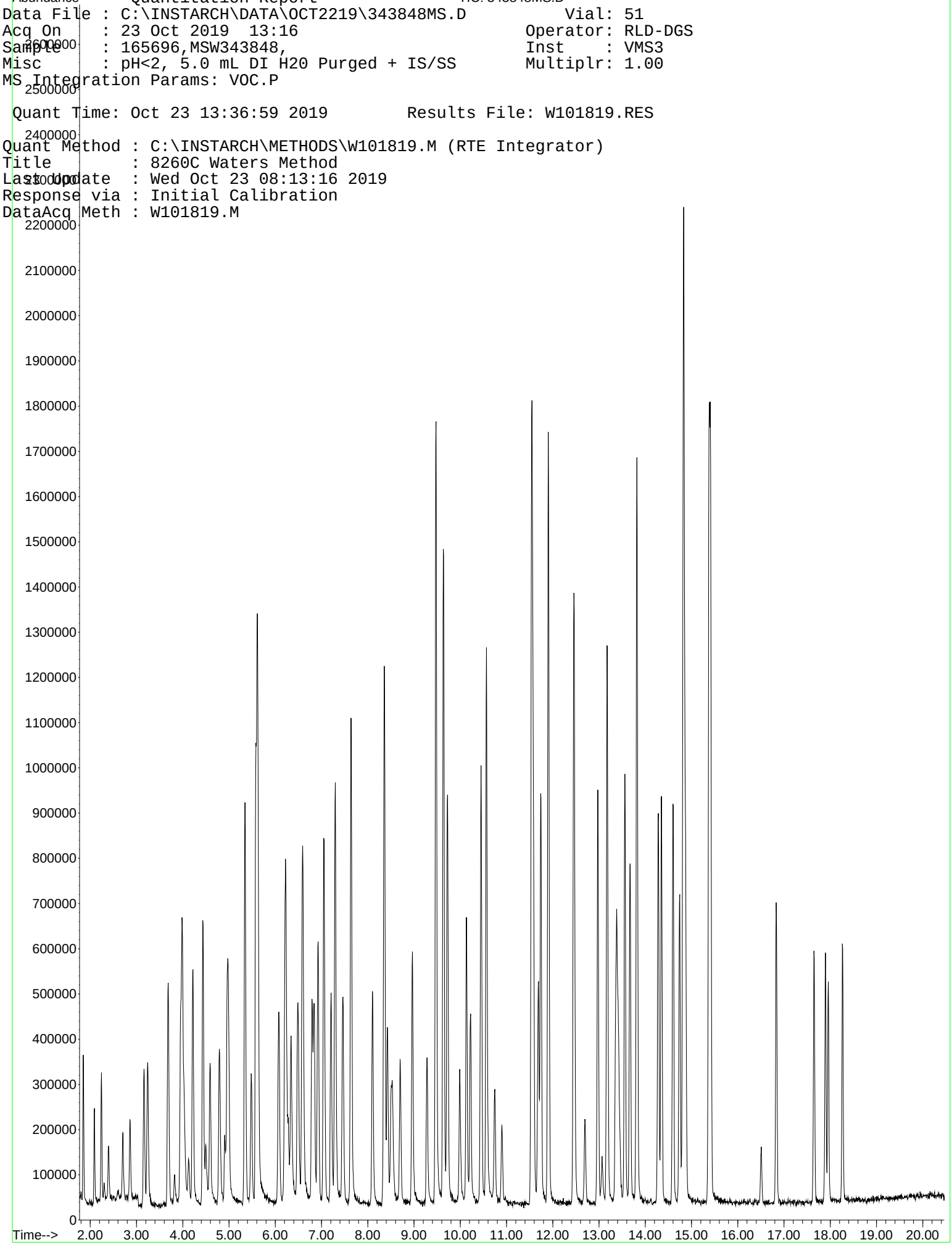
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	208229	9.0179	ug/L	99
103) Hexachlorobu	17.90	225	120457	9.2462	ug/L	95
104) Naphthalene	17.96	128	441826	8.8910	ug/L	99
105) 123Trichlben	18.27	180	202102	9.0134	ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\OCT2219\343848MS.D Vial: 51
Acq On : 23 Oct 2019 13:16 Operator: RLD-DGS
Sample : 165696,MSW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 13:36:59 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M



Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848SD.D Vial: 52
Acq On : 23 Oct 2019 13:45 Operator: RLD-DGS
Sample : 165696,MSDW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:06:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.64	96	1165411	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.54	117	966637	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.84	152	608682	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.79	113	322615	20.443	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.20	102	82536	19.613	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.63	98	1263970	19.986	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.18	95	528631	19.601	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	264108	13.4942	ug/L	91
3) Chloromethan	2.09	50	203879	12.1821	ug/L	100
4) VinylChlorid	2.24	62	272905	13.7636	ug/L	99
5) Bromomethane	2.71	94	111260	12.9462	ug/L	85
6) Chloroethane	2.86	64	186116	11.7692	ug/L	98
7) Dichloroflmethane	3.16	67	395792	11.6867	ug/L	97
8) Trichlorofma	3.23	101	344243	13.2549	ug/L	98
9) Ethylether	3.68	59	123305	9.4664	ug/L	92
10) dichlorotfluoroethan	3.68	67	256515	12.9809	ug/L	97
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	3.82	56	87972	39.3463	ug/L	97
13) 11dichlorthe	3.95	96	189369	12.3791	ug/L	97
14) Trichlorotfluoroeth	3.99	101	362446	28.2250	ug/L	99
15) Acetone	4.03	43	362611	79.5044	ug/L	98
16) Iodomethane	4.12	142	191577	29.0544	ug/L	99
17) Carbon Dislf	4.21	76	1006601	26.5859	ug/L	99
18) allylchloride	4.43	41	496727	21.3814	ug/L	99
19) methylacetate	4.50	74	64122	8.1996	ug/L	97
20) Methylchlorid	4.59	84	211672	11.1918	ug/L	94
21) tbutylalcohol	4.79	59	568305	375.5442	ug/L	97
22) Acrylonitrile	4.91	53	206627	43.1301	ug/L	97
23) t12dichlorte	4.96	96	207665	11.7627	ug/L	97
24) MtBE	4.99	73	506090	11.0146	ug/L	98
25) Hexane	5.35	57	513973	20.4563	ug/L	98
26) 11dichlorota	5.49	63	363080	10.9778	ug/L	99
27) Vinylacetate	5.58	43	1952424	97.0594	ug/L	99
28) chloroprene	5.61	53	568359	24.2736	ug/L	96
29) Diisopether	5.63	45	530792	11.0712	ug/L	98
30) ETBE	6.08	59	448534	10.3961	ug/L	96
31) 22dichloropr	6.21	77	222490	8.0882	ug/L	97
32) c12dichlorte	6.22	96	224325	11.5169	ug/L	96
33) 2Butanone	6.23	72	200240	99.2718	ug/L	96
34) propionitrile	6.28	54	175300	81.9001	ug/L	92
35) Ethylacetate	6.34	88	31111	45.5818	ug/L #	86
36) methacrylonitrile	6.48	67	158642	20.3839	ug/L	90
37) Bromochlorma	6.50	128	94966	10.2832	ug/L	94
38) Tetrahydofur	6.58	42	420689	92.7017	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848SD.D Vial: 52
Acq On : 23 Oct 2019 13:45 Operator: RLD-DGS
Sample : 165696,MSDW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:06:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.60	83	376638	10.8931	ug/L	97
40)	111trichlota	6.84	97	349437	11.6780	ug/L	97
42)	Cyclohexane	6.93	56	301812	11.2987	ug/L	95
43)	Carbtetraclo	7.06	119	292696	12.7933	ug/L	99
44)	11dicloprope	7.05	110	98186	11.9046	ug/L	98
46)	Benzene	7.29	78	825022	11.4311	ug/L	98
47)	12dichlorota	7.30	62	273073	10.5593	ug/L	99
48)	TAME	7.46	73	480491	10.9087	ug/L	97
49)	trichloroete	8.11	95	215241	11.1943	ug/L	96
50)	methylcyclohexane	8.36	83	423898	11.8173	ug/L	96
51)	12dicloropra	8.36	63	209012	10.8370	ug/L	99
52)	23Dicl1propene	8.42	75	303276	11.0639	ug/L	98
53)	Dibromometha	8.51	93	128266	10.7867	ug/L	91
54)	methylmethacrylate	8.54	69	120990	9.9570	ug/L	96
55)	14dioxane	8.55	88	39788	189.0408	ug/L	94
56)	Bromodiclrma	8.70	83	282249	10.6437	ug/L	98
57)	2Nitropropane	8.97	43	490887	94.8092	ug/L	99
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.28	75	279248	9.5568	ug/L	96
60)	4Meth2Pentan	9.48	43	1394335	95.3580	ug/L	99
62)	Toluene	9.73	92	542270	11.0361	ug/L	100
63)	t13Dicloprop	9.99	75	251287	9.5071	ug/L	97
64)	ethylmethacrylate	10.13	69	464796	20.5930	ug/L	97
65)	112Triclotha	10.22	83	155912	10.2117	ug/L	97
66)	Tetrachlorte	10.46	166	229971	11.4066	ug/L	97
67)	13Diclorpropa	10.44	76	316944	10.1335	ug/L	98
69)	2Hexanone	10.57	43	1016317	96.7474	ug/L	99
70)	Clorodibrmta	10.74	129	186398	10.1440	ug/L	99
71)	12Dibrometha	10.90	107	163485	9.5720	ug/L	98
72)	Chlorobenzen	11.58	112	527569	10.5658	ug/L	99
73)	1Clhexane	11.56	91	274799	11.4003	ug/L	99
74)	1112Tetclota	11.69	131	189366	10.5579	ug/L	100
75)	Ethylbenzene	11.74	91	921733	11.3308	ug/L	100
76)	m p-Xylene	11.90	106	691784	22.6445	ug/L	100
77)	o-Xylene	12.45	106	331001	10.9642	ug/L	98
78)	Styrene	12.46	104	522620	10.9335	ug/L	99
79)	Bromoform	12.69	173	127135	9.6980	ug/L	97
80)	Isopropylben	12.97	105	798807	11.5077	ug/L	99
81)	cyclohexanone	13.07	55	71924	113.8718	ug/L	95
84)	Bromobenzene	13.38	156	217605	9.8341	ug/L	95
85)	1122Tetrclta	13.36	83	243167	9.0655	ug/L	95
86)	123Triclproa	13.42	75	270303	8.6943	ug/L	100
87)	14dichloro2butene	13.45	53	36218	6.5818	ug/L	90
88)	n-Propylbenz	13.56	91	1034428	11.4911	ug/L	98
89)	2chlorotolue	13.67	91	617112	10.5882	ug/L	99
90)	4chlorotolue	13.82	91	744479	11.2454	ug/L	98
91)	135Trimebenz	13.81	105	707681	11.2272	ug/L	99
92)	tbutylbenzen	14.28	119	565022	11.0478	ug/L	97
93)	124Trimetben	14.36	105	690981	10.9498	ug/L	97
94)	sbutylbenzen	14.60	105	862300	11.7666	ug/L	98
95)	13Diclorbenz	14.74	146	400895	10.1267	ug/L	98
96)	pIsopropylto	14.82	119	714227	11.0482	ug/L	97
97)	14dichlorobe	14.87	146	427026	10.1432	ug/L	97
98)	12dichlorobe	15.41	146	400632	10.0456	ug/L	100
99)	nButylbenzen	15.41	91	740975	10.8530	ug/L	100
100)	12dibromo3cl	16.50	157	44663	8.3316	ug/L	92
101)	135Trichlorobenzene	16.83	180	294793	9.9019	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\OCT2219\343848SD.D Vial: 52
Acq On : 23 Oct 2019 13:45 Operator: RLD-DGS
Sample : 165696,MSDW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:06:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	234992	9.4731	ug/L	99
103) Hexachlorobu	17.90	225	146415	10.4614	ug/L	98
104) Naphthalene	17.96	128	493637	9.2466	ug/L	99
105) 123Trichlben	18.27	180	235965	9.7958	ug/L	99

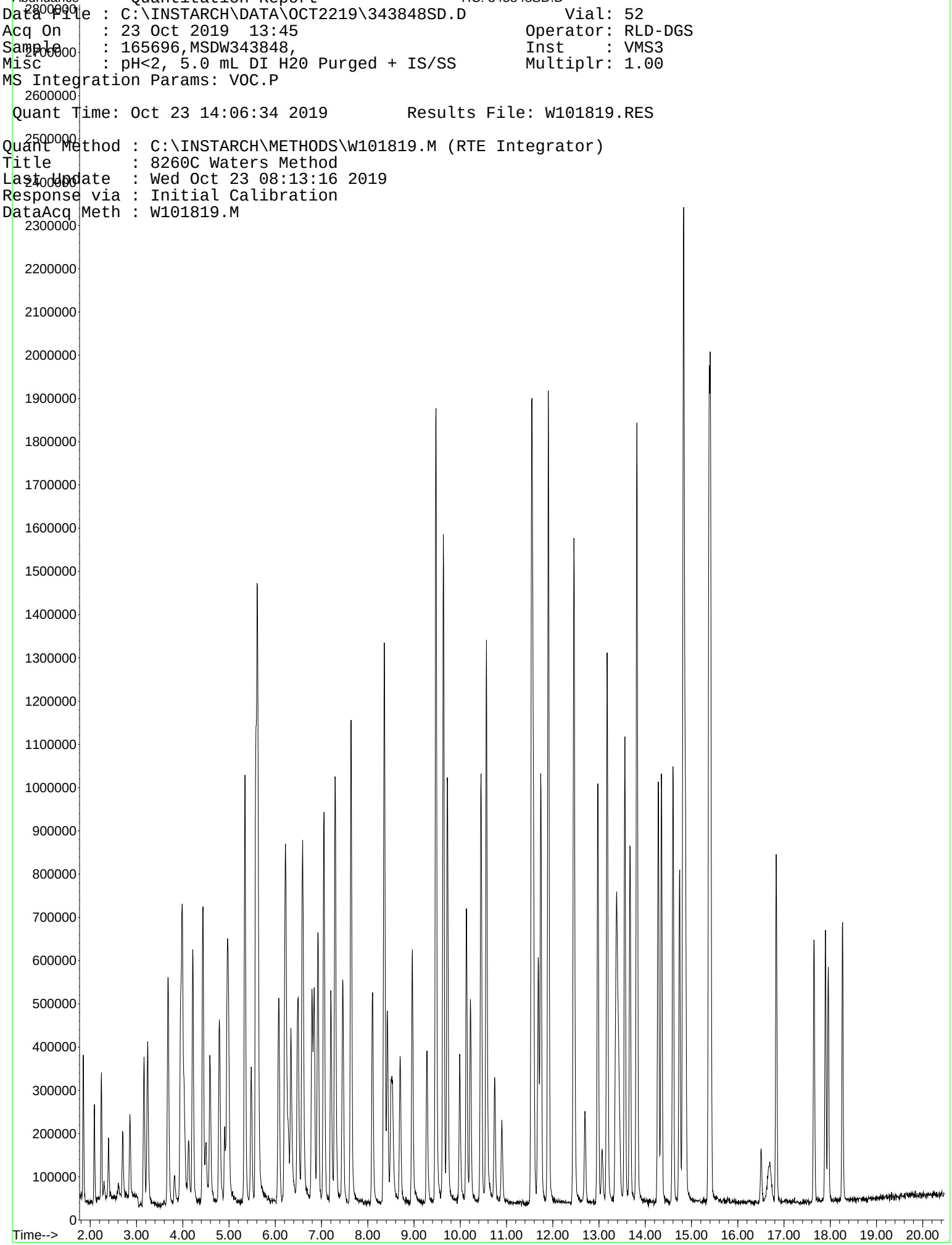
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 343848SD.D

Data File : C:\INSTARCH\DATA\OCT2219\343848SD.D Vial: 52
Acq On : 23 Oct 2019 13:45 Operator: RLD-DGS
Sample : 165696,MSDW343848, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Oct 23 14:06:34 2019 Results File: W101819.RES

Quant Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Oct 23 08:13:16 2019
Response via : Initial Calibration
DataAcq Meth : W101819.M

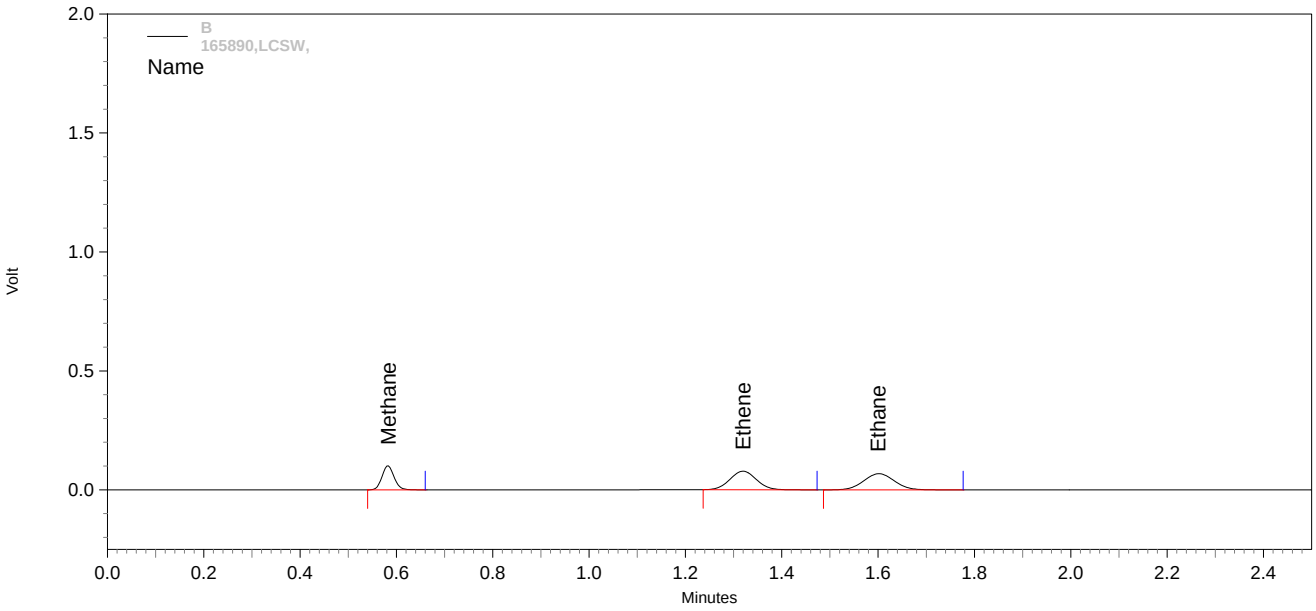


Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,LCSW,
Acquired: Oct 24, 2019 10:50:55
File Desc. Laboratory Control Sample - 25 ppmV -

500 uL of the 200 ppmV MEE Std. into 4 mL of headspace. 1.0 mL injection (Methane, Ethene, Ethane,)



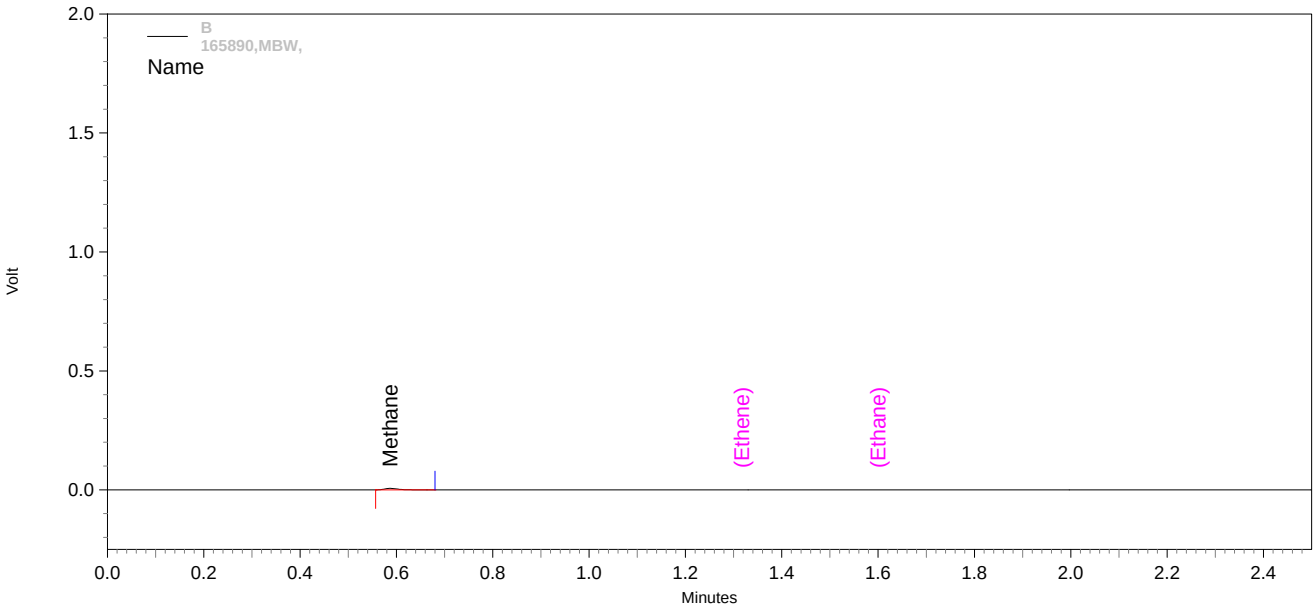
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.583**	**0.580**	**175418**	**23.809**	**ppmV**
2	**Ethene**	**1.320**	**1.317**	**296497**	**21.787**	**ppmV**
3	**Ethane**	**1.600**	**1.600**	**299346**	**22.096**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,MBW,
Acquired: Oct 24, 2019 10:54:41
File Desc. Method Blank
1.0 mL injection (Methane, Ethene, Ethane)



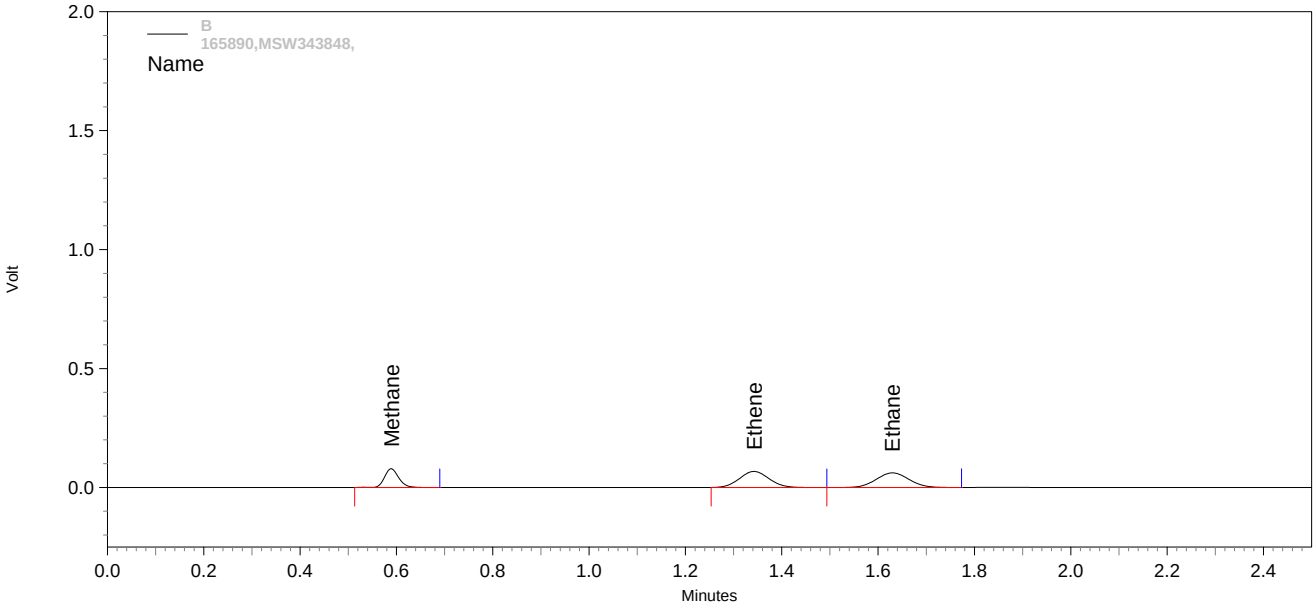
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.587**	**0.580**	**11634**	**1.802**	**ppmV**
	Ethene		**1.317**		**0.000 BDL**	**ppmV**
	Ethane		**1.600**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,MSW343848,
Acquired: Oct 24, 2019 11:40:13
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



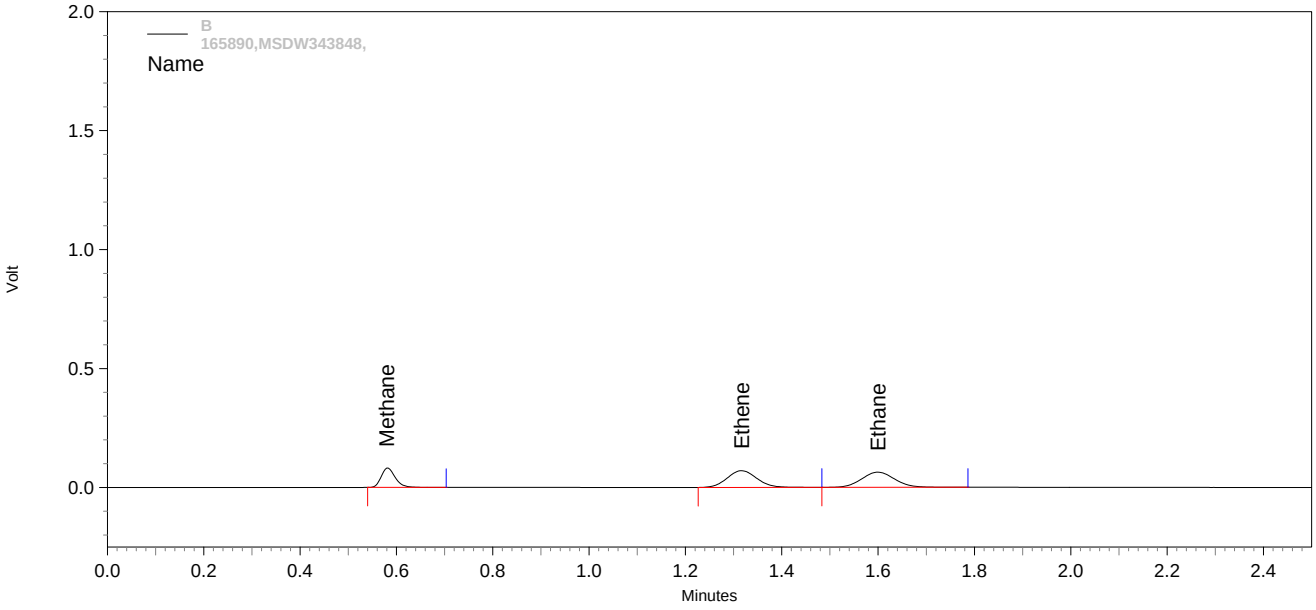
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.580**	**161293**	**21.911**	**ppmV**
2	**Ethene**	**1.343**	**1.317**	**286980**	**21.100**	**ppmV**
3	**Ethane**	**1.630**	**1.600**	**290360**	**21.440**	**ppmV**

Dissolved Gases External Standard Report

PVOC4 (Offline)

Data File: C:\InStarch\PVOC4\Data\102419 -\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG062619.met
Sample ID: 165890,MSDW343848,
Acquired: Oct 24, 2019 11:44:11
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.580**	**0.580**	**164925**	**22.399**	**ppmV**
2	**Ethene**	**1.317**	**1.317**	**298128**	**21.905**	**ppmV**
3	**Ethane**	**1.600**	**1.600**	**301261**	**22.236**	**ppmV**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
165696 on 10/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	349128						VOC 8260 QSM WATER 5.0				
				BFB				0			
	349129						VOC 8260 QSM WATER 5.0				
				LCSW				0			
	349130						VOC 8260 QSM WATER 5.0				
				CCV				0			
	345784						VOC 8260 QSM WATER 5.0				
				MBW				0			
148990	344136		10/14/2019 0000		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		M	4	
		TRIP BLANK									
148990	343858		10/16/2019 1020		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		49EQB-48MW2									
148990	343846		10/15/2019 1025		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		48MW06									
148990	343848		10/15/2019 1305		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		13MW2		Designated MS/MSD							
148990	343850		10/15/2019 1350		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		49MW04									
148990	343852		10/15/2019 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		13MW3									
148990	343854		10/15/2019 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		13TW3									
148990	343856		10/15/2019 1520		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		13MW4									
148990	343860		10/16/2019 1220		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		48MW3									
148990	343862		10/16/2019 1220		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	4	
		48TW3									
	345785						VOC 8260 QSM WATER 5.0				
				CCVF				0			
	350746						VOC 8260 QSM WATER 5.0				
				BFB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

VOC 8260 QSM WATER 5.0 Analytical Run
165696 on 10/30/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	350747								VOC 8260 QSM WATER 5.0				
					CCV					0			
	350748								VOC 8260 QSM WATER 5.0				
					CCB					0			
148990	343864		10/16/2019	1350			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW02											
148990	343866		10/16/2019	1625			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW1											
148990	343868		10/17/2019	1200			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW01											
148990	343870		10/17/2019	1315			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		50MW02											
148990	343872		10/17/2019	1450			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW2											
148990	343860		10/16/2019	1220			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
RERUN		48MW3											
148990	343862		10/16/2019	1220			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
RERUN		48TW3											
	346509		10/15/2019	1305					VOC 8260 QSM 5.0				
		13MW2			MSW	343848				0			
	346517		10/15/2019	1305					VOC 8260 QSM 5.0				
		13MW2			MSDW	346509				0			
	346633								VOC 8260 QSM WATER 5.0				
					CCVF					0			

28 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT2219\BFB2.D
Injection Date : 22 Oct 2019 Log Time Period (hrs) : ALL
Injection Time : 17:48 Total files within period : 39
Sample Directory : C:\INSTARCH\DATA\OCT2219\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS2	1.00	1.00	1.00	165696,LCSW, 10.0/100.0 ug/L, 5.0 mL P	22 Oct 2019	18:04
IB2	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	22 Oct 2019	18:33
MB2	1.00	1.00	1.00	165696,MBW, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	19:03
344136	1.00	1.00	1.00	165696,344136, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	19:33
343858	1.00	1.00	1.00	165696,343858, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	20:32
343846	1.00	1.00	1.00	165696,343846, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	21:02
343848	1.00	1.00	1.00	165696,343848, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	21:32
343850	1.00	1.00	1.00	165696,343850, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	22:02
343852	1.00	1.00	1.00	165696,343852, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	22:32
343854	1.00	1.00	1.00	165696,343854, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	23:02
343856	1.00	1.00	1.00	165696,343856, pH<2, 5.0 mL DI H20 Purge	22 Oct 2019	23:32
343860	1.00	1.00	1.00	165696,343860, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	00:02
343862	1.00	1.00	1.00	165696,343862, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	00:32
BFB3	1.00	1.00	1.00	165696,BFB, 50 ng Inj.	23 Oct 2019	06:53
CCVF2	1.00	1.00	1.00	165696,CCVF, 10.0/100.0 ug/L, 5.0 mL P	23 Oct 2019	07:10
BFB4	1.00	1.00	1.00	165696,BFB, 50 ng Inj.	23 Oct 2019	07:32
CCV3	1.00	1.00	1.00	165696,CCV, 10.0/100.0 ug/L, 5.0 mL P	23 Oct 2019	07:49
IB3	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	23 Oct 2019	08:19
CCB2	1.00	1.00	1.00	165696,MBW, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	08:49
343864	1.00	1.00	1.00	165696,343864, pH7, 5.0 mL DI H20 Purge	23 Oct 2019	09:19
343866	1.00	1.00	1.00	165696,343866, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	09:49

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101819.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT2219\BFB2.D
Injection Date : 22 Oct 2019 Log Time Period (hrs) : ALL
Injection Time : 17:48 Total files within period : 39
Sample Directory : C:\INSTARCH\DATA\OCT2219\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
343868	1.00	1.00	1.00	165696,343868, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	10:18
343870	1.00	1.00	1.00	165696,343870, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	10:48
343872	1.00	1.00	1.00	165696,343872, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	11:18
344267R	1.00	1.00	1.00	165700,344267, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	11:47
343860R	1.00	1.00	1.00	165696,343860,5 pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	12:17
343862R	1.00	1.00	1.00	165696,343862,5 pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	12:47
343848MS	1.00	1.00	1.00	165696,MSW343848, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	13:16
343848SD	1.00	1.00	1.00	165696,MSDW343848, pH<2, 5.0 mL DI H20 Purge	23 Oct 2019	13:45
CCVF3	1.00	1.00	1.00	165696,CCVF, 10.0/100.0 ug/L, 5.0 mL P	23 Oct 2019	14:16

8260 ISTD/SSTD 20ug/ml VOC0632
8260 BFB STD. 50ug/ml VOC0631
8260 ICV STD. 100ug/ml VOC0635
8260 CCV/CALIB. 100ug/ml VOC0636

Over-range
Report

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W101819.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\OCT1819\BFB1.D
Injection Date : 18 Oct 2019 Log Time Period (hrs) : ALL
Injection Time : 07:37 Total files within period : 17
Sample Directory : C:\INSTARCH\DATA\OCT1819\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	18 Oct 2019	08:57
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0	18 Oct 2019	09:26
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0	18 Oct 2019	09:56
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	18 Oct 2019	10:26
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0	18 Oct 2019	10:56
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0	18 Oct 2019	11:25
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0	18 Oct 2019	11:55
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0	18 Oct 2019	12:25
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0	18 Oct 2019	12:54
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	18 Oct 2019	13:53
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	18 Oct 2019	14:23
ICV1R	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	18 Oct 2019	14:52
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20	18 Oct 2019	15:54

8260 ISTD/SSTD 20ug/ml VOC0632
8260 BFB STD. 50ug/ml VOC0631
8260 ICV STD. 100ug/ml VOC0635
8260 CCV/CALIB. 100ug/ml VOC0636

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	**LIMS Run #(s):**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved?**		**Instrument**
					Yes	No	
10/22/2019	165700 165696	DGS/RLD	RLD	10/30/2019	Yes		VMS3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF<or= specified limits (<15%D.)see SOP)	Yes		Yes		
Was a second-source ICV(s) analyzed (for Quadratic Curve)?	Required before sample analyses.	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		
Was a second CCV (CCV2) for compounds calibrated using quadratic curves analyzed after every 12 hour tune check?	Required before analyses of WI samples (above the inflection point of the curve).					
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	
If necessary, were the results for outlying compounds qualified?		Yes		Yes		

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						
V. Laboratory Control Spike (LCS)						
Was a LCS (and LCSD if needed) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the LCS (LCSD) recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						
Is the relative percent difference (RPD) for each analyte between the LCS and LSCD (if applicable) acceptable?	Default 20%, or see internally generated limits, or client specific limits.					
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific limits.		No		No	
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		
If possible, were the affected samples reanalyzed?						
**Were reported sample results with failing surrogate recoveries qualified?						
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)		No		No	
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		
Were all data, calculations, and values verified in LIMS (including removal of non-detections) upon completion of data capture?		Yes		Yes		
Were manual integrations performed correctly?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms.	Yes		Yes		
Was the rational for the manual integration verified?		Yes		Yes		
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 73
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 112019

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0648	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0934, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0936 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	11/20/2019	11/27/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0649	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0933, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0935 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	11/20/2019	11/27/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 72
Page is Locked
Author: rdigmann on: 11/20/2019 7:27:37 AM
Page is not Witnessed
Project: Unassigned
Page Title: 111119

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0644	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0929 into 2925uL of MeOH.	MeOH / B&J / DU783-U	50 ug/mL	11/11/2019	12/11/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0645	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0906 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0924 into 25mL of MeOH.	MeOH / B&J /DU783-US	20 ug/mL	11/11/2019	12/11/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0646	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0934, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0936 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	11/11/2019	11/18/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0647	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0933, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0935 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	11/11/2019	11/18/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 71
Page is Locked
Author: rdigmann on: 11/11/2019 6:42:27 AM
Page is not Witnessed
Project: Unassigned
Page Title: 11/02/2019

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0642	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0935 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	11/02/2019	11/09/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0643	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0936 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	11/02/2019	11/09/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 68
Page is Locked
Author: rdigmann on: 11/2/2019 9:47:21 AM
Page is not Witnessed
Project: Unassigned
Page Title: 102519

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0637	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0935 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	10/25/2019	11/01/2015	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0638	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0936 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	10/25/2019	11/01/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 67
Page is Locked
Author: rdigmann on: 10/25/2019 7:46:06 AM
Page is not Witnessed
Project: Unassigned
Page Title: 101819

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0635	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0935 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	10/18/2019	10/25/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0636	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0936 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	10/18/2019	10/25/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 66
Page is Locked
Author: rdigmann on: 10/11/2019 8:50:08 AM
Page is not Witnessed
Project: Unassigned
Page Title: 101019

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0631	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0896 into 2925uL of MeOH.	MeOH / B&J / DU783-U	50 ug/mL	10/10/2019	11/10/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0632	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0906 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0924 into 25mL of MeOH.	MeOH / B&J / DU783-U	20 ug/mL	10/10/2019	11/10/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0633	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0931 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	10/10/2019	10/17/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final	Prep Date	Expiration	Analyst

				Concentration		Date	
VOC0634	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0932 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	10/10/2019	10/17/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 65
Page is Locked
Author: rdigmann on: 10/1/2019 12:49:26 PM
Page is not Witnessed
Project: Unassigned
Page Title: 093019

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0629	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0931 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	09/30/2019	10/07/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0630	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0932 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	09/30/2019	10:07/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 64
Page is Locked
Author: rdigmann on: 9/26/2019 12:31:09 PM
Page is not Witnessed
Project: Unassigned
Page Title: 092019

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0627	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0931 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	09/20/2019	09/27/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0628	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0932 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	09/20/2019	09/27/2019	RLD

1

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 63
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 091019

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0623	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0896 into 2925uL of MeOH.	MeOH / B&J / DU783-U	50 ug/mL	09/10/2019	10/10/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0624	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0906 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0894 into 25mL of MeOH.	MeOH / B&J / DU783-U	20 ug/mL	09/10/2019	10/10/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0625	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0931 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	09/10/2019	09/17/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst

VOC0626	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0932 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	09/10/2019	09/17/2019	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 62
Page is Locked
Author: rdigmann on: 8/29/2019 9:57:01 AM
Page is not Witnessed
Project: Unassigned
Page Title: 082819

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0621	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0929, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0931 into 2250uL of MeOH.	MeOH / B&J / DT961	100 ug/mL	08/28/2019	09/04/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0622	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0930, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0932 into 2250uL of MeOH.	MeOH / B&J / DT961	100 ug/mL	08/28/2019	09/04/2019	RLD

1

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0615	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0917, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0931 into 2250uL of MeOH.	MeOH / B&J / DT961	100 ug/mL	08/18/2019	08/25/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0616	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0918, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0932 into 2250uL of MeOH.	MeOH / B&J / DT961	100 ug/mL	08/18/2019	08/25/2019	RLD

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 58
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 080919

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0611	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0896 into 2925uL of MeOH.	MeOH / B&J / DT961	50 ug/mL	08/09/2019	09/09/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0612	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0906 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0894 into 25mL of MeOH.	MeOH / B&J / DT961	20 ug/mL	08/09/2019	09/09/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0613	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0914, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0917, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0931 into 2250uL of MeOH.	MeOH / B&J / DT961	100 ug/mL	08/09/2019	08/16/2019	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst

VOC0614	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0926, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0918, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0932 into 2250uL of MeOH.	MeOH / B&J / DT961	100 ug/mL	08/09/2019	08/16/2019	RLD

1

CT Laboratories, LLC

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 91
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 102319

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0937	8260 VOC Mix	AccuStandard	M-502-10X-PAK	219071161
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	07/16/2022	10/23/2019	rld
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking Std. preparation.	

1

CT Laboratories, LLC

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 90
Page is Locked
Author: rdigmann on: 10/23/2019 10:32:17 AM
Page is not Witnessed
Project: Unassigned
Page Title: 101719

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0935	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191010015
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	4/7/2020	10/17/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0936	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191010019
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	04/07/2020	10/17/2019	rld
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

1

CT Laboratories, LLC

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 89
Page is Locked
Author: rdigmann on: 10/17/2019 11:14:05 AM
Page is not Witnessed
Project: Unassigned
Page Title: 092319

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0933	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN190913011
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	12/12/2019	09/20/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0934	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN190913023
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	12/12/2019	09/20/2019	rld
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

1

CT Laboratories, LLC

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0929B	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN190725002
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	10/23/2019	07/31/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0930	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN190725006
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	10/23/2019	07/31/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib.Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0931	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN190716019
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	01/12/2020	07/31/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #

V0932	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN190716025
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	01/12/2020	07/31/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib.Standard preparation.	

1

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0929	4-Bromofluorobenzene	Agilent	STS-110N	0006476760
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	7/31/2022	09/10/2019	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 BFB Std. and 8015 SSTD.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0926	8260 VOC Mix	Agilent	DWM-588-1	CT-0288
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	02/28/2022	06/26/2019	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 CCV/Calib. standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0923	4-Bromofluorobenzene	Agilent	STS-110N	CM-3263A
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	06/30/2020	06/20/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 BFB Std. and PVOC/GRO SSTD & ISTD/SSTD preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0924	1,2-Dichlorobenzene-$_{d4}$	Agilent	STS-210-1	CM-4301A
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	07/31/2021	06/20/2019	RLD
# of Ampules/Units:	2	Comments:	Used for GRO-8015 and SDWA 524.2 surrogate standard preparation.	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 80
Page is Locked
Author: rdigmann on: 6/10/2019 6:39:33 AM
Page is not Witnessed
Project: Unassigned
Page Title: 052019

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0915	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN190513003
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	11/09/2019	05/17/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0916	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN190513011
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	11/09/2019	5/17/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std. preparation.	

1

CT Laboratories, LLC

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 79
Page is Locked
Author: rdigmann on: 5/20/2019 8:18:42 AM
Page is not Witnessed
Project: Unassigned
Page Title: 043019

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0914	8260 VOC Mix	AccuStandard	M-502-10X-PAK	218101050
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	10/08/2021	04/25/2019	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

1

CT Laboratories, LLC

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0896	4-Bromofluorobenzene	Ultra Scientific	STS-110N	CM-3263A
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	06/30/2020	10/15/2018	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 BFB Std. and PVOC/GRO SSTD & ISTD/SSTD preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0894	1,2-Dichlorobenzene-$_{d4}$	Ultra Scientific	STS-210-1	CM-4301A
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	07/31/2021	09/19/2018	RLD
# of Ampules/Units:	4	Comments:	Used for GRO-8015 and SDWA 524.2 surrogate standard preparation.	

V METH, ETH, ETHENE QSM 5.0 Analytical Run # 165890 on 11/06/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	350199								V METH, ETH, ETHENE QSM 5.				
					CCV					0			
	346910								METH,ETH,ETHE QSM 5.0				
					LCSW					74137			
	346909								METH,ETH,ETHE QSM 5.0				
					MBW					74137			
148990	343846		10/15/2019	1025			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06								74137			
148990	343848		10/15/2019	1305			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2			Designated MS/MSD					74137			
148990	343850		10/15/2019	1350			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04								74137			
148990	343852		10/15/2019	1440			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3								74137			
148990	343854		10/15/2019	1440			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13TW3								74137			
148990	343856		10/15/2019	1520			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4								74137			
148990	343858		10/16/2019	1020			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49EQB-48MW2								74137			
148990	343860		10/16/2019	1220			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3								74137			
148990	343862		10/16/2019	1220			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48TW3								74137			
148990	343864		10/16/2019	1350			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02								74137			
	353925		10/15/2019	1305					METH,ETH,ETHE QSM 5.0				
		13MW2			MSW	343848				74137			
	353926		10/15/2019	1305					METH,ETH,ETHE QSM 5.0				
		13MW2			MSDW	353925				74137			
	350200								V METH, ETH, ETHENE QSM 5.				
					CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

V METH, ETH, ETHENE QSM 5.0 Analytical Run
165890 on 11/06/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
148990	343866		10/16/2019	1625		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1							74137			
148990	343868		10/17/2019	1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01							74137			
148990	343870		10/17/2019	1315		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02							74137			
148990	343872		10/17/2019	1450		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2							74137			
	350201							V METH, ETH, ETHENE QSM 5.				
					CCV				0			

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 11/06/2019

Prep Batch **74,137** Date Prepped: 10/24/2019 Prepped By TMG

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	346909	MBW		METH,ETH,ETHE QSM	LIQUID	18.3				
	346910	LCSW		METH,ETH,ETHE QSM	LIQUID	18.3				
148990	343846			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343848	sample designated for QC		METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343850			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343852			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343854			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343856			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343858			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343860			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343862			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343864			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343866			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343868			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343870			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	343872			METH,ETH,ETHE QSM	GROUND WATER	18.3			4	
	353925	MSW	343848	METH,ETH,ETHE QSM	GROUND WATER	18.3				

PREP WORKSHEET
on 11/06/2019

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	353926	MSDW	353925	METH,ETH,ETHE QSM	GROUND WATER	18.3				

Notes:_____

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	**Analysis Date (s)**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**	**Instrument**
165890	10/24/2019	TMG	RLD	11/07/2019	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
1. INITIAL CALIBRATION (ICAL)		**Yes**	**No**	**Yes**	**No**	(Indicate reference to an attachment if necessary)
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
2. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
3. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		
4. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?		Yes		Yes		

5. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
6. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		.
7. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		
8. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

* Non-Applicable Yes/No Cells Are Left Blank*

Comments: _____

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 10/24/19 **Instrument:** PVOC4

Calibration Date: 6/26/19 **Analyst:** TMG

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)
1	PS	0.250	43	18.3
2	CCV	0.250	43	↓
3	LCSW	1	43	
4	MBW	1	43	
5	343846	1	43	
6	343848	1	43	
7	343850	1	43	
8	343852	1	43	
9	343854	1	43	
10	343856	1	43	
11	343858	1	43	
12	343860	1	43	
13	343862	1	43	
14	343864	1	43	
15	MSW 343848	1	43	
16	MSDW 343848	1	43	
17	CCV	0.250	43	
18	CCB	1	43	
19	343866	1	43	
20	343868	1	43	
21	343870	1	43	
22	343872	1	43	
23	CCV	0.250	43	
24			43	
25			43	

Calibration Standard Ref. #: V0886

Second Source Ref. #: V0C0299

Page 1

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\102419 - 165890.seq
Instrument: PVOC4 (Offline)
Processing Date: Oct 24, 2019 12:53:41

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	PS	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 10:44:12
2	165890,CCV,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 10:47:28
3	165890,LCSW,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 10:50:55
4	165890,MBW,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 10:54:41
5	165890,343846,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 10:57:59
6	165890,343848,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:01:22
7	165890,343850,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:05:05
8	165890,343852,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:08:49
9	165890,343854,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:12:07
10	165890,343856,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:17:24
11	165890,343858,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:20:54
12	165890,343860,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:26:01
13	165890,343862,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:29:28
14	165890,343864,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:34:47
15	165890,MSW343848,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:40:13
16	165890,MSDW343848,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:44:11
17	165890,CCV,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:47:28
18	CCB	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:53:57
19	165890,343866,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 11:58:14
20	165890,343868,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 12:02:20
21	165890,343870,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 12:07:23
22	165890,343872,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 12:10:53
23	165890,CCV,	C:\InStarch\PVOC4\Data\102419 ...	C:\Instarch\PVOC4\Methods\P4...	Oct 24, 2019 12:53:41

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\062619 - MEE ICAL.seq
Instrument: PVOC4
Processing Date: Jun 26, 2019 10:44:34

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:07:25
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:10:52
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:14:05
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:19:02
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:22:38
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:26:11
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:30:28
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:40:59
9	ICB	C:\Instarch\PVOC4\Data\062619i...	C:\Instarch\PVOC4\Methods\P4...	Jun 26, 2019 10:44:34

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 06/26/2019 **Instrument:** PVOC4

Calibration Date: 06/26/2019 **Analyst:** BMS

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)
1	MEE PT1 - 2ppmV	0.010	43	20
2	MEE PT2 - 5 ppmV	0.025	43	20
3	MEE PT3 - 10ppmV	0.050	43	20
4	MEE PT4 - 20ppmV	0.100	43	20
5	MEE PT5 - 50ppmV	0.250	43	20
6	MEE PT6 - 100ppmV	0.500	43	20
7	MEE PT7 - 200ppmV	1.000	43	20
8	ICV - 50ppmV	0.250	43	20
9	ICB	1.000	43	20
10			43	
11			43	
12			43	
13			43	
14		06/26/19	43	
15		BMS	43	
16			43	
17			43	
18			43	
19			43	
20			43	
21			43	
22			43	
23			43	
24			43	
25			43	

Calibration Standard Ref. #: V0886

Second Source Ref. #: V0C0299

Page 1

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 64
Page is Locked
Author: rdigmann on: 5/25/2018 7:47:52 AM
Witness: akurth on: 7/31/2018 9:54:19 AM
Project: Unassigned
Page Title: 05/24/18

Standard Log #:	VO886	Standard/Reagent:	Methane Ethene Ethane STI
Analyst:	AGK	Final Concentration:	200.0 PPM
Prep Date:	05/24/18	Expiration Date:	05/17/21
Prep:	Airgas Methane, Ethene, Ethane Standard Received 05/24/18 LOT# 54-401204472-1 REF# 54-401204472-1 Cylinder # P180959		

LPVO1-02 VOC
Volatiles Standards Prep Logbook
Logbook Created: 10/10/16
Balance used in reagent prep: VOB01
NOTEBOOK VIEW: LTN_LPVO1_02_VOC_Default, NOTEBOOK: LPVO1_02_VOC, PAGE: 27
Page is Locked
Author: AKURTH on: 22.03.2017 10:57:51
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	VOC0299	Standard/Reagent:	MEE RECERTIFICATION O
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	03/17/17	Expiration Date:	03/17/20
Prep:	Recertification of methane, ethane, ethane tank (V681). Ran 4 consecutive CCV's with acceptable recoveries.		

1

CT Laboratories, LLC

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343878
Analytical Method:	EPA 7470A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165806	Analysis Date/Time	10/24/2019 10:37
Analytical Prep Batch #:	74031	Prep. Date/Time:	10/22/2019 15:03
ICAL Calibration #:	10242019	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343878
Analytical Method:	EPA 6010C	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165751	Analysis Date/Time	10/22/2019 14:54
Analytical Prep Batch #:	74046	Prep. Date/Time:	10/21/2019 10:53
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	3000		90	250	500	500
7440-23-5	Total Sodium	16500		100	300	600	600

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343878
Analytical Method:	EPA 6010C	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165750	Analysis Date/Time	10/23/2019 18:23
Analytical Prep Batch #:	74046	Prep. Date/Time:	10/21/2019 10:53
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	3520		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	4.0	12	24	24
7440-39-3	Total Barium	164		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.15	J	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	69500		17	50	100	100
7440-47-3	Total Chromium	5.7		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	2.8	J	0.70	2.0	4.0	4.0
7440-50-8	Total Copper	7.9		1.2	3.5	7.0	7.0
7439-89-6	Total Iron	3640		16	50	100	100
7439-92-1	Total Lead	7.6		1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	35400		6.0	20	40	40
7439-96-5	Total Manganese	374		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	5.8	J	1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-62-2	Total Vanadium	5.4		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	28.2		1.6	5.0	10	10

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347231

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/24/19 08:02	3.00	3.02	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751 Lab Sample ID: 346556

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/22/19	10:22	100000	99100	99	90	110
Sodium	10/22/19	10:22	100000	99400	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751

Lab Sample ID: 346557

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/22/19	10:25	3000	2940	98	80	120
Sodium	10/22/19	10:25	3000	3180	106	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349443

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/19	16:27	12000	11800	98	90	110
Antimony	10/23/19	16:27	500.0	519.0	104	90	110
Arsenic	10/23/19	16:27	2000	2070	104	90	110
Barium	10/23/19	16:27	2000	2090	104	90	110
Beryllium	10/23/19	16:27	50.00	50.00	100	90	110
Cadmium	10/23/19	16:27	50.00	50.50	101	90	110
Calcium	10/23/19	16:27	10000	9950	100	90	110
Chromium	10/23/19	16:27	200.0	200.0	100	90	110
Cobalt	10/23/19	16:27	500.0	522.0	104	90	110
Copper	10/23/19	16:27	250.0	239.0	96	90	110
Iron	10/23/19	16:27	5000	5210	104	90	110
Lead	10/23/19	16:27	500.0	509.0	102	90	110
Magnesium	10/23/19	16:27	10000	9800	98	90	110
Manganese	10/23/19	16:27	500.0	497.0	99	90	110
Nickel	10/23/19	16:27	500.0	520.0	104	90	110
Selenium	10/23/19	16:27	2000	2050	102	90	110
Silver	10/23/19	16:27	50.00	52.20	104	90	110
Thallium	10/23/19	16:27	2000	2110	106	90	110
Vanadium	10/23/19	16:27	500.0	504.0	101	90	110
Zinc	10/23/19	16:27	500.0	519.0	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349444

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/19	16:39	1200	1240	103	80	120
Antimony	10/23/19	16:39	60.00	69.30	116	80	120
Arsenic	10/23/19	16:39	60.00	62.30	104	80	120
Barium	10/23/19	16:39	30.00	31.80	106	80	120
Beryllium	10/23/19	16:39	12.00	13.00	108	80	120
Cadmium	10/23/19	16:39	15.00	16.20	108	80	120
Calcium	10/23/19	16:39	1500	1590	106	80	120
Chromium	10/23/19	16:39	30.00	29.40	98	80	120
Cobalt	10/23/19	16:39	30.00	33.80	113	80	120
Copper	10/23/19	16:39	30.00	31.40	105	80	120
Iron	10/23/19	16:39	900.0	981.0	109	80	120
Lead	10/23/19	16:39	30.00	31.70	106	80	120
Magnesium	10/23/19	16:39	1500	1570	105	80	120
Manganese	10/23/19	16:39	30.00	30.90	103	80	120
Nickel	10/23/19	16:39	30.00	32.70	109	80	120
Selenium	10/23/19	16:39	60.00	65.10	108	80	120
Thallium	10/23/19	16:39	60.00	65.80	110	80	120
Vanadium	10/23/19	16:39	30.00	31.50	105	80	120
Zinc	10/23/19	16:39	30.00	34.00	113	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750

Lab Sample ID: 349448

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	10/23/19 17:24	10.00	11.50	115	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751

Lab Sample ID: 346562

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/22/19	13:55	100000	101000	101	90	110
Sodium	10/22/19	13:55	100000	99000	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751

Lab Sample ID: 346564

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/22/19	14:29	100000	101000	101	90	110
Sodium	10/22/19	14:29	100000	98700	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751

Lab Sample ID: 346568

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/22/19	15:02	100000	102000	102	90	110
Sodium	10/22/19	15:02	100000	98700	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347233

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/24/19 08:29	3.00	2.74	91	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347235

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/24/19 08:55	3.00	2.82	94	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806

Lab Sample ID: 347237

ICAL Calibration #: 10242019

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/24/19 10:13	3.00	3.06	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347240

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/24/19 10:45	3.00	3.24	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347242

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/24/19 11:11	3.00	2.95	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806

Lab Sample ID: 348220

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	10/24/19	10:41	3.00	2.93	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349451

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/19	18:29	5000	5070	101	90	110
Antimony	10/23/19	18:29	5000	4980	100	90	110
Arsenic	10/23/19	18:29	5000	4990	100	90	110
Barium	10/23/19	18:29	5000	5140	103	90	110
Beryllium	10/23/19	18:29	500.0	508.0	102	90	110
Cadmium	10/23/19	18:29	500.0	519.0	104	90	110
Calcium	10/23/19	18:29	5000	4980	100	90	110
Chromium	10/23/19	18:29	5000	5040	101	90	110
Cobalt	10/23/19	18:29	5000	5040	101	90	110
Copper	10/23/19	18:29	5000	4570	91	90	110
Iron	10/23/19	18:29	5000	5040	101	90	110
Lead	10/23/19	18:29	5000	4720	94	90	110
Magnesium	10/23/19	18:29	5000	4940	99	90	110
Manganese	10/23/19	18:29	5000	4720	94	90	110
Nickel	10/23/19	18:29	5000	4990	100	90	110
Selenium	10/23/19	18:29	5000	5000	100	90	110
Silver	10/23/19	18:29	500.0	509.0	102	90	110
Thallium	10/23/19	18:29	5000	5070	101	90	110
Vanadium	10/23/19	18:29	5000	5120	102	90	110
Zinc	10/23/19	18:29	5000	5090	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349452

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/19	18:35	500.0	505.0	101	90	110
Antimony	10/23/19	18:35	500.0	495.0	99	90	110
Arsenic	10/23/19	18:35	500.0	494.0	99	90	110
Barium	10/23/19	18:35	500.0	495.0	99	90	110
Beryllium	10/23/19	18:35	50.00	50.30	101	90	110
Cadmium	10/23/19	18:35	50.00	50.30	101	90	110
Calcium	10/23/19	18:35	500.0	492.0	98	90	110
Chromium	10/23/19	18:35	500.0	501.0	100	90	110
Cobalt	10/23/19	18:35	500.0	516.0	103	90	110
Copper	10/23/19	18:35	500.0	460.0	92	90	110
Iron	10/23/19	18:35	500.0	512.0	102	90	110
Lead	10/23/19	18:35	500.0	496.0	99	90	110
Magnesium	10/23/19	18:35	500.0	482.0	96	90	110
Manganese	10/23/19	18:35	500.0	486.0	97	90	110
Nickel	10/23/19	18:35	500.0	501.0	100	90	110
Selenium	10/23/19	18:35	500.0	487.0	97	90	110
Silver	10/23/19	18:35	50.00	53.00	106	90	110
Thallium	10/23/19	18:35	500.0	527.0	105	90	110
Vanadium	10/23/19	18:35	500.0	493.0	99	90	110
Zinc	10/23/19	18:35	500.0	489.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349454

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/19	19:52	5000	5160	103	90	110
Antimony	10/23/19	19:52	5000	5090	102	90	110
Arsenic	10/23/19	19:52	5000	5120	102	90	110
Barium	10/23/19	19:52	5000	5200	104	90	110
Beryllium	10/23/19	19:52	500.0	506.0	101	90	110
Cadmium	10/23/19	19:52	500.0	522.0	104	90	110
Calcium	10/23/19	19:52	5000	5210	104	90	110
Chromium	10/23/19	19:52	5000	5070	101	90	110
Cobalt	10/23/19	19:52	5000	5060	101	90	110
Copper	10/23/19	19:52	5000	4680	94	90	110
Iron	10/23/19	19:52	5000	5210	104	90	110
Lead	10/23/19	19:52	5000	4720	94	90	110
Magnesium	10/23/19	19:52	5000	4950	99	90	110
Manganese	10/23/19	19:52	5000	4940	99	90	110
Nickel	10/23/19	19:52	5000	5070	101	90	110
Selenium	10/23/19	19:52	5000	5020	100	90	110
Silver	10/23/19	19:52	500.0	512.0	102	90	110
Thallium	10/23/19	19:52	5000	5020	100	90	110
Vanadium	10/23/19	19:52	5000	5180	104	90	110
Zinc	10/23/19	19:52	5000	5250	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349455

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/19	19:57	500.0	508.0	102	90	110
Antimony	10/23/19	19:57	500.0	509.0	102	90	110
Arsenic	10/23/19	19:57	500.0	519.0	104	90	110
Barium	10/23/19	19:57	500.0	502.0	100	90	110
Beryllium	10/23/19	19:57	50.00	50.30	101	90	110
Cadmium	10/23/19	19:57	50.00	51.00	102	90	110
Calcium	10/23/19	19:57	500.0	506.0	101	90	110
Chromium	10/23/19	19:57	500.0	509.0	102	90	110
Cobalt	10/23/19	19:57	500.0	512.0	102	90	110
Copper	10/23/19	19:57	500.0	483.0	97	90	110
Iron	10/23/19	19:57	500.0	538.0	108	90	110
Lead	10/23/19	19:57	500.0	504.0	101	90	110
Magnesium	10/23/19	19:57	500.0	503.0	101	90	110
Manganese	10/23/19	19:57	500.0	510.0	102	90	110
Nickel	10/23/19	19:57	500.0	531.0	106	90	110
Selenium	10/23/19	19:57	500.0	495.0	99	90	110
Silver	10/23/19	19:57	50.00	53.50	107	90	110
Thallium	10/23/19	19:57	500.0	525.0	105	90	110
Vanadium	10/23/19	19:57	500.0	501.0	100	90	110
Zinc	10/23/19	19:57	500.0	512.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751 Lab Sample ID: 346559

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	10/22/19	10:31	1000	946.0	95	70	130
Sodium	10/22/19	10:31	1000	1000	100	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347232

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/24/2019 08:06	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751

Lab Sample ID: 346558

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/22/2019 10:28	25.00	U	90	250
Sodium	10/22/2019 10:28	13.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-1

INITIAL CALIBRATION BLANKS

ICB

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349445

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/23/2019 16:52	-2.38	U	6	18
Antimony	10/23/2019 16:52	3.53		2.0	6.0
Arsenic	10/23/2019 16:52	0.319	U	4	12
Barium	10/23/2019 16:52	0.117	U	0.29	0.90
Beryllium	10/23/2019 16:52	0.0100	U	0.10	0.30
Cadmium	10/23/2019 16:52	-0.189	U	0.3	1.0
Calcium	10/23/2019 16:52	6.81	U	17	50
Chromium	10/23/2019 16:52	-2.22	U	0.6	2.0
Cobalt	10/23/2019 16:52	-0.0160	U	0.7	2.0
Copper	10/23/2019 16:52	1.02	U	1.2	3.5
Iron	10/23/2019 16:52	1.73	U	16	50
Lead	10/23/2019 16:52	0.828	U	1.4	2.0
Magnesium	10/23/2019 16:52	-3.43	U	6	20
Manganese	10/23/2019 16:52	-0.888	U	0.7	2.0
Nickel	10/23/2019 16:52	-0.197	U	1.0	3.0
Selenium	10/23/2019 16:52	-1.00	U	2.2	6.5
Silver	10/23/2019 16:52	0.454	U	0.7	2.0
Thallium	10/23/2019 16:52	-0.726	U	2.5	7.5
Vanadium	10/23/2019 16:52	-0.595	U	0.8	2.5
Zinc	10/23/2019 16:52	1.27	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806

Lab Sample ID: 347234

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 10242019

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/24/2019 08:33	0.0110	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347236

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/24/2019 08:59	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806

Lab Sample ID: 347238

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 10242019

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/24/2019 10:17	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 347241

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/24/2019 10:49	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806

Lab Sample ID: 347243

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 10242019

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	10/24/2019 11:15	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751 Lab Sample ID: 346563

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/22/2019 13:58	24.00	U	90	250
Sodium	10/22/2019 13:58	146.0		100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751 Lab Sample ID: 346565

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/22/2019 14:32	-27.0	U	90	250
Sodium	10/22/2019 14:32	122.0		100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751

Lab Sample ID: 346569

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	10/22/2019 15:05	73.00	U	90	250
Sodium	10/22/2019 15:05	120.0		100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349453

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/23/2019 18:40	-4.19	U	6	18
Antimony	10/23/2019 18:40	3.76		2.0	6.0
Arsenic	10/23/2019 18:40	8.20		4	12
Barium	10/23/2019 18:40	0.0670	U	0.29	0.90
Beryllium	10/23/2019 18:40	0.0430	U	0.10	0.30
Cadmium	10/23/2019 18:40	-0.140	U	0.3	1.0
Calcium	10/23/2019 18:40	2.83	U	17	50
Chromium	10/23/2019 18:40	-1.59	U	0.6	2.0
Cobalt	10/23/2019 18:40	0.234	U	0.7	2.0
Copper	10/23/2019 18:40	0.830	U	1.2	3.5
Iron	10/23/2019 18:40	1.84	U	16	50
Lead	10/23/2019 18:40	0.233	U	1.4	2.0
Magnesium	10/23/2019 18:40	-5.49	U	6	20
Manganese	10/23/2019 18:40	-0.830	U	0.7	2.0
Nickel	10/23/2019 18:40	-0.771	U	1.0	3.0
Selenium	10/23/2019 18:40	1.51	U	2.2	6.5
Silver	10/23/2019 18:40	0.424	U	0.7	2.0
Thallium	10/23/2019 18:40	2.30	U	2.5	7.5
Vanadium	10/23/2019 18:40	0.210	U	0.8	2.5
Zinc	10/23/2019 18:40	0.536	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 349456

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	10/23/2019 20:03	-4.34	U	6	18
Antimony	10/23/2019 20:03	-0.208	U	2.0	6.0
Arsenic	10/23/2019 20:03	5.19		4	12
Barium	10/23/2019 20:03	0.166	U	0.29	0.90
Beryllium	10/23/2019 20:03	-0.0700	U	0.10	0.30
Cadmium	10/23/2019 20:03	-0.125	U	0.3	1.0
Calcium	10/23/2019 20:03	3.74	U	17	50
Chromium	10/23/2019 20:03	-1.37	U	0.6	2.0
Cobalt	10/23/2019 20:03	0.255	U	0.7	2.0
Copper	10/23/2019 20:03	-0.508	U	1.2	3.5
Iron	10/23/2019 20:03	-0.832	U	16	50
Lead	10/23/2019 20:03	0.838	U	1.4	2.0
Magnesium	10/23/2019 20:03	-14.7	U	6	20
Manganese	10/23/2019 20:03	-0.781	U	0.7	2.0
Nickel	10/23/2019 20:03	-0.234	U	1.0	3.0
Selenium	10/23/2019 20:03	4.97		2.2	6.5
Silver	10/23/2019 20:03	0.611	U	0.7	2.0
Thallium	10/23/2019 20:03	0.142	U	2.5	7.5
Vanadium	10/23/2019 20:03	-0.653	U	0.8	2.5
Zinc	10/23/2019 20:03	0.644	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165806 Lab Sample ID: 344335

Analytical Prep Batch # 74031 Preparation Date/Time: 10/22/2019 15:03

ICAL Calibration #: 10242019 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	10/24/2019 08:41	-0.0110	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165750 Lab Sample ID: 344413

Analytical Prep Batch # 74046 Preparation Date/Time: 10/21/2019 10:53

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	10/23/2019 17:43	-3.85	U	6	18	
Total Antimony	10/23/2019 17:43	-0.267	U	2.0	6.0	
Total Arsenic	10/23/2019 17:43	-3.10	U	4	12	
Total Barium	10/23/2019 17:43	0.0110	U	0.29	0.90	
Total Beryllium	10/23/2019 17:43	0.0150	U	0.10	0.30	
Total Cadmium	10/23/2019 17:43	0.0490	U	0.3	1.0	
Total Calcium	10/23/2019 17:43	7.21	U	17	50	
Total Chromium	10/23/2019 17:43	-1.86	U	0.6	2.0	
Total Cobalt	10/23/2019 17:43	-0.0260	U	0.7	2.0	
Total Copper	10/23/2019 17:43	0.934	U	1.2	3.5	
Total Iron	10/23/2019 17:43	10.50	U	16	50	
Total Lead	10/23/2019 17:43	-1.29	U	1.4	2.0	
Total Magnesium	10/23/2019 17:43	2.82	U	6	20	
Total Manganese	10/23/2019 17:43	-1.17	U	0.7	2.0	
Total Nickel	10/23/2019 17:43	-0.258	U	1.0	3.0	
Total Selenium	10/23/2019 17:43	3.18		2.2	6.5	FAIL
Total Silver	10/23/2019 17:43	-0.0690	U	0.7	2.0	
Total Thallium	10/23/2019 17:43	-1.21	U	2.5	7.5	
Total Vanadium	10/23/2019 17:43	-0.513	U	0.8	2.5	
Total Zinc	10/23/2019 17:43	0.691	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751 Lab Sample ID: 344413

Analytical Prep Batch # 74046 Preparation Date/Time: 10/21/2019 10:53

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	10/22/2019 14:34	-23.0	U	90	250
Total Sodium	10/22/2019 14:34	39.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165751 Lab Sample ID: 344413

Analytical Prep Batch # 74046 Preparation Date/Time: 10/21/2019 10:53

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	10/22/2019 14:34	-23.0	U	90	250
Total Sodium	10/22/2019 14:34	39.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 148990
ICS Source: SPEX

Analytical Run #: 165751
Lab Sample ID: 346560
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/22/2019 10:33	500000	484000	97	80	120
Calcium	10/22/2019 10:33	500000	487000	97	80	120
Iron	10/22/2019 10:33	500000	496000	99	80	120
Magnesium	10/22/2019 10:33	500000	490000	98	80	120
Potassium	10/22/2019 10:33	0	83.00		-170	170
Sodium	10/22/2019 10:33	0	-8.00		-140	140

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 148990
ICS Source: SPEX

Analytical Run #: 165750
Lab Sample ID: 349446
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/2019 17:04	500000	539000	108	80	120
Antimony	10/23/2019 17:04	0	1.13		-10	10
Arsenic	10/23/2019 17:04	0	-0.295		-20	20
Barium	10/23/2019 17:04	0	-0.213		-1.7	1.7
Beryllium	10/23/2019 17:04	0	-0.562		-.7	.7
Cadmium	10/23/2019 17:04	0	-0.0580		-1.3	1.3
Calcium	10/23/2019 17:04	500000	503000	101	80	120
Chromium	10/23/2019 17:04	0	-5.67		-13	13
Cobalt	10/23/2019 17:04	0	0.364		-2	2
Copper	10/23/2019 17:04	0	0.234		-7	7
Iron	10/23/2019 17:04	500000	485000	97	80	120
Lead	10/23/2019 17:04	0	2.63		-4.7	4.7
Magnesium	10/23/2019 17:04	500000	518000	104	80	120
Manganese	10/23/2019 17:04	0	-2.07		-7.3	7.3
Nickel	10/23/2019 17:04	0	-0.234		-7	7
Selenium	10/23/2019 17:04	0	-8.86		-13	13
Silver	10/23/2019 17:04	0	0.0110		-7.3	7.3
Thallium	10/23/2019 17:04	0	1.24		-7.3	7.3
Vanadium	10/23/2019 17:04	10000	11300		8000	12000
Zinc	10/23/2019 17:04	0	-4.46		-20	20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 148990
ICS Source: SPEX, Ultra

Analytical Run #: 165751
Lab Sample ID: 346561
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/22/2019 10:36	500000	490000	98	80	120
Calcium	10/22/2019 10:36	500000	488000	98	80	120
Iron	10/22/2019 10:36	500000	501000	100	80	120
Magnesium	10/22/2019 10:36	500000	485000	97	80	120
Potassium	10/22/2019 10:36	100000	106000	106	80	120
Sodium	10/22/2019 10:36	100000	106000	106	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 148990
ICS Source: SPEX, Ultra

Analytical Run #: 165750
Lab Sample ID: 349447
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	10/23/2019 17:11	500000	578000	116	80	120
Antimony	10/23/2019 17:11	500.0	552.0	110	80	120
Arsenic	10/23/2019 17:11	500.0	431.0	86	80	120
Barium	10/23/2019 17:11	500.0	531.0	106	80	120
Beryllium	10/23/2019 17:11	500.0	552.0	110	80	120
Cadmium	10/23/2019 17:11	500.0	570.0	114	80	120
Calcium	10/23/2019 17:11	500000	550000	110	80	120
Chromium	10/23/2019 17:11	500.0	523.0	105	80	120
Cobalt	10/23/2019 17:11	500.0	527.0	105	80	120
Copper	10/23/2019 17:11	500.0	520.0	104	80	120
Iron	10/23/2019 17:11	500000	517000	103	80	120
Lead	10/23/2019 17:11	500.0	475.0	95	80	120
Magnesium	10/23/2019 17:11	500000	550000	110	80	120
Manganese	10/23/2019 17:11	500.0	510.0	102	80	120
Nickel	10/23/2019 17:11	500.0	508.0	102	80	120
Selenium	10/23/2019 17:11	500.0	512.0	102	80	120
Silver	10/23/2019 17:11	500.0	586.0	117	80	120
Thallium	10/23/2019 17:11	500.0	548.0	110	80	120
Vanadium	10/23/2019 17:11	500.0	530.0	106	80	120
Zinc	10/23/2019 17:11	500.0	535.0	107	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 148990

Concentration Units: ug/L

Analytical Run #: 165806

Sample No.:#: 344336

Analytical Prep Batch #: 74031

Preparation Date/Time: 10/22/2019 15:03

ICAL Calibration #: 10242019

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	10/24/2019 08:16	82-119	1.65		2.00	82		CV

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 148990

Concentration Units: ug/L

Analytical Run #: 165750 Sample No.:#: 344414

Analytical Prep Batch #: 74046 Preparation Date/Time: 10/21/2019 10:53

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	10/23/2019 17:37	86-115	784.0		800.0	98		P
Total Antimony	10/23/2019 17:37	88-113	212.0		200.0	106		P
Total Arsenic	10/23/2019 17:37	87-113	871.0		800.0	109		P
Total Barium	10/23/2019 17:37	88-113	794.0		800.0	99		P
Total Beryllium	10/23/2019 17:37	89-112	20.60		20.00	103		P
Total Cadmium	10/23/2019 17:37	88-113	19.80		20.00	99		P
Total Calcium	10/23/2019 17:37	87-113	200000		200000	100		P
Total Chromium	10/23/2019 17:37	90-113	80.30		80.00	100		P
Total Cobalt	10/23/2019 17:37	89-114	206.0		200.0	103		P
Total Copper	10/23/2019 17:37	86-114	102.0		100.0	102		P
Total Iron	10/23/2019 17:37	87-115	424.0		400.0	106		P
Total Lead	10/23/2019 17:37	86-113	195.0		200.0	98		P
Total Magnesium	10/23/2019 17:37	85-113	100000		100000	100		P
Total Manganese	10/23/2019 17:37	90-114	196.0		200.0	98		P
Total Nickel	10/23/2019 17:37	88-113	204.0		200.0	102		P
Total Selenium	10/23/2019 17:37	83-114	814.0		800.0	102		P
Total Silver	10/23/2019 17:37	84-115	20.90		20.00	104		P
Total Thallium	10/23/2019 17:37	85-114	793.0		800.0	99		P
Total Vanadium	10/23/2019 17:37	90-111	211.0		200.0	106		P
Total Zinc	10/23/2019 17:37	87-115	208.0		200.0	104		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 148990

Concentration Units: ug/L

Analytical Run #: 165751 Sample No.:#: 344414

Analytical Prep Batch #: 74046 Preparation Date/Time: 10/21/2019 10:53

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	10/22/2019 14:26	86-114	101000		100000	101		P
Total Sodium	10/22/2019 14:26	87-115	97200		100000	97		P

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

ICP ID Number: TJA SDG No.: 148990

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	2	Fe	0.000006	0.000000	No
			Ce	0.000000	0.000000	No
Ag 338.289 {100}	☒	1	Fe	0.000906	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	1	Al	0.001713	0.000000	No
As 197.262 {471}	☒	1	Al	-0.000113	0.000000	No
Ba 233.527 {445}	☒	3	Fe	-0.000038	0.000000	No
			V	0.000180	0.000000	No
			Al	0.000000	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000029	0.000000	No
Be 313.042 {108}	☒	1	Fe	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000016	0.000000	No
Ca 315.887 {107}	☒	None				
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	2	Fe	0.000090	0.000000	No
			Al	0.000000	0.000000	No
Cd 228.802 {147}	☒	None				
Co 228.616 {447}	☒	5	Fe	0.000009	0.000000	No
			Ti	0.003000	0.000000	No
			Ba	-0.001300	0.000000	No
			Ni	0.000040	0.000000	No
			Al	0.000001	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000188	0.000000	No
Cr 205.560 {464}	☒	1	Fe	-0.000004	0.000000	No
Cr 267.716 {126}	☒	1	Fe	-0.000014	0.000000	No
Cu 224.700 {450}	☒	5	Fe	0.000274	0.000000	No
			Mo	0.001320	0.000000	No
			Ni	-0.006000	0.000000	No
			Pb	0.003030	0.000000	No
			Al	0.000000	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000136	0.000000	No
Cu 327.396 {103}	☒	1	Fe	0.000069	0.000000	No
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	-0.000086	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Mn 259.373 {130}	☒	1	Mg	0.001339	0.000000	No
Mo 202.030 {466}	☒	1	Fe	-0.000011	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000020	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000036	0.000000	No
Ni 221.647 {452}	☒	1	Ca	0.000021	0.000000	No
Ni 231.604 {445}	☒	3	Fe	0.000012	0.000000	No
			Co	0.000000	0.000000	No
			Mo	0.000000	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.001241	0.000000	No
			Na	0.000000	0.000000	No
Pb 220.353 {453}	☒	3	Si	0.000000	0.000000	No
			Al	0.000001	0.000000	No
			Fe	0.000018	0.000000	No
Pb 220.353 {153}	☒	1	Al	-0.000040	0.000000	No
Sb 206.833 {463}	☒	1	Fe	0.000009	0.000000	No
Sb 217.581 {455}	☒	3	Fe	-0.000069	0.000000	No
			V	0.002070	0.000000	No
			Pb	-0.001040	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000360	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.001308	0.000000	No
Tl 190.856 {476}	☒	5	Fe	0.000024	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000050	0.000000	No
			Cr	0.000251	0.000000	No
			V	-0.003800	0.000000	No
Tl 190.856 {477}	☒	1	Fe	-0.000048	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000073	0.000000	No
V 292.402 {115}	☒	3	Fe	0.000020	0.000000	No
			Cr	-0.000400	0.000000	No
			Al	0.000000	0.000000	No
Zn 202.548 {466}	☒	1	Fe	-0.000239	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000003	0.000000	No
Zn 213.856 {457}	☒	2	Fe	0.000167	0.000000	No
			Cu	0.007413	0.000000	No
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Si 251.611 {134}	☒	2	Fe	-0.000105	0.000000	No
			Mo	0.005400	0.000000	No
Ti 323.452 {104}	☒	1	Fe	0.000036	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000052	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000014	0.000000	No
Sr 421.552 { 80}	☒	1	Fe	0.000014	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Sn 189.989 {477}	☒	1	Fe	0.000013	0.000000	No
B 249.678 {135}	☒	2	Fe	0.000001	0.000000	No
			Co	0.003970	0.000000	No
B 249.773 {135}	☒	1	Fe	0.000357	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000011	0.000000	No
K 766.490 { 44}	☒	1	Fe	0.000216	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000079	0.000000	No
S 182.034 {485}	☒	1	Mg	0.000100	0.000000	No
Hg 184.950 {482}	☒	1	Fe	0.000001	0.000000	No
Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

ICP ID Number: TA SDG No.: 148990

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Method: EPA 7470A

SDG No.: 148990

Preparation Batch #: 74031

Preparation Date/Time: 10/22/2019 / 15:03

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
343844	Normal Sample	54IDW	GROUND WATER	25.0
343878	Normal Sample	49IDW	GROUND WATER	25.0
344335	Method Blank		LIQUID	25.0
344336	Lab Control Spike		LIQUID	25.0
344337	Lab Duplicate	54IDW	GROUND WATER	25.0
344338	Matrix Spike	54IDW	GROUND WATER	25.0
344339	Matrix Spike Duplicate	54IDW	GROUND WATER	25.0

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Method: EPA 3010A

SDG No.: 148990

Preparation Batch #: 74046

Preparation Date/Time: 10/21/2019 / 10:53

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
343844	Normal Sample	54IDW	GROUND WATER	50.0
343878	Normal Sample	49IDW	GROUND WATER	50.0
344413	Method Blank		LIQUID	50.0
344414	Lab Control Spike		LIQUID	50.0
344415	Lab Duplicate	54IDW	GROUND WATER	50.0
344416	Matrix Spike	54IDW	GROUND WATER	50.0
344417	Matrix Spike Duplicate	54IDW	GROUND WATER	50.0

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 148990

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 10/24/2019 to 10/24/2019

Analytical Run #: 165806

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
347231	ICV	1.00	10/24 08:02																X													
347232	ICB	1.00	10/24 08:06																X													
344336	LCSW	1.00	10/24 08:16																X													
347233	CCV	1.00	10/24 08:29																X													
347234	CCB	1.00	10/24 08:33																X													
344335	MBW	1.00	10/24 08:41																X													
347235	CCV	1.00	10/24 08:55																X													
347236	CCB	1.00	10/24 08:59																X													
347237	CCV	1.00	10/24 10:13																X													
347238	CCB	1.00	10/24 10:17																X													
343844	Initial	1.00	10/24 10:35																X													
343878	Initial	1.00	10/24 10:37																X													
347239	CCV	1.00	10/24 10:40																X													
348220	CCV	1.00	10/24 10:41																X													
347240	CCV	1.00	10/24 10:45																X													
347241	CCB	1.00	10/24 10:49																X													
344337	DUP	1.00	10/24 10:51																X													
344338	MSW	1.00	10/24 10:53																X													
344339	MSDW	1.00	10/24 10:55																X													
347242	CCV	1.00	10/24 11:11																X													
347243	CCB	1.00	10/24 11:15																X													

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 148990

Instrument ID Number: TJA

Method Number: P

Start & End Date: 10/23/2019 to 10/23/2019

Analytical Run #: 165750

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
349443	ICV	1.00	10/23 16:27	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349444	ICVLL	1.00	10/23 16:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
349445	ICB	1.00	10/23 16:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349446	ICSA	1.00	10/23 17:04	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349447	ICSAB	1.00	10/23 17:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349448	ICVLL	1.00	10/23 17:24																							X							
344414	LCSW	1.00	10/23 17:37	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
344413	MBW	1.00	10/23 17:43	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
343844	Initial	1.00	10/23 17:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349449	L	5	10/23 17:56	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
344415	DUP	1.00	10/23 18:03	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
344416	MSW	1.00	10/23 18:09	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
344417	MSDW	1.00	10/23 18:16	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
343878	Initial	1.00	10/23 18:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349451	CCV1	1.00	10/23 18:29	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349452	CCV2	1.00	10/23 18:35	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349453	CCB	1.00	10/23 18:40	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349450	PDSW	1.00	10/23 18:47	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349454	CCV1	1.00	10/23 19:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349455	CCV2	1.00	10/23 19:57	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
349456	CCB	1.00	10/23 20:03	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL
SDG No.: 148990

Instrument ID Number: TJA
Method Number: P

Start & End Date: 10/22/2019 to 10/22/2019
Analytical Run #: 165751

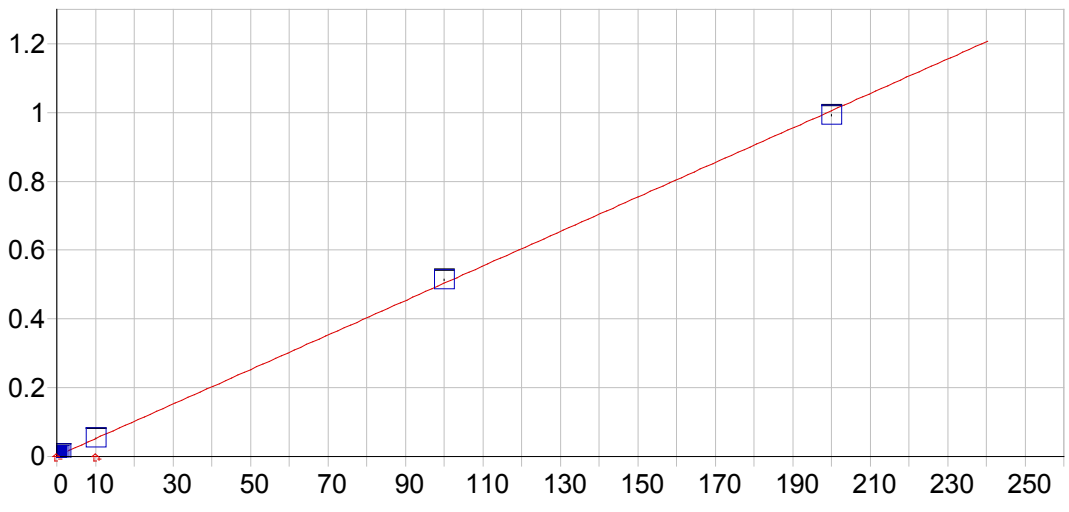
Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
346556	ICV	1.00	10/22 10:22																				X				X					
346557	ICVLL	1.00	10/22 10:25																				X				X					
346558	ICB	1.00	10/22 10:28																				X				X					
346559	MRL	1.00	10/22 10:31																				X				X					
346560	ICSA	1.00	10/22 10:33	X							X				X		X						X				X					
346561	ICSAB	1.00	10/22 10:36	X							X				X		X						X				X					
346562	CCV	1.00	10/22 13:55																				X				X					
346563	CCB	1.00	10/22 13:58																				X				X					
344414	LCSW	1.00	10/22 14:26																				X				X					
346564	CCV	1.00	10/22 14:29																				X				X					
346565	CCB	1.00	10/22 14:32																				X				X					
344413	MBW	1.00	10/22 14:34																				X				X					
343844	Initial	1.00	10/22 14:37																				X				X					
346566	L	5	10/22 14:40																				X				X					
344415	DUP	1.00	10/22 14:43																				X				X					
344416	MSW	1.00	10/22 14:45																				X				X					
344417	MSDW	1.00	10/22 14:48																				X				X					
346567	PDSW	1.00	10/22 14:51																				X				X					
343878	Initial	1.00	10/22 14:54																				X				X					
346568	CCV	1.00	10/22 15:02																				X				X					
346569	CCB	1.00	10/22 15:05																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	10/23/2019 07:30:40	10/22/2019 10:19:48	Linear	1/Var	0.001849	0.005017	0.000000	1.000000	0.999867	0.001270	0.053721	0.179071
	Na 330.237 {102}	10/23/2019 07:30:40	10/22/2019 10:19:48	Linear	1/Var	0.000248	0.000086	0.000000	1.000000	0.999883	0.000145	1.628482	5.428273
	Na 589.592 { 57}	10/23/2019 07:30:40	10/22/2019 10:19:48	Linear	1/Var	-0.000853	0.053343	0.000000	1.000000	0.999971	0.001321	0.009804	0.032679
	Y 360.073 { 94}	10/23/2019 07:30:40	10/22/2019 10:00:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 320.332 {105}*	10/23/2019 07:30:40	10/22/2019 10:00:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	10/23/2019 07:30:40	10/22/2019 10:22:40	Linear	1/Conc	0.003414	0.000016	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	10/23/2019 07:30:40	10/22/2019 10:22:40	Linear	1/Conc	-0.000178	0.009236	0.000000	1.000000	1.000000	0.000000	0.018748	0.062493
	Mg 285.213 {118}	10/23/2019 07:30:40	10/22/2019 10:22:40	Linear	None	-0.000049	0.041682	0.000000	1.000000	1.000000	0.000000	0.002100	0.006999
	Ca 317.933 {106}	10/23/2019 07:30:40	10/22/2019 10:22:40	Linear	None	0.043559	0.003112	0.000000	1.000000	1.000000	0.000000	0.026952	0.089841
	Fe 234.349 {144}	10/23/2019 07:30:40	10/22/2019 10:22:40	Linear	None	0.000099	0.002380	0.000000	1.000000	1.000000	0.000000	0.012149	0.040497

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
K 766.490 { 44}	☒	1	Fe	-0.000209	0.000000	No
Na 330.237 {102}	☒	1	Fe	-0.003722	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000066	0.000000	No
Y 360.073 { 94}	☒	None				
Y 320.332 {105}*	☒	None				
Al 308.215 {109}	☒	1	Fe	0.000000	0.000000	No
Al 396.152 { 85}	☒	None				
Mg 285.213 {118}	☒	None				
Ca 317.933 {106}	☒	None				
Fe 234.349 {144}	☒	None				

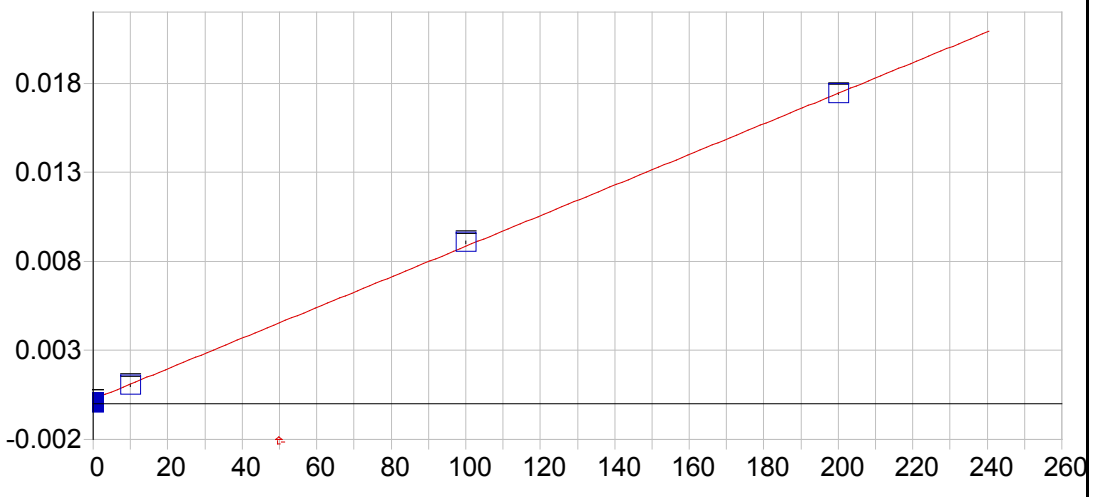


K 766.490 { 44}

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.001849	Re-Slope:	1.000000
A1 (Gain):	0.005017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999867	Status:	OK.
Std Error of Est:	0.001270		
Predicted MDL:	0.053721		
Predicted MQL:	0.179071		

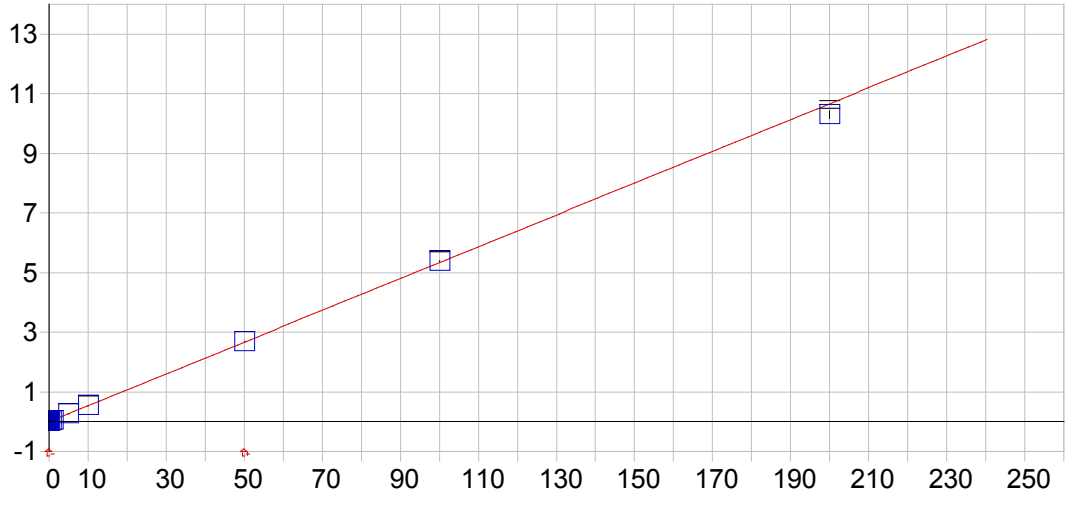
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.05873	-.059	.000	.00155	.000	1
CalibStd-1.0	1.0000	.97176	-.028	-2.82	.00672	.000	1
CalibStd-10.	10.000	10.200	.200	2.00	.05302	.000	1
CalibStd-0.5	.50000	.49207	-.008	-1.59	.00432	.000	1
CalibStd-200	200.00	197.44	-2.56	-1.28	.99239	.002	1
CalibStd-100	100.00	102.00	2.00	2.00	.51359	.001	1



Na 330.237 {102}

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000248		Re-Slope:	1.000000	
A1 (Gain):	0.000086		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999883		Status:	OK.	
Std Error of Est:	0.000145				
Predicted MDL:	1.628482				
Predicted MQL:	5.428273				

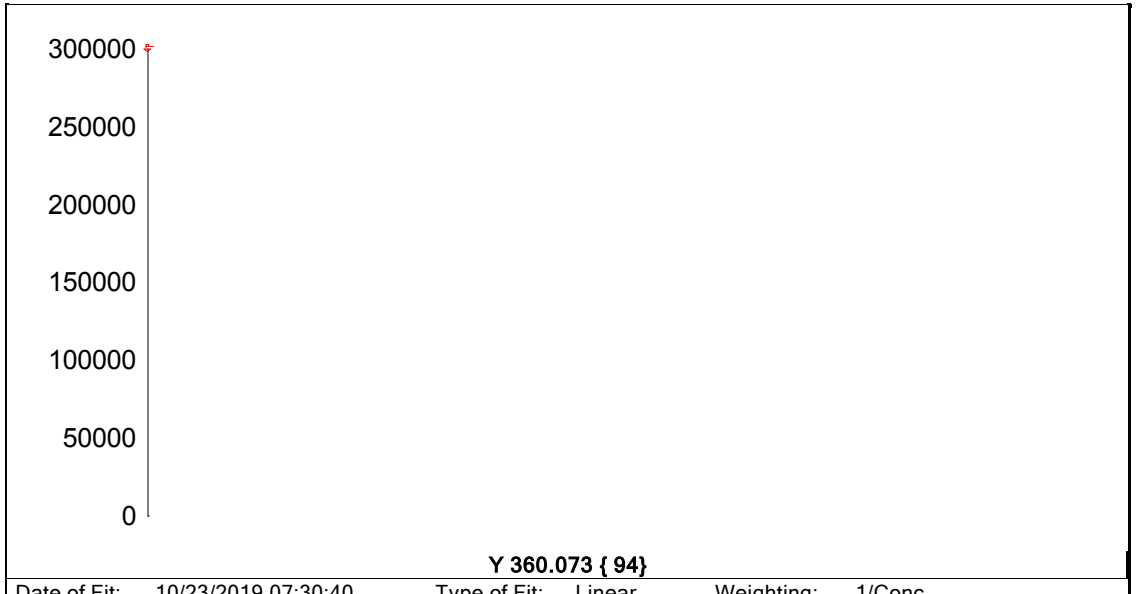
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.5615	-2.56	.000	.00003	.000	1
CalibStd-200	200.00	199.69	-.310	-.155	.01742	.000	1
CalibStd-10.	10.000	9.1637	-.836	-8.36	.00104	.000	1
CalibStd-100	100.00	102.65	2.65	2.65	.00907	.000	1



Na 589.592 { 57}

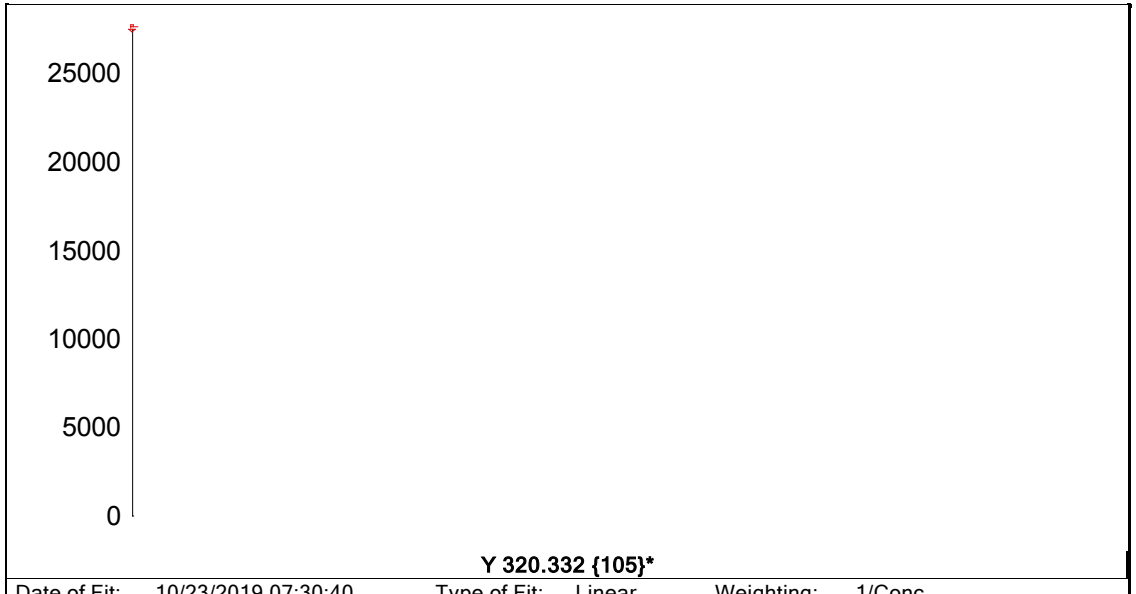
Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	-0.000853		Re-Slope:	1.000000	
A1 (Gain):	0.053343		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999971		Status:	OK.	
Std Error of Est:	0.001321				
Predicted MDL:	0.009804				
Predicted MQL:	0.032679				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00337	.003	.000	-.00067	.000	1
CalibStd-0.5	.50000	.52167	.022	4.33	.02697	.001	1
CalibStd-1.0	1.0000	.97884	-.021	-2.12	.05136	.001	1
CalibStd-5.0	5.0000	4.9599	-.040	-.802	.26373	.001	1
CalibStd-10.	10.000	9.9577	-.042	-.423	.53033	.001	1
CalibStd-50	50.000	50.195	.195	.391	2.6767	.005	1
CalibStd-100	100.00	100.71	.710	.710	5.3714	.023	1
CalibStd-200	200.00	192.90	-7.10	-3.55	10.289	.129	1



Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

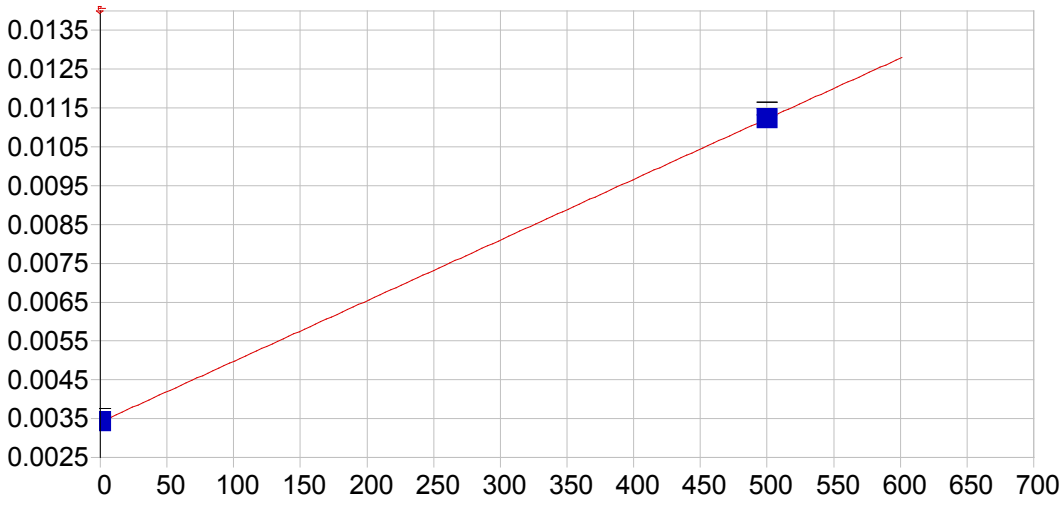
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	281840.	1500.	1



Y 320.332 {105}*

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	26028.	117.	1

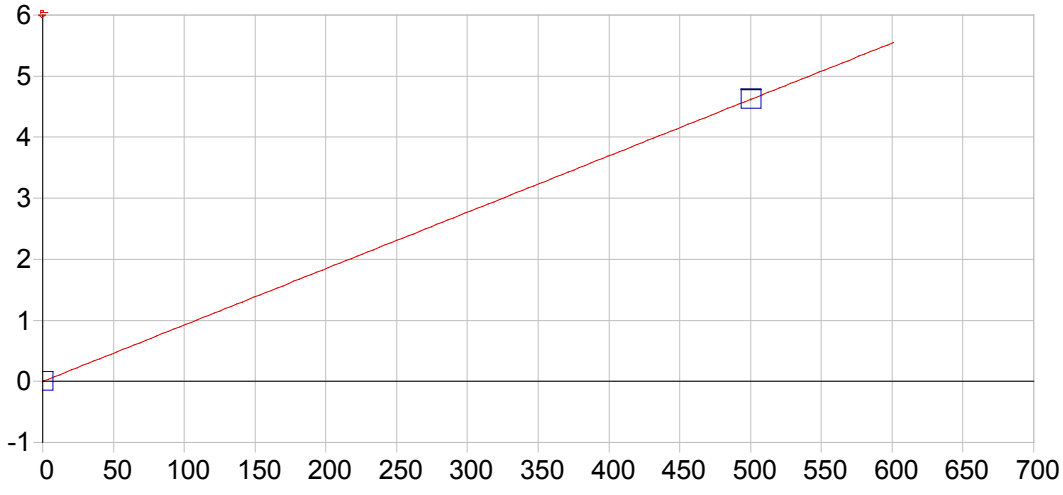


Al 308.215 {109}

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.003414	Re-Slope:	1.000000
A1 (Gain):	0.000016	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00341	.000	1
CalibStd-500	500.00	500.00	.000	.000	.01122	.000	1

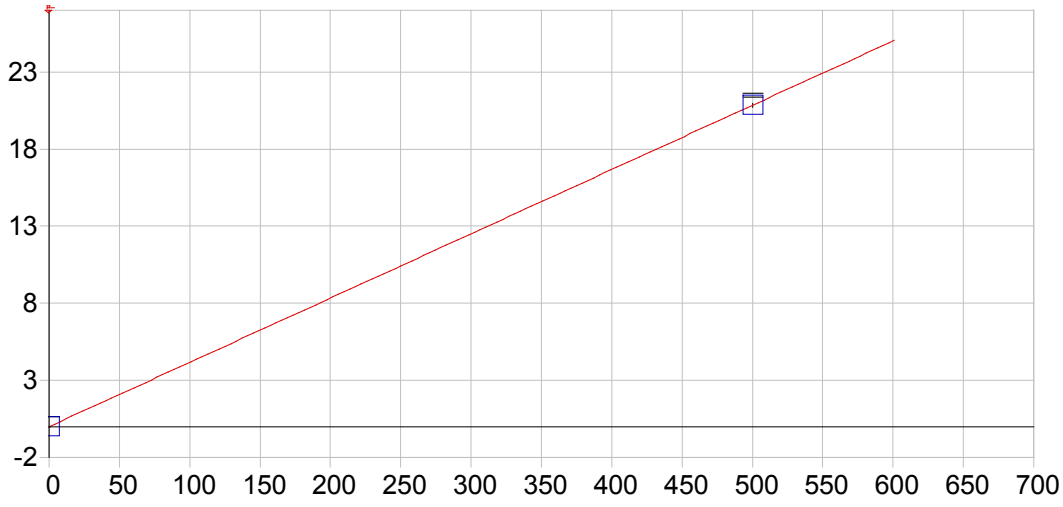


Al 396.152 { 85}

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000178	Re-Slope:	1.000000
A1 (Gain):	0.009236	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.018748		
Predicted MQL:	0.062493		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00018	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.6177	.006	1

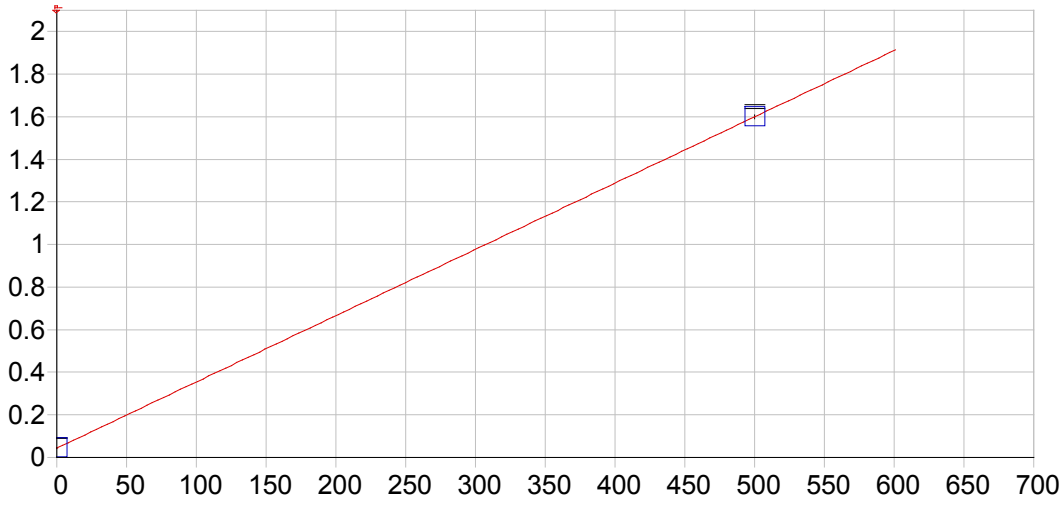


Mg 285.213 {118}

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000049	Re-Slope:	1.000000
A1 (Gain):	0.041682	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.002100		
Predicted MQL:	0.006999		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00005	.000	1
CalibStd-500	500.00	500.00	.000	.000	20.841	.115	1

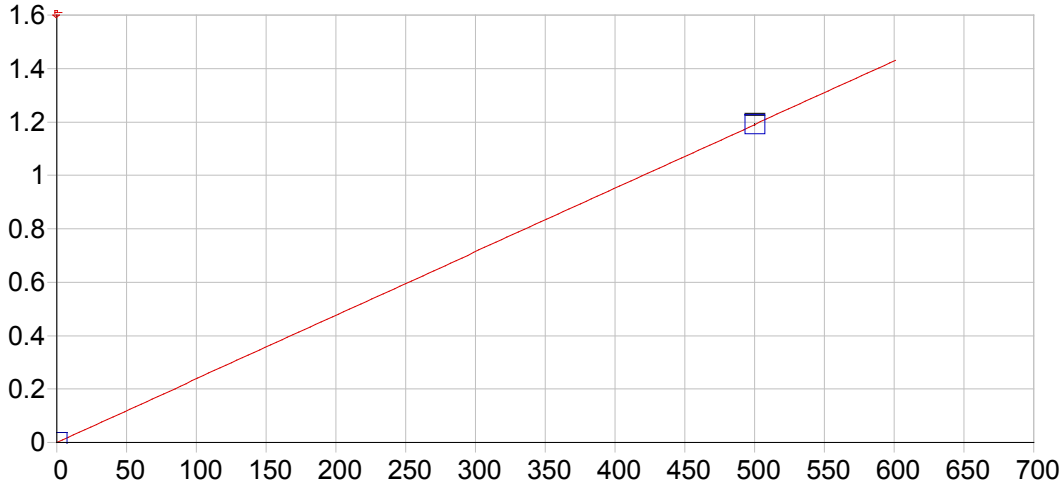


Ca 317.933 {106}

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.043559	Re-Slope:	1.000000
A1 (Gain):	0.003112	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.026952		
Predicted MQL:	0.089841		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.04356	.000	1
CalibStd-500	500.00	500.00	.000	.000	1.5997	.010	1



Fe 234.349 {144}

Date of Fit:	10/23/2019 07:30:40	Type of Fit:	Linear	Weighting:	None
A0 (Offset):	0.000099		Re-Slope:	1.000000	
A1 (Gain):	0.002380		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	1.000000		Status:	OK.	
Std Error of Est:	0.000000				
Predicted MDL:	0.012149				
Predicted MQL:	0.040497				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00010	.000	1
CalibStd-500	500.00	500.00	.000	.000	1.1901	.004	1

Sample Name: Blank Acquired: 10/22/2019 09:57:20 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**-.001**	**-.000**	**-.000**	**.044**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	31.1	735.	37.7	98.1	107.	.474	34.4

Int. Std.	Y_3203
Units	Cts/S
Avg	**26028.**
Stddev	117.
%RSD	.45112

Sample Name: CalibStd-0.5 Acquired: 10/22/2019 10:00:17 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.004**	**.027**
Stddev	.000	.001
%RSD	1.24	2.22

Int. Std.	Y_3203
Units	Cts/S
Avg	**26134.**
Stddev	104.
%RSD	.39964

Sample Name: CalibStd-1.0 Acquired: 10/22/2019 10:03:02 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.007**	**.051**
Stddev	.000	.001
%RSD	3.65	1.02

Int. Std.	Y_3203
Units	Cts/S
Avg	**26082.**
Stddev	38.
%RSD	.14594

Sample Name: CalibStd-5.0 Acquired: 10/22/2019 10:05:48 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.264
Stddev	.001
%RSD	.446

Int. Std.	Y_3203
Units	Cts/S
Avg	25940.
Stddev	145.
%RSD	.56047

Sample Name: CalibStd-10.0 Acquired: 10/22/2019 10:08:35 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.061**	**.001**	**.530**
Stddev	.000	.000	.001
%RSD	.571	7.06	.252

Int. Std.	Y_3203
Units	Cts/S
Avg	**25809.**
Stddev	50.
%RSD	.19274

Sample Name: CalibStd-50 Acquired: 10/22/2019 10:11:22 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**2.67**
Stddev	.01
%RSD	.174

Int. Std.	Y_3203
Units	Cts/S
Avg	**25838.**
Stddev	86.
%RSD	.33182

Sample Name: CalibStd-100 Acquired: 10/22/2019 10:14:09 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.595**	**.009**	**5.36**
Stddev	.002	.000	.02
%RSD	.403	.880	.414

Int. Std.	Y_3203
Units	Cts/S
Avg	**25822.**
Stddev	132.
%RSD	.51124

Sample Name: CalibStd-200 Acquired: 10/22/2019 10:16:55 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**1.15**	**.017**	**10.3**
Stddev	.00	.000	.1
%RSD	.339	.226	1.27

Int. Std.	Y_3203
Units	Cts/S
Avg	**25636.**
Stddev	58.
%RSD	.22716

Sample Name: CalibStd-500 Acquired: 10/22/2019 10:19:51 Type: Cal
Method: Sodium and Potassium 1(v1191) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.62**	**20.8**	**1.60**	**1.19**
Stddev	.01	.1	.01	.00
%RSD	.134	.552	.633	.317

Int. Std.	Y_3203
Units	Cts/S
Avg	**24693.**
Stddev	58.
%RSD	.23482

Sample Name: icv Acquired: 10/22/2019 10:22:44 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.1**	**99.4**	**.037**	**.061**	**.223**	**.233**
Stddev	.2	.9	.018	.009	.029	.073
%RSD	.193	.914	49.5	15.0	13.1	31.4
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**25968.**
Stddev	87.
%RSD	.33653

Sample Name: ICVLL Acquired: 10/22/2019 10:25:30 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**2.94**	**3.18**	**.009**	**.012**	**.218**	**.042**
Stddev	.06	.02	.024	.003	.073	.010
%RSD	1.98	.487	271.	24.1	33.6	24.8
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26307.**
Stddev	138.
%RSD	.52457

Sample Name: icb Acquired: 10/22/2019 10:28:16 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.025**	**.013**	**.004**	**.005**	**.189**	**.030**
Stddev	.057	.006	.019	.001	.071	.022
%RSD	230.	41.9	514.	27.8	37.4	73.0
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26215.**
Stddev	59.
%RSD	.22442

Sample Name: mrl Acquired: 10/22/2019 10:31:01 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.946**	**1.00**	**-.008**	**.002**	**.162**	**-.004**
Stddev	.053	.01	.009	.001	.042	.010
%RSD	5.65	.824	120.	43.0	26.0	266.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26370.**
Stddev	117.
%RSD	.44520

Sample Name: icsa Acquired: 10/22/2019 10:33:47 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.083**	**-.008**	**484.**	**490.**	**487.**	**496.**
Stddev	.063	.011	1.	7.	2.	1.
%RSD	75.3	138.	.224	1.38	.416	.288
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**24739.**
Stddev	72.
%RSD	.29284

Sample Name: icsab Acquired: 10/22/2019 10:36:41 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**106.**	**106.**	**490.**	**485.**	**488.**	**501.**
Stddev	.	2.	1.	6.	2.	1.
%RSD	.251	1.55	.161	1.20	.373	.244
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**24882.**
Stddev	129.
%RSD	.51726

Sample Name: ccv Acquired: 10/22/2019 13:55:59 Type: QC

Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000

User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**99.0**	**-.003**	**.053**	**-.311**	**.004**
Stddev	.	2.3	.005	.006	.086	.011
%RSD	.442	2.28	196.	11.3	27.6	287.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26219.**
Stddev	96.
%RSD	.36598

Sample Name: ccb Acquired: 10/22/2019 13:58:45 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.024**	**.146**	**-.016**	**.005**	**-.368**	**-.006**
Stddev	.020	.006	.012	.002	.067	.013
%RSD	85.1	4.22	77.6	29.7	18.1	231.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26488.**
Stddev	39.
%RSD	.14671

Sample Name: lcsw74046 Acquired: 10/22/2019 14:26:29 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**97.2**	**.884**	**104.**	**182.**	**.386**
Stddev	.	2.2	.016	.	1.	.011
%RSD	.158	2.28	1.85	.360	.617	2.82

Int. Std.	Y_3203
Units	Cts/S
Avg	**25716.**
Stddev	39.
%RSD	.15027

Sample Name: ccv Acquired: 10/22/2019 14:29:16 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**98.7**	**.002**	**.048**	**-.338**	**.005**
Stddev	.	1.8	.012	.002	.056	.007
%RSD	.164	1.81	819.	4.26	16.6	137.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26303.**
Stddev	93.
%RSD	.35484

Sample Name: ccb Acquired: 10/22/2019 14:32:03 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.027**	**.122**	**-.015**	**.008**	**-.411**	**-.003**
Stddev	.033	.010	.005	.002	.081	.006
%RSD	119.	7.92	32.4	22.8	19.7	238.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26556.**
Stddev	127.
%RSD	.47943

Sample Name: mbw74046 Acquired: 10/22/2019 14:34:49 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.023**	**.039**	**-.010**	**.004**	**-.382**	**-.013**
Stddev	.034	.006	.006	.001	.067	.008
%RSD	146.	14.4	59.3	23.5	17.6	57.8

Int. Std.	Y_3203
Units	Cts/S
Avg	**26776.**
Stddev	93.
%RSD	.34659

Sample Name: 343844 Acquired: 10/22/2019 14:37:37 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.19**	**6.95**	**.186**	**36.5**	**85.1**	**.309**
Stddev	.04	.03	.010	.0	.5	.011
%RSD	3.61	.417	5.43	.096	.547	3.45

Int. Std.	Y_3203
Units	Cts/S
Avg	**26172.**
Stddev	107.
%RSD	.40815

Sample Name: I343844 Acquired: 10/22/2019 14:40:24 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.185**	**1.45**	**.021**	**7.70**	**16.7**	**.064**
Stddev	.042	.02	.016	.04	.2	.004
%RSD	22.6	1.38	77.7	.462	1.22	5.64

Int. Std.	Y_3203
Units	Cts/S
Avg	**26674.**
Stddev	75.
%RSD	.28011

Sample Name: dup343844 Acquired: 10/22/2019 14:43:10 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.21**	**7.23**	**.214**	**37.8**	**87.8**	**.334**
Stddev	.04	.03	.016	.0	.6	.008
%RSD	3.68	.378	7.51	.066	.695	2.40

Int. Std.	Y_3203
Units	Cts/S
Avg	**26242.**
Stddev	72.
%RSD	.27469

Sample Name: msw343844 Acquired: 10/22/2019 14:45:57 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**104.**	**1.14**	**140.**	**270.**	**.717**
Stddev	.	2.	.01	.	2.	.019
%RSD	.172	1.72	1.16	.203	.743	2.70

Int. Std.	Y_3203
Units	Cts/S
Avg	**25568.**
Stddev	139.
%RSD	.54396

Sample Name: msdw343844 Acquired: 10/22/2019 14:48:42 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**105.**	**1.14**	**141.**	**274.**	**.740**
Stddev	.	2.	.02	.	1.	.016
%RSD	.153	2.27	2.12	.251	.277	2.22

Int. Std.	Y_3203
Units	Cts/S
Avg	**25419.**
Stddev	76.
%RSD	.29860

Sample Name: pdsw343844 Acquired: 10/22/2019 14:51:29 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**105.**	**.199**	**35.3**	**81.1**	**.300**
Stddev	.	2.	.008	.1	.4	.006
%RSD	.411	1.48	3.82	.414	.537	1.93

Int. Std.	Y_3203
Units	Cts/S
Avg	**26032.**
Stddev	76.
%RSD	.29154

Sample Name: 343878 Acquired: 10/22/2019 14:54:16 Type: Unk
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.00**	**16.5**	**4.28**	**38.4**	**61.7**	**3.87**
Stddev	.03	.1	.07	.1	.5	.03
%RSD	1.04	.655	1.73	.239	.877	.839

Int. Std.	Y_3203
Units	Cts/S
Avg	**26871.**
Stddev	83.
%RSD	.31013

Sample Name: ccv Acquired: 10/22/2019 15:02:35 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**98.7**	**-.007**	**.047**	**-.282**	**-.002**
Stddev	.	1.4	.026	.001	.094	.017
%RSD	.207	1.41	383.	1.76	33.3	692.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**26285.**
Stddev	47.
%RSD	.17751

Sample Name: ccb Acquired: 10/22/2019 15:05:21 Type: QC
Method: Sodium and Potassium 1(v1191) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.073**	**.120**	**.003**	**.010**	**-.385**	**-.008**
Stddev	.025	.003	.009	.001	.052	.004
%RSD	33.9	2.82	300.	8.61	13.4	55.2
Check ?	None	None	None	None	None	None
Value						
Range						

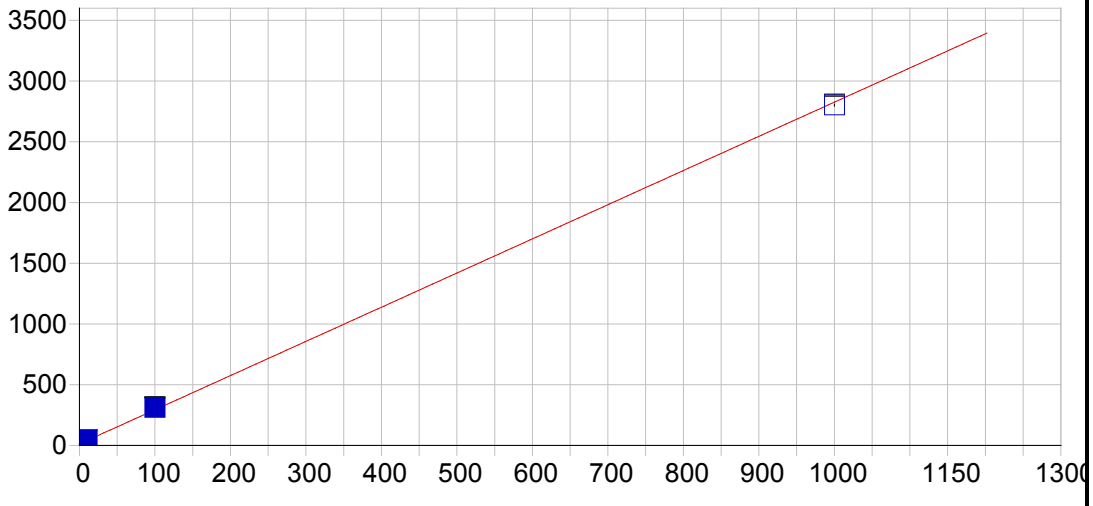
Int. Std.	Y_3203
Units	Cts/S
Avg	**26531.**
Stddev	136.
%RSD	.51228

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Ag 328.068 {103}	10/28/2019 14:26:29	10/23/2019 16:21:13	Linear	1/Conc	12.187419	2.814250	0.000000	1.000000	0.999483	0.123094	0.922110	3.073702
	Ag 338.289 {100}	10/28/2019 14:26:29	10/23/2019 16:21:13	Linear	1/Conc	-0.000004	0.000001	0.000000	1.000000	0.999596	0.000000	6.697481	22.324936
	Al 167.079 {501}	10/28/2019 14:26:29	10/23/2019 15:40:40	Linear	1/Var	0.000017	0.000002	0.000000	1.000000	0.999802	0.000008	1.029416	3.431386
	Al 308.215 {109}	10/28/2019 14:26:29	10/23/2019 16:00:03	Linear	1/Var	0.000059	0.000000	0.000000	1.000000	0.998877	0.000066	18.044426	60.148087
	Al 396.152 { 85}	10/28/2019 14:26:29	10/23/2019 16:14:39	Linear	1/Var	-0.000033	0.000001	0.000000	1.000000	0.999592	0.000069	9.085830	30.286101
	As 193.759 {474}	10/28/2019 14:26:29	10/23/2019 15:40:41	Linear	1/Conc	0.093858	0.143923	0.000000	1.000000	0.998156	0.038478	5.571486	18.571619
	As 197.262 {471}	10/28/2019 14:26:29	10/23/2019 15:47:08	Linear	1/Conc	-0.000003	0.000000	0.000000	1.000000	0.999473	0.000000	14.496270	48.320901
	Ba 233.527 {445}	10/28/2019 14:26:29	10/23/2019 15:40:41	Linear	1/Conc	-0.000000	0.000009	0.000000	1.000000	0.999511	0.000000	0.437458	1.458193
	Ba 455.403 { 74}	10/28/2019 14:26:29	10/23/2019 15:47:08	Curvili	1/Conc	0.000177	0.000053	-0.000000	1.000000	0.999884	0.000003	0.227707	0.759022
	Ba 493.409 { 68}	10/28/2019 14:26:29	10/23/2019 16:21:13	Linear	1/Conc	0.010603	0.000025	0.000000	1.000000	0.999940	0.000028	1.327846	4.426153
	Be 313.042 {108}	10/28/2019 14:26:29	10/23/2019 15:40:41	Linear	1/Conc	0.000008	0.000058	0.000000	1.000000	0.999848	0.000001	0.043198	0.143993
	Be 234.861 {144}	10/28/2019 14:26:29	10/23/2019 15:40:42	Linear	1/Var	1.355266	1.072019	0.000000	1.000000	0.999578	2.949794	0.687608	2.292027
	Ca 315.887 {107}	10/28/2019 14:26:29	10/23/2019 16:14:39	Linear	1/Var	0.000054	0.000000	0.000000	1.000000	0.999057	0.000031	15.831684	52.772279
	Ca 317.933 {106}	10/28/2019 14:26:29	10/23/2019 16:14:39	Full Fit	1/Conc	0.003910	0.000001	0.000000	0.990000	0.999865	0.000031	3.372631	11.242104
	Ca 393.366 { 86}	10/28/2019 14:26:29	10/23/2019 15:40:42	Linear	None	0.001485	0.000161	0.000000	1.000000	0.999990	0.000572	0.052524	0.175080
	Ca 396.847 { 85}	10/28/2019 14:26:29	10/23/2019 15:47:09	Linear	1/Var	0.000036	0.000020	0.000000	1.000000	0.997833	0.000493	0.367627	1.225423
	Cd 226.502 {449}	10/28/2019 14:26:29	10/23/2019 15:40:42	Linear	1/Conc	-0.000000	0.000026	0.000000	1.000000	0.999554	0.000001	0.229872	0.766241
	Cd 228.802 {447}	10/28/2019 14:26:29	10/23/2019 15:40:42	Linear	1/Conc	0.000015	0.000036	0.000000	1.000000	0.999448	0.000001	0.207527	0.691756
	Co 228.616 {447}	10/28/2019 14:26:29	10/23/2019 15:47:09	Linear	1/Conc	0.000003	0.000021	0.000000	1.000000	0.999837	0.000001	0.321978	1.073260
	Co 238.892 {141}	10/28/2019 14:26:29	10/23/2019 15:47:09	Linear	1/Conc	0.000005	0.000002	0.000000	1.000000	1.000000	0.000000	1.068046	3.560152
	Cr 205.560 {464}	10/28/2019 14:26:29	10/23/2019 15:53:33	Curvili	1/Conc	-0.000008	0.000013	-0.000000	1.000000	0.999985	0.000001	0.361403	1.204677
	Cr 267.716 {126}	10/28/2019 14:26:29	10/23/2019 15:47:09	Linear	1/Var	0.000003	0.000003	0.000000	1.000000	0.999576	0.000009	0.775885	2.586283
	Cu 223.008 {451}	10/28/2019 14:26:29	10/23/2019 15:53:33	Linear	1/Conc	0.000005	0.000003	0.000000	1.000000	0.999594	0.000004	1.702477	5.674925
	Cu 224.700 {450}	10/28/2019 14:26:29	10/23/2019 15:53:33	Linear	1/Conc	0.189363	1.522876	0.000000	1.000000	0.999253	3.280208	0.511630	1.705432
	Cu 324.754 {104}	10/28/2019 14:26:29	10/23/2019 15:53:34	Linear	1/Conc	0.001465	0.000002	0.000000	1.000000	0.998538	0.000005	2.809836	9.366121
	Cu 327.396 {103}	10/28/2019 14:26:29	10/23/2019 15:47:10	Linear	1/Conc	0.000030	0.000001	0.000000	1.000000	0.999685	0.000000	9.368032	31.226772
	Fe 234.349 {144}	10/28/2019 14:26:29	10/23/2019 16:00:04	Linear	1/Conc	41.258771	0.462365	0.000000	1.000000	0.999982	1.310841	2.091373	6.971243
	Fe 239.562 {140}	10/28/2019 14:26:29	10/23/2019 16:14:40	Linear	1/Var	0.000001	0.000000	0.000000	1.000000	0.998007	0.000050	10.522385	35.074618
	Fe 259.940 {129}	10/28/2019 14:26:29	10/23/2019 16:07:07	Full Fit	1/Conc	0.000002	0.000016	0.000000	0.740000	0.997228	0.000103	0.220888	0.736295
	Mg 202.582 {466}	10/28/2019 14:26:29	10/23/2019 16:14:40	Linear	1/Conc	0.000004	0.000002	0.000000	1.000000	0.997544	0.000198	3.474787	11.582622
	Mg 279.079 {121}	10/28/2019 14:26:29	10/23/2019 16:14:40	Linear	1/Var	1.131914	0.026099	0.000000	1.000000	0.999628	14.810857	25.139350	83.797834
	Mg 280.270 {120}	10/28/2019 14:26:29	10/23/2019 15:47:11	Linear	1/Conc	0.000111	0.000030	0.000000	1.000000	0.999985	0.000008	0.042060	0.140201
	Mn 257.610 {131}	10/28/2019 14:26:29	10/23/2019 15:47:11	Linear	1/Var	0.000003	0.000005	0.000000	1.000000	0.998256	0.000011	0.268589	0.895295
	Mn 259.373 {130}	10/28/2019 14:26:29	10/23/2019 15:53:34	Linear	None	-0.001412	0.000003	0.000000	1.000000	0.999912	0.002182	1.429911	4.766370
	Mo 202.030 {466}	10/28/2019 14:26:29	10/23/2019 15:40:45	Linear	None	0.000011	0.000003	0.000000	1.000000	0.999973	0.000010	1.224300	4.080999
	Mo 203.844 {465}	10/28/2019 14:26:29	10/23/2019 15:40:45	Linear	1/Var	0.000023	0.000006	0.000000	1.000000	0.999387	0.000019	0.933807	3.112690
	Mo 204.598 {464}	10/28/2019 14:26:29	10/23/2019 15:47:11	Linear	1/Var	-0.000003	0.000002	0.000000	1.000000	0.999590	0.000005	2.127907	7.093024
	Ni 221.647 {452}	10/28/2019 14:26:29	10/23/2019 15:47:11	Linear	1/Var	0.000004	0.000007	0.000000	1.000000	0.999915	0.000013	1.152149	3.840496
	Ni 231.604 {445}	10/28/2019 14:26:29	10/23/2019 15:47:11	Linear	1/Conc	-0.000013	0.000006	0.000000	1.000000	0.999879	0.000000	1.231324	4.104412
	Pb 216.999 {455}	10/28/2019 14:26:29	10/23/2019 15:53:34	Linear	1/Var	0.000001	0.000001	0.000000	1.000000	0.998610	0.000074	4.466472	14.888240
	Pb 220.353 {453}	10/28/2019 14:26:29	10/23/2019 15:40:45	Linear	1/Var	0.000010	0.000003	0.000000	1.000000	0.999991	0.000002	2.939009	9.796696
	Pb 220.353 {153}	10/28/2019 14:26:29	10/23/2019 15:53:34	Linear	1/Conc	0.000001	0.000000	0.000000	1.000000	0.999680	0.000001	4.894901	16.316337
	Sb 206.833 {463}	10/28/2019 14:26:29	10/23/2019 15:47:12	Linear	1/Var	-0.000002	0.000001	0.000000	1.000000	0.999914	0.000008	4.572563	15.241876
	Sb 217.581 {455}	10/28/2019 14:26:29	10/23/2019 15:47:12	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999852	0.000000	4.414548	14.715159

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Ag 338.289 {100}	OK.	1.000000	0.000000	1	0
	Al 167.079 {501}	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 197.262 {471}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 223.008 {451}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	Warnin	1.000000	0.000000	1	0
	Mg 202.582 {466}	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 203.844 {465}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Se 196.090 {472}	10/28/2019 14:26:29	10/23/2019 15:40:46	Linear	1/Conc	0.000002	0.000001	0.000000	1.000000	0.999129	0.000000	4.570619	15.235398
	Se 203.985 {465}	10/28/2019 14:26:29	10/23/2019 15:40:46	Linear	1/Conc	-0.000027	0.000001	0.000000	1.000000	0.998348	0.000000	10.900606	36.335352
	Se 206.279 {463}	10/28/2019 14:26:29	10/23/2019 15:47:12	Curvili	1/Conc	-0.000004	0.000000	-0.000000	1.000000	0.999971	0.000000	23.373834	77.912779
	Tl 190.856 {476}	10/28/2019 14:26:29	10/23/2019 15:47:12	Linear	1/Conc	0.000008	0.000002	0.000000	1.000000	0.999855	0.000001	2.332948	7.776495
	Tl 190.856 {477}	10/28/2019 14:26:29	10/23/2019 15:47:12	Linear	1/Conc	0.000002	0.000001	0.000000	1.000000	0.999836	0.000000	4.395979	14.653263
	V 290.882 {116}	10/28/2019 14:26:29	10/23/2019 15:47:12	Linear	1/Conc	0.000013	0.000001	0.000000	1.000000	0.999993	0.000000	3.436722	11.455741
	V 292.402 {115}	10/28/2019 14:26:29	10/23/2019 15:47:12	Linear	1/Conc	0.000003	0.000005	0.000000	1.000000	0.999954	0.000001	0.898085	2.993615
	Zn 206.200 {463}	10/28/2019 14:26:29	10/23/2019 15:53:34	Linear	1/Var	0.000016	0.000010	0.000000	1.000000	0.999834	0.000011	0.571119	1.903729
	Zn 213.856 {457}	10/28/2019 14:26:29	10/23/2019 15:40:47	Linear	1/Conc	0.000024	0.000024	0.000000	1.000000	0.999816	0.000002	0.242893	0.809643
	Y 224.306 {450}*	10/28/2019 14:26:29	10/23/2019 14:51:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 324.228 {104}*	10/28/2019 14:26:29	10/23/2019 14:51:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	10/28/2019 14:26:29	10/23/2019 14:51:14	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	10/28/2019 14:26:29	10/23/2019 15:47:13	Linear	None	0.004105	0.000005	0.000000	1.000000	1.000000	0.000022	6.256066	20.853555
	Na 589.592 { 57}	10/28/2019 14:26:29	10/23/2019 16:14:40	Linear	1/Var	0.000049	0.000001	0.000000	1.000000	0.998889	0.000060	25.128504	83.761681
	Si 251.611 {134}	10/28/2019 14:26:29	10/23/2019 16:14:40	Linear	1/Var	2.892276	0.140210	0.000000	1.000000	0.997462	12.320226	7.797696	25.992320
	Ti 323.452 {104}	10/28/2019 14:26:29	10/23/2019 15:47:13	Linear	1/Conc	0.000273	0.000003	0.000000	1.000000	0.999836	0.000000	2.511358	8.371193
	Ti 334.941 {101}	10/28/2019 14:26:29	10/23/2019 15:47:13	Linear	1/Conc	-0.000001	0.000002	0.000000	1.000000	0.999902	0.000000	2.797856	9.326187
	Sr 407.771 { 83}	10/28/2019 14:26:29	10/23/2019 15:47:13	Linear	1/Conc	0.000091	0.000089	0.000000	1.000000	0.999968	0.000003	0.120337	0.401123
	Sr 421.552 { 80}	10/28/2019 14:26:29	10/23/2019 15:47:14	Linear	1/Conc	0.000016	0.000080	0.000000	1.000000	0.999984	0.000002	0.135456	0.451520
	Sn 189.989 {477}	10/28/2019 14:26:29	10/23/2019 15:47:14	Linear	1/Conc	0.000000	0.000003	0.000000	1.000000	0.999941	0.000000	1.573514	5.245047
	B 249.678 {135}	10/28/2019 14:26:29	10/23/2019 15:47:14	Linear	1/Conc	0.000006	0.000002	0.000000	1.000000	0.999956	0.000000	1.399181	4.663935
	B 249.773 {135}	10/28/2019 14:26:29	10/23/2019 15:47:14	Curvili	1/Var	0.000010	0.000004	0.000000	1.000000	0.999989	0.000002	0.630501	2.101669
	Li 670.784 { 50}	10/28/2019 14:26:29	10/23/2019 15:47:14	Linear	1/Conc	-0.000026	0.000034	0.000000	1.000000	0.999989	0.000002	0.871705	2.905684
	K 766.490 { 44}	10/28/2019 14:26:29	10/23/2019 16:14:40	Linear	1/Var	-0.000030	0.000001	0.000000	1.000000	0.999779	0.000079	23.830204	79.434014
	P 213.618 {457}	10/28/2019 14:26:29	10/23/2019 15:47:14	Linear	1/Conc	-0.000001	0.000000	0.000000	1.000000	0.999924	0.000000	6.770312	22.567708
	S 182.034 {485}	10/28/2019 14:26:29	10/23/2019 16:14:40	Curvili	1/Conc	0.000001	0.000000	0.000000	1.000000	1.000000	0.000000	9.954942	33.183142
	Hg 184.950 {482}	10/28/2019 14:26:29	10/23/2019 15:40:49	Linear	1/Conc	0.000017	0.000001	0.000000	1.000000	1.000000	0.000000	2.940960	9.803202
	Ce 404.076 { 83}	10/28/2019 14:26:29	10/23/2019 15:40:49	Linear	1/Conc	0.000038	0.000001	0.000000	1.000000	1.000000	0.000000	16.427212	54.757372

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 203.985 {465}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {457}	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	Warnin	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 323.452 {104}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sr 421.552 { 80}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	Warnin	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

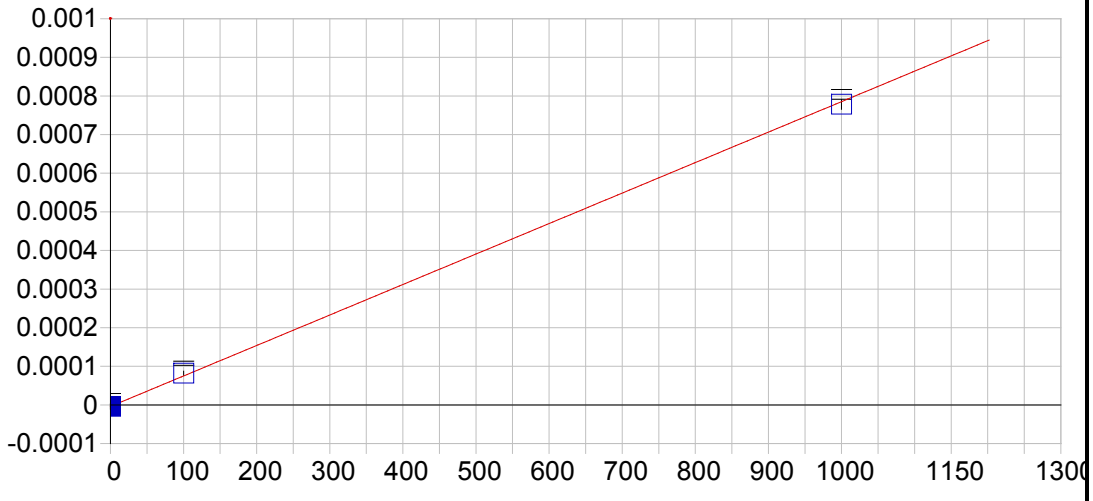


Ag 328.068 {103}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	12.187419	Re-Slope:	1.000000
A1 (Gain):	2.814250	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999483	Status:	OK.
Std Error of Est:	0.123094		
Predicted MDL:	0.922110		
Predicted MQL:	3.073702		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00086	-.001	.000	12.185	1.99	1
CalStd5=10	10.000	11.458	1.46	14.6	44.430	3.03	1
CalStd8=100	100.00	106.55	6.55	6.55	312.01	4.05	1
CalStd3=1	1.0000	1.6568	.657	65.7	16.850	1.63	1
Ag Ba 1000,	1000.0	991.33	-8.67	-.867	2802.1	8.34	1

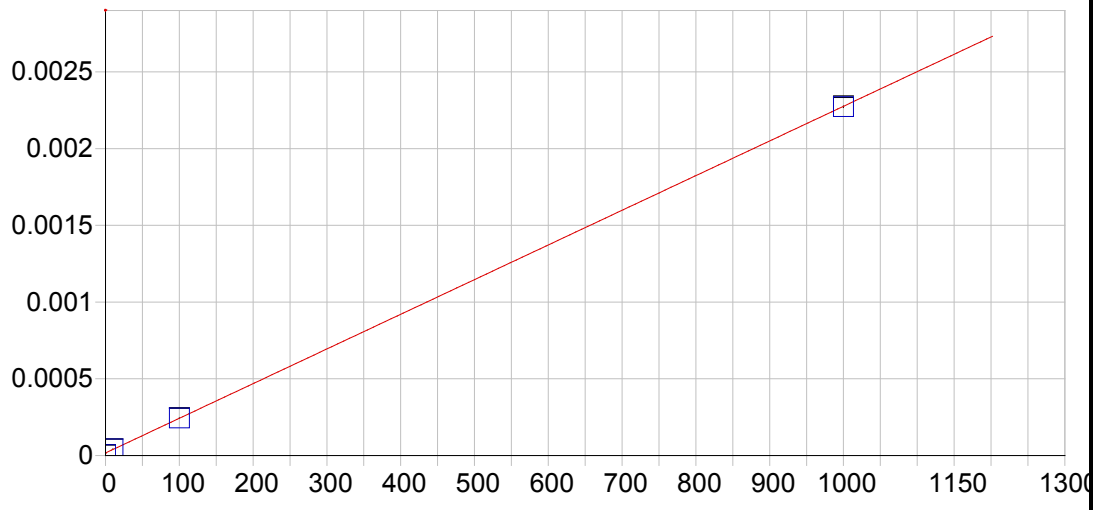


Ag 338.289 {100}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999596	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.697481		
Predicted MQL:	22.324936		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00809	-.008	.000	-.00000	.000	1
CalStd8=100	100.00	108.99	8.99	8.99	.00008	.000	1
Ag Ba 1000,	1000.0	991.01	-8.99	-.899	.00078	.000	1

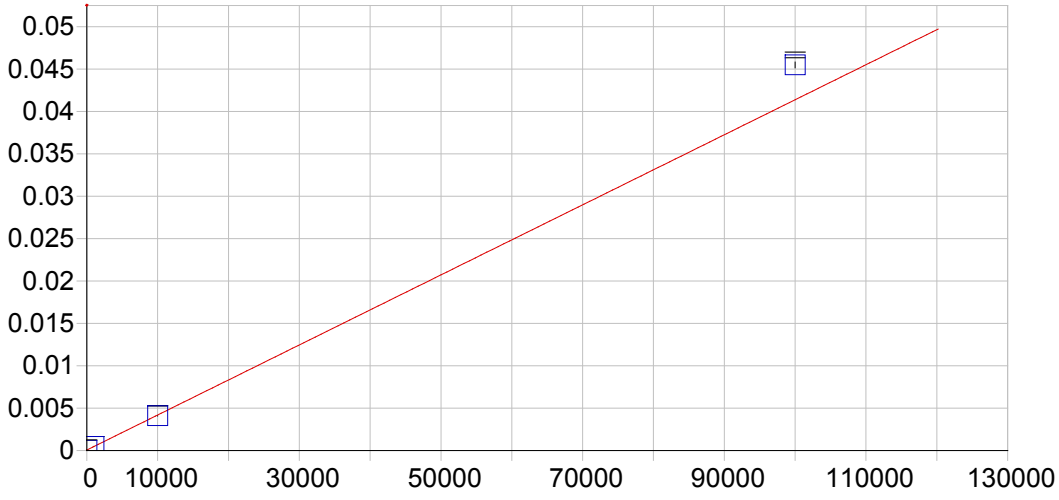


Al 167.079 {501}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999802	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	1.029416		
Predicted MQL:	3.431386		

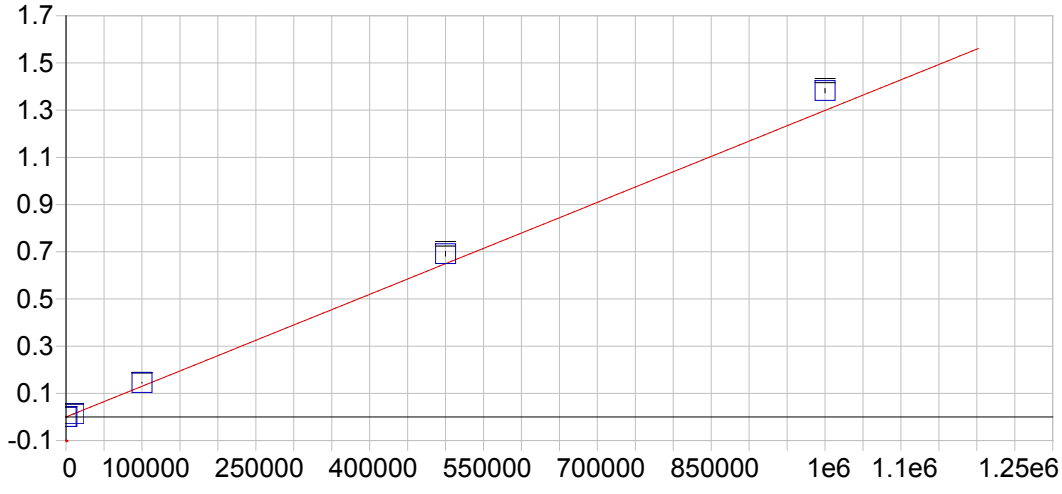
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.2672	-5.27	.000	.00000	.000	1
CalStd9=100	1000.0	998.85	-1.15	-.115	.00227	.000	1
CalStd5=10	10.000	11.490	1.49	14.9	.00004	.000	1
CalStd8=100	100.00	100.67	.671	.671	.00024	.000	1



Al 308.215 {109}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000059		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.998877		Status:	OK.	
Std Error of Est:	0.000066				
Predicted MDL:	18.044426				
Predicted MQL:	60.148087				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	10.615	10.6	.000	.00006	.000	1
CalStd10=10	10000.	9785.0	-215.	-2.15	.00410	.000	1
CalStd9=100	1000.0	1009.4	9.36	.936	.00048	.000	1
CalStd13=10	100000.	109950.	9950.	9.95	.04549	.000	1

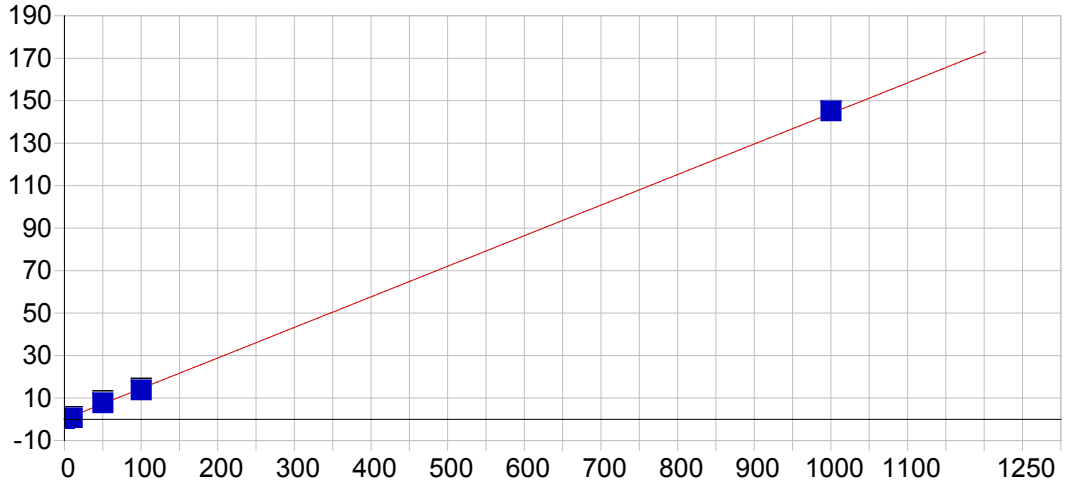


Al 396.152 { 85}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000033	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999592	Status:	OK.
Std Error of Est:	0.000069		
Predicted MDL:	9.085830		
Predicted MQL:	30.286101		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.2900	-5.29	.000	-.00004	.000	1
CalStd14=50	500000.	532160.	32200.	6.43	.69110	.009	1
CalStd13=10	100000.	111640.	11600.	11.6	.14495	.001	1
CalStd10=10	10000.	9901.9	-98.1	-.981	.01283	.000	1
CalStd9=100	1000.0	1004.4	4.37	.437	.00127	.000	1
CalibStd15=	1000000.	1064500.	64500.	6.45	1.3825	.009	1

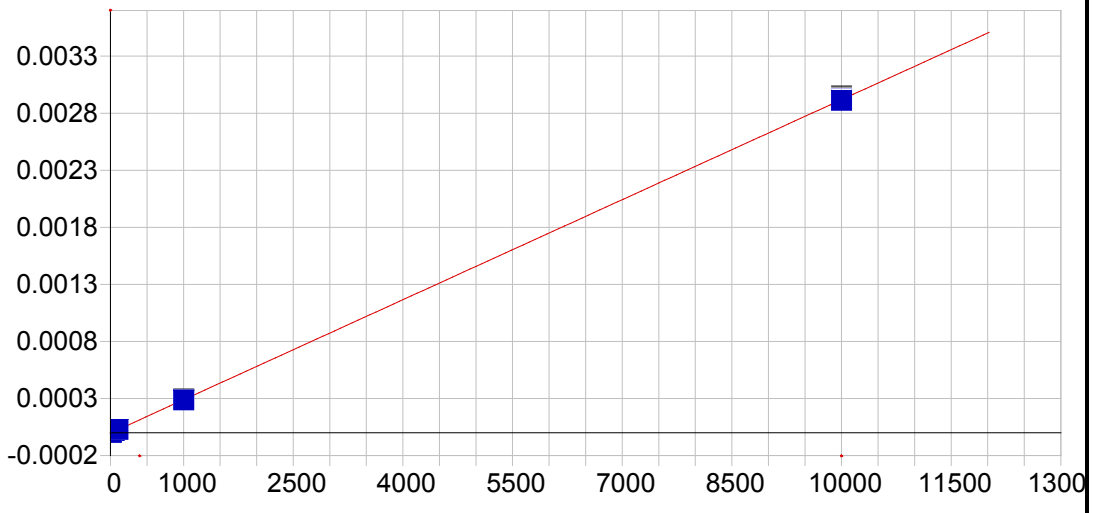


As 193.759 {474}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.093858	Re-Slope:	1.000000
A1 (Gain):	0.143923	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998156	Status:	OK.
Std Error of Est:	0.038478		
Predicted MDL:	5.571486		
Predicted MQL:	18.571619		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00603	.006	.000	.09473	.510	1
CalStd9=100	1000.0	1008.0	8.04	.804	145.27	.185	1
CalStd7=50	50.000	52.816	2.82	5.63	7.6997	.960	1
CalStd5=10	10.000	3.7934	-6.21	-62.1	.64185	.670	1
CalStd8=100	100.00	95.360	-4.64	-4.64	13.828	.786	1

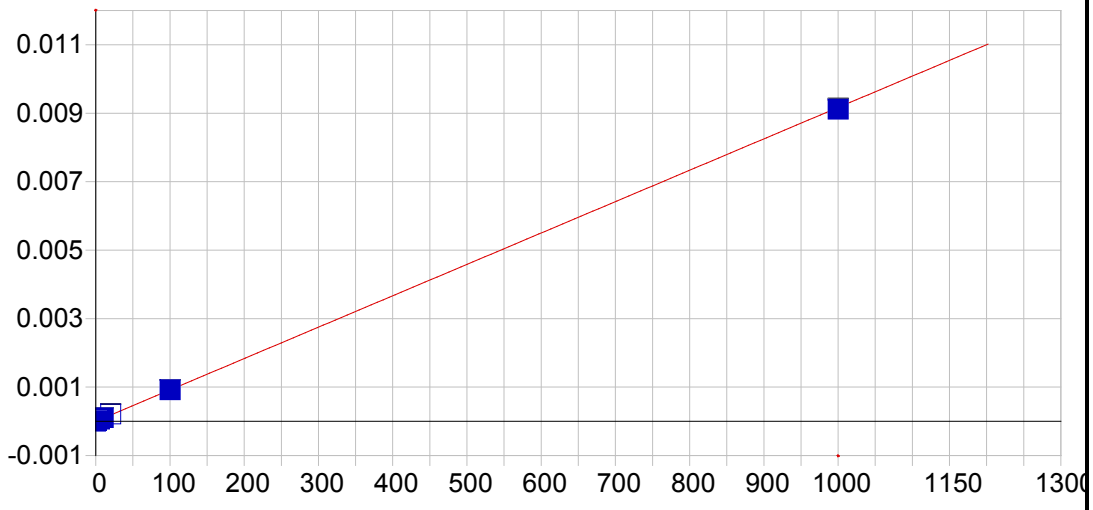


As 197.262 {471}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999473	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	14.496270		
Predicted MQL:	48.320901		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01052	-.011	.000	-.00000	.000	1
CalStd9=100	1000.0	991.31	-8.69	-.869	.00029	.000	1
CalStd7=50	50.000	69.569	19.6	39.1	.00002	.000	1
CalStd5=10	10.000	15.951	5.95	59.5	.00000	.000	1
CalStd8=100	100.00	107.64	7.64	7.64	.00003	.000	1
CalStd10=10	10000.	9975.7	-24.3	-.243	.00293	.000	1

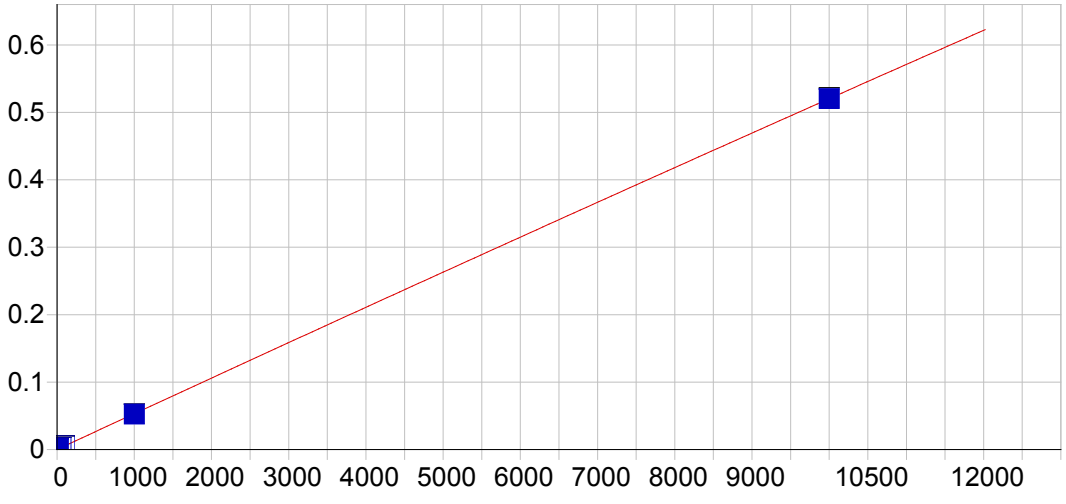


Ba 233.527 {445}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999511	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.437458		
Predicted MQL:	1.458193		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00084	-.001	.000	-.00000	.000	1
CalStd5=10	10.000	10.828	.828	8.28	.00010	.000	1
CalStd6=20	20.000	22.961	2.96	14.8	.00021	.000	1
CalStd8=100	100.00	100.02	.019	.019	.00092	.000	1
CalStd4=5	5.0000	6.5485	1.55	31.0	.00006	.000	1
CalStd9=100	1000.0	994.34	-5.66	-.566	.00912	.000	1
CalStd3=1	1.0000	1.3049	.305	30.5	.00001	.000	1

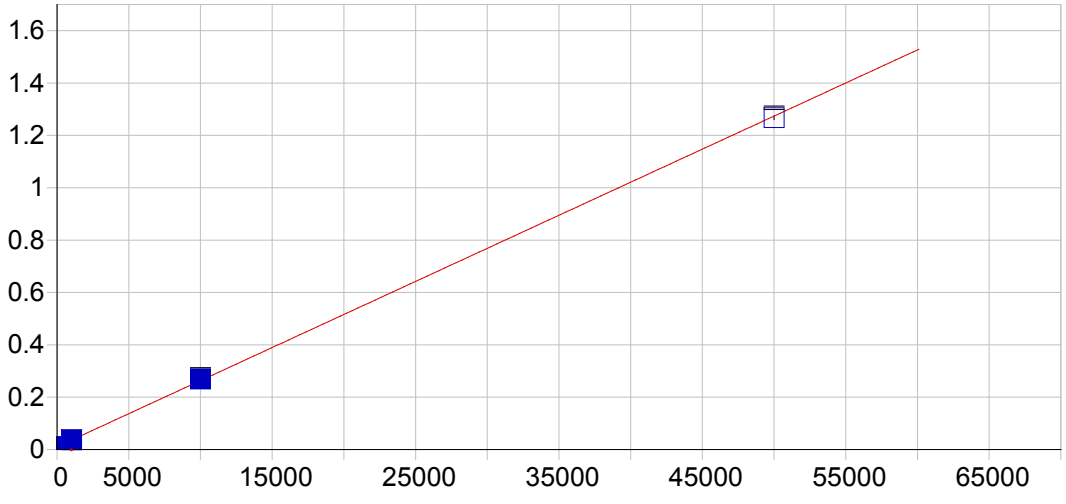


Ba 455.403 { 74}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000177	Re-Slope:	1.000000
A1 (Gain):	0.000053	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999884	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.227707		
Predicted MQL:	0.759022		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00117	-.001	.000	.00018	.000	1
CalStd7=50	50.000	56.924	6.92	13.8	.00320	.000	1
CalStd5=10	10.000	11.042	1.04	10.4	.00076	.000	1
CalStd6=20	20.000	22.898	2.90	14.5	.00139	.000	1
CalStd8=100	100.00	98.125	-1.87	-1.87	.00539	.000	1
CalStd4=5	5.0000	6.7255	1.73	34.5	.00053	.000	1
CalStd9=100	1000.0	987.55	-12.5	-1.25	.05255	.000	1
CalStd3=1	1.0000	1.4690	.469	46.9	.00026	.000	1
CalStd10=10	10000.	10001.	1.27	.013	.52045	.001	1

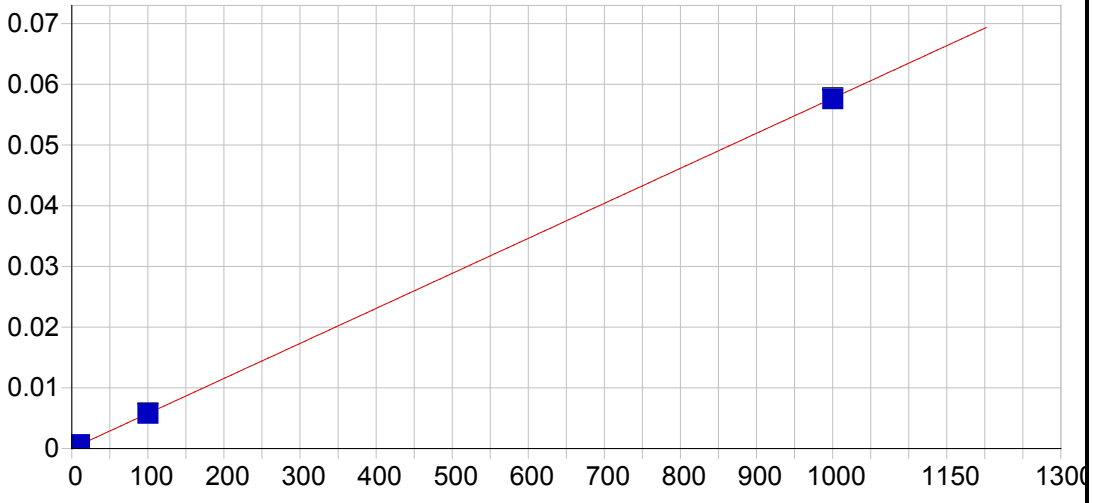


Ba 493.409 { 68}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.010603	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	1.327846		
Predicted MQL:	4.426153		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00666	-.007	.000	.01060	.000	1
CalStd9=100	1000.0	1028.5	28.5	2.85	.03659	.000	1
CalStd8=100	100.00	102.05	2.05	2.05	.01318	.000	1
CalStd10=10	10000.	10228.	228.	2.28	.26904	.005	1
Ag Ba 1000,	50000.	49742.	-258.	-.517	1.2673	.007	1

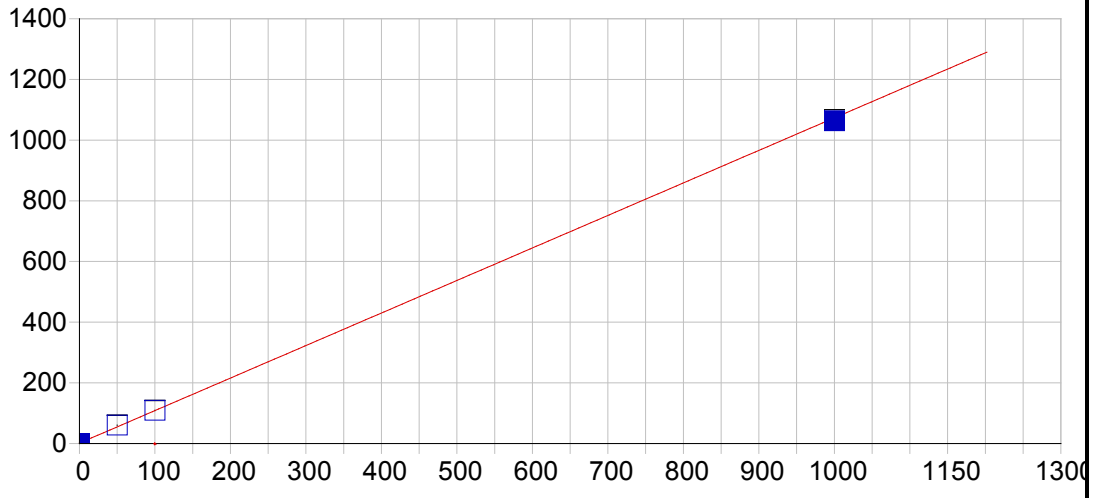


Be 313.042 {108}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000058	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999848	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.043198		
Predicted MQL:	0.143993		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00030	-.000	.000	.00001	.000	1
CalStd5=10	10.000	10.901	.901	9.01	.00064	.000	1
CalStd8=100	100.00	99.979	-.021	-.021	.00578	.000	1
CalStd2=0.5	.50000	.56337	.063	12.7	.00004	.000	1
CalStd4=5	5.0000	6.0387	1.04	20.8	.00036	.000	1
CalStd9=100	1000.0	997.85	-2.15	-.215	.05759	.000	1
CalStd3=1	1.0000	1.1709	.171	17.1	.00008	.000	1

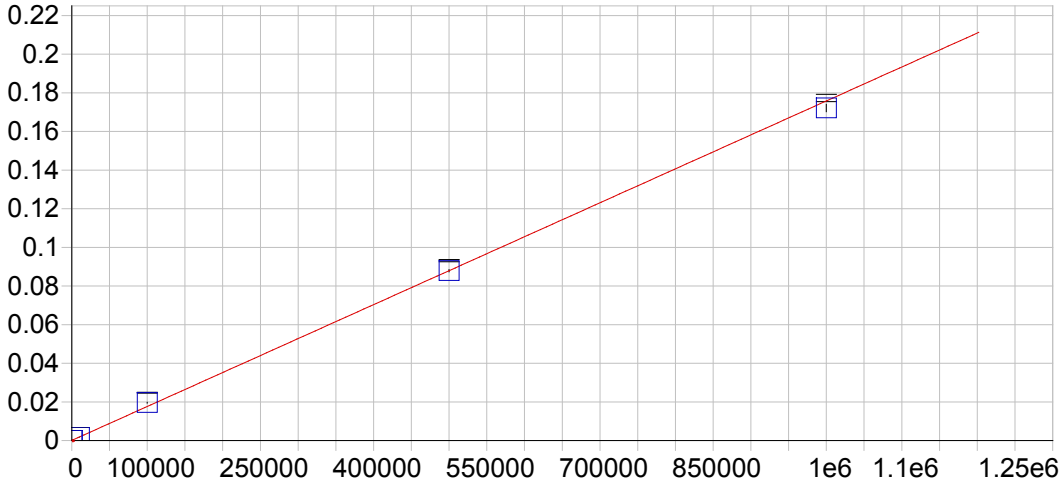


Be 234.861 {144}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	1.355266	Re-Slope:	1.000000
A1 (Gain):	1.072019	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999578	Status:	OK.
Std Error of Est:	2.949794		
Predicted MDL:	0.687608		
Predicted MQL:	2.292027		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.77491	-.775	.000	.52455	.276	1
CalStd9=100	1000.0	990.46	-9.54	-.954	1063.3	4.07	1
CalStd8=100	100.00	100.46	.459	.459	109.05	.781	1
CalStd7=50	50.000	55.001	5.00	10.0	60.318	.707	1

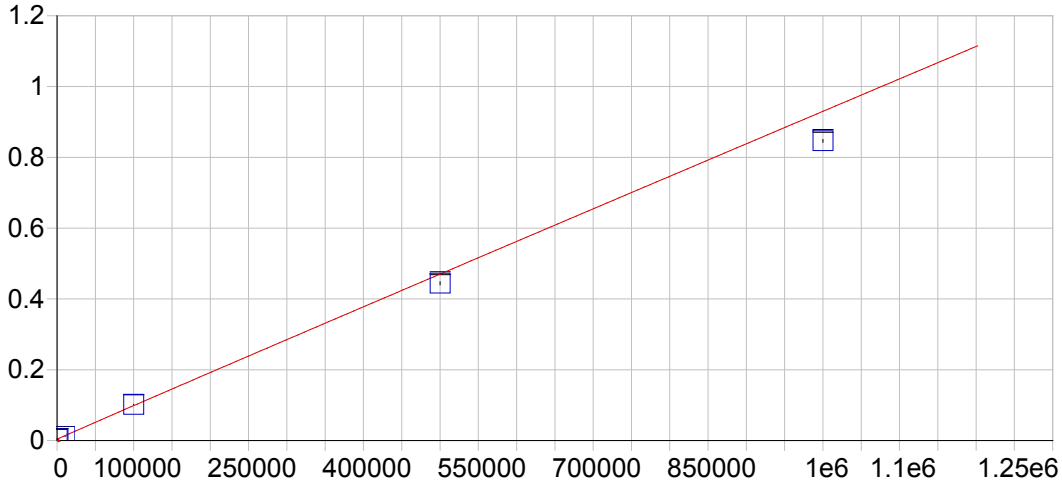


Ca 315.887 {107}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000054	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999057	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	15.831684		
Predicted MQL:	52.772279		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	19.908	19.9	.000	.00006	.000	1
CalStd10=10	10000.	9773.9	-226.	-2.26	.00177	.000	1
CalStd13=10	100000.	111250.	11200.	11.2	.01960	.000	1
CalStd14=50	500000.	499880.	-120.	-.024	.08790	.001	1
CalStd9=100	1000.0	967.58	-32.4	-3.24	.00022	.000	1
CalibStd15=	1000000.	979120.	-20900.	-2.09	.17212	.002	1

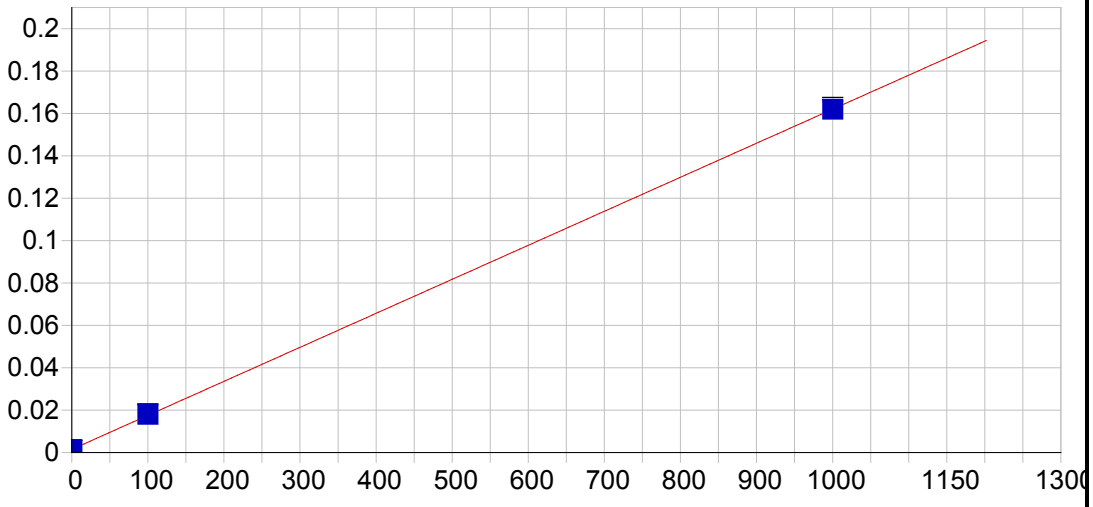


Ca 317.933 {106}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Full Fit	Weighting:	1/Conc

A0 (Offset):	0.003910	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	0.990000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000031		
Predicted MDL:	3.372631		
Predicted MQL:	11.242104		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.19496	.195	.000	.00391	.000	1
CalStd10=10	10000.	8828.4	-1170.	-11.7	.01248	.000	1
CalStd13=10	100000.	103060.	3060.	3.06	.10154	.001	1
CalStd14=50	500000.	471920.	-28100.	-5.62	.44424	.004	1
CalStd9=100	1000.0	867.78	-132.	-13.2	.00477	.000	1
CalibStd15=	1000000.	909000.	-91000.	-9.10	.84653	.004	1

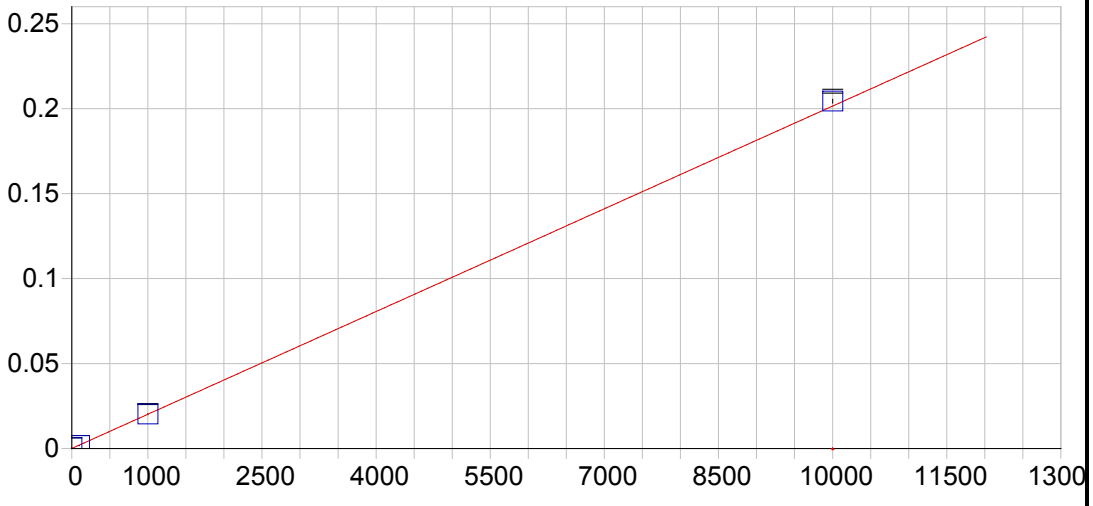


Ca 393.366 { 86}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.001485	Re-Slope:	1.000000
A1 (Gain):	0.000161	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000572		
Predicted MDL:	0.052524		
Predicted MQL:	0.175080		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.3755	-2.38	.000	.00110	.000	1
CalStd9=100	1000.0	999.74	-.264	-.026	.16196	.001	1
CalStd8=100	100.00	102.64	2.64	2.64	.01796	.000	1

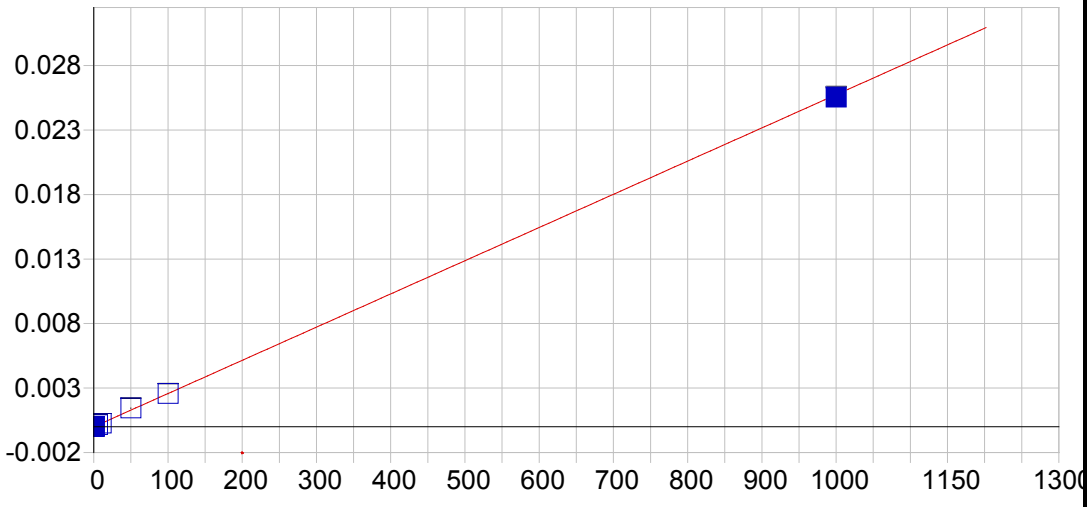


Ca 396.847 { 85}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000036	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997833	Status:	OK.
Std Error of Est:	0.000493		
Predicted MDL:	0.367627		
Predicted MQL:	1.225423		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	17.918	17.9	.000	.00040	.000	1
CalStd10=10	10000.	10142.	142.	1.42	.20439	.001	1
CalStd8=100	100.00	83.719	-16.3	-16.3	.00172	.000	1
CalStd9=100	1000.0	1003.7	3.68	.368	.02026	.000	1

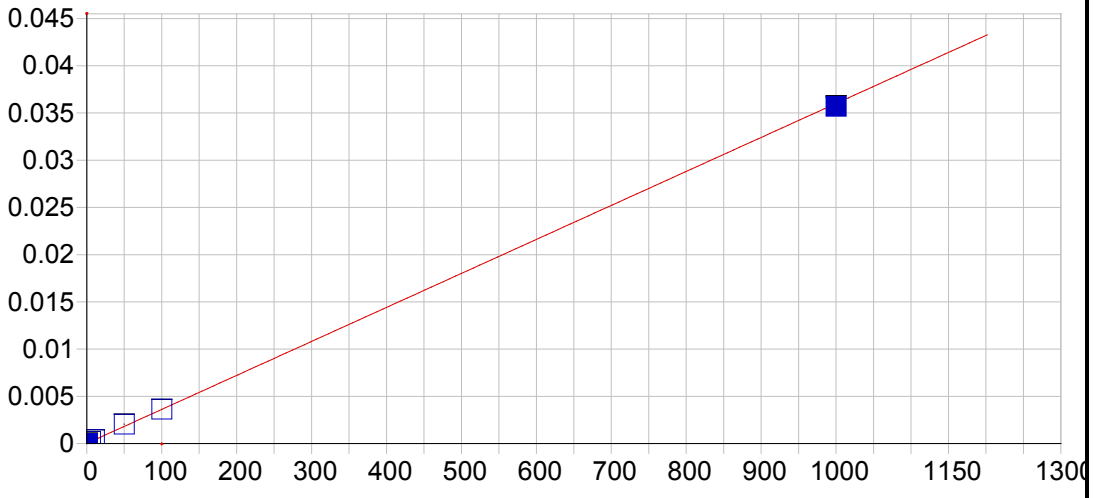


Cd 226.502 {449}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000026	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999554	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.229872		
Predicted MQL:	0.766241		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00007	-.000	.000	-.00000	.000	1
CalStd7=50	50.000	56.120	6.12	12.2	.00144	.000	1
CalStd3=1	1.0000	1.0025	.002	.249	.00003	.000	1
CalStd2=0.5	.50000	.38770	-.112	-22.5	.00001	.000	1
CalStd4=5	5.0000	5.9320	.932	18.6	.00015	.000	1
CalStd8=100	100.00	99.965	-.035	-.035	.00257	.000	1
CalStd5=10	10.000	10.614	.614	6.14	.00027	.000	1
CalStd9=100	1000.0	992.48	-7.52	-.752	.02555	.000	1

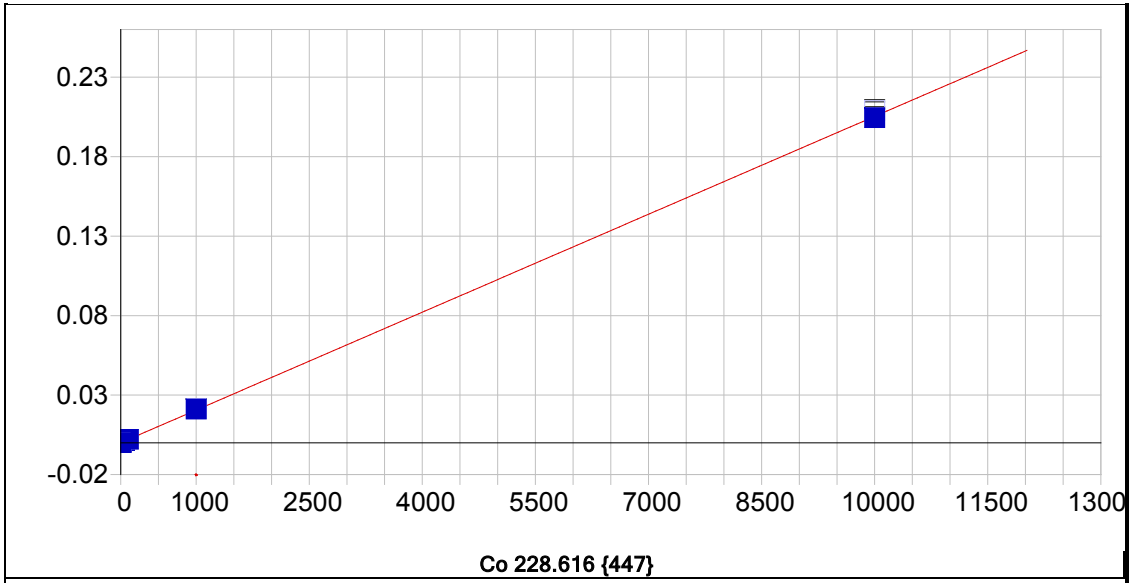


Cd 228.802 {447}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000036	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999448	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.207527		
Predicted MQL:	0.691756		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00048	-.000	.000	.00001	.000	1
CalStd7=50	50.000	56.480	6.48	13.0	.00205	.000	1
CalStd3=1	1.0000	1.1807	.181	18.1	.00006	.000	1
CalStd2=0.5	.50000	.68749	.187	37.5	.00004	.000	1
CalStd4=5	5.0000	6.0237	1.02	20.5	.00023	.000	1
CalStd8=100	100.00	100.23	.233	.233	.00362	.000	1
CalStd5=10	10.000	10.755	.755	7.55	.00040	.000	1
CalStd9=100	1000.0	991.14	-8.86	-.886	.03569	.000	1

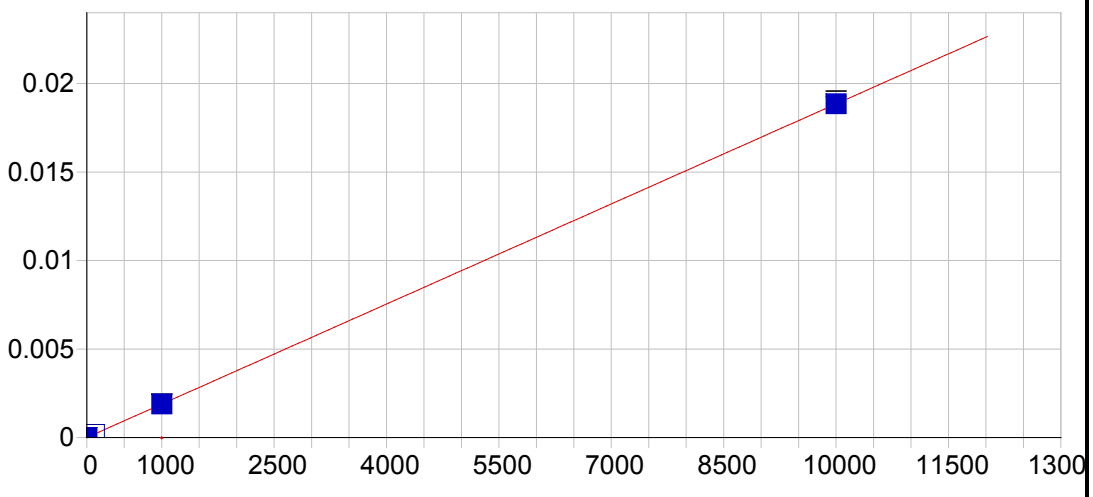


Co 228.616 {447}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000021	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999837	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.321978		
Predicted MQL:	1.073260		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00090	-.001	.000	.00000	.000	1
CalStd7=50	50.000	60.010	10.0	20.0	.00124	.000	1
CalStd5=10	10.000	11.593	1.59	15.9	.00024	.000	1
CalStd4=5	5.0000	6.5928	1.59	31.9	.00014	.000	1
CalStd8=100	100.00	103.13	3.13	3.13	.00216	.000	1
CalStd9=100	1000.0	1026.9	26.9	2.69	.02151	.000	1
CalStd3=1	1.0000	1.1701	.170	17.0	.00003	.000	1
CalStd10=10	10000.	9956.8	-43.2	-.432	.20884	.001	1

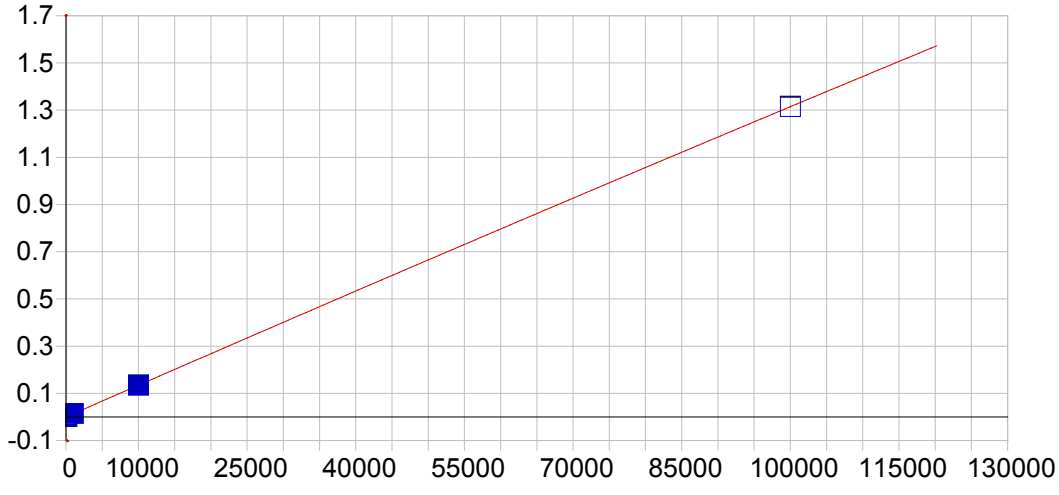


Co 238.892 {141}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.068046		
Predicted MQL:	3.560152		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00020	-.000	.000	.00000	.000	1
CalStd9=100	1000.0	1002.5	2.51	.251	.00189	.000	1
CalStd10=10	10000.	9997.5	-2.48	-.025	.01885	.000	1
CalStd8=100	100.00	99.972	-.028	-.028	.00019	.000	1

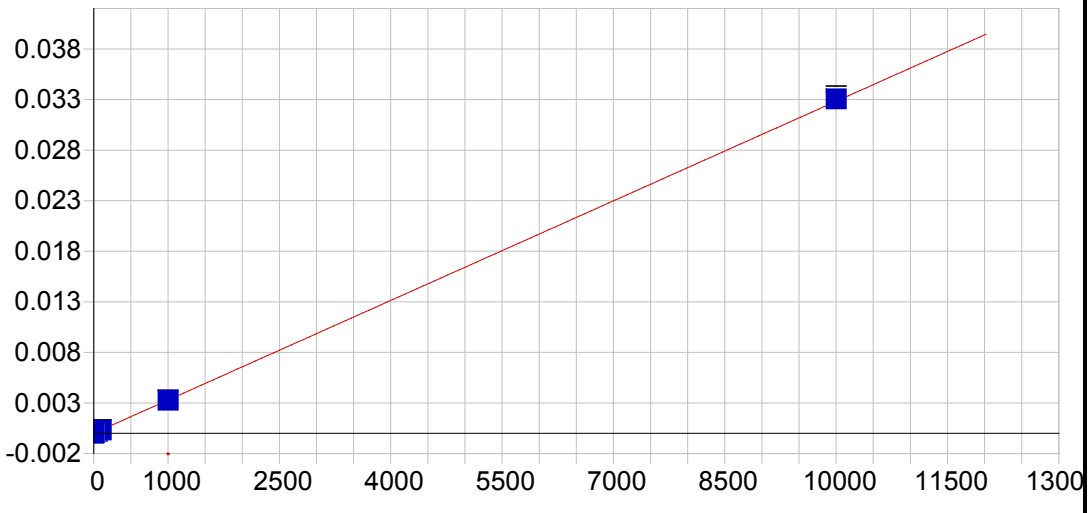


Cr 205.560 {464}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.361403		
Predicted MQL:	1.204677		

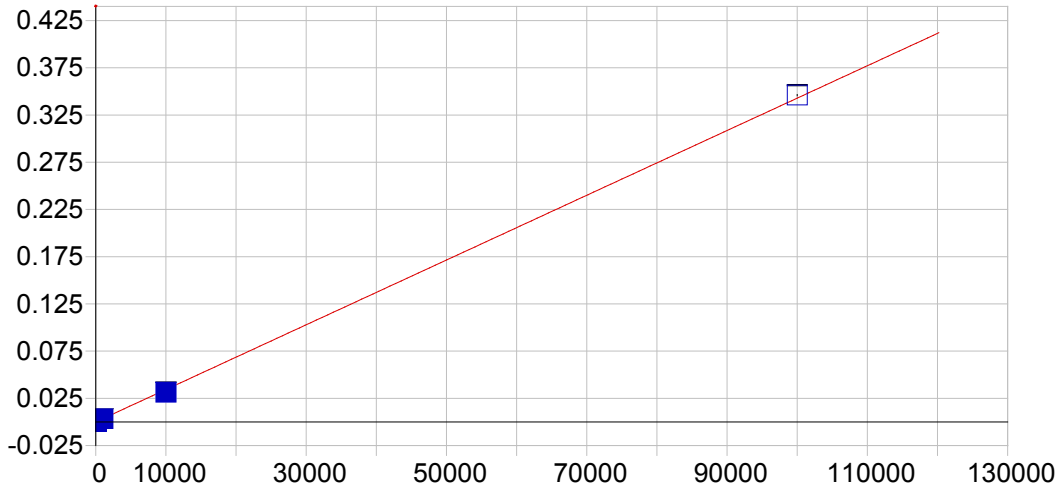
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00112	-.001	.000	-.00001	.000	1
CalStd5=10	10.000	11.494	1.49	14.9	.00015	.000	1
CalStd7=50	50.000	58.096	8.10	16.2	.00077	.000	1
CalStd9=100	1000.0	1023.3	23.3	2.33	.01377	.000	1
CalStd8=100	100.00	102.31	2.31	2.31	.00137	.000	1
CalStd4=5	5.0000	6.7952	1.80	35.9	.00008	.000	1
CalStd3=1	1.0000	1.4093	.409	40.9	.00001	.000	1
CalStd10=10	10000.	9958.5	-41.5	-.415	.13376	.000	1
CalStd12=10	100000.	100000.	4.08	.004	1.3147	.002	1



Cr 267.716 {126}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000003		Re-Slope:	1.000000	
A1 (Gain):	0.000003		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999576		Status:	OK.	
Std Error of Est:	0.000009				
Predicted MDL:	0.775885				
Predicted MQL:	2.586283				

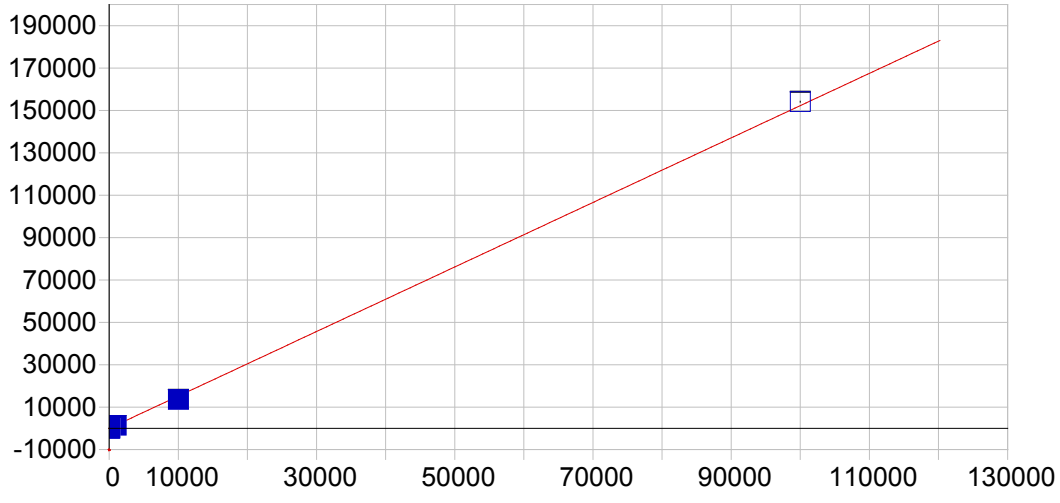
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.0824	-2.08	.000	-.00000	.000	1
CalStd5=10	10.000	8.6998	-1.30	-13.0	.00003	.000	1
CalStd7=50	50.000	55.081	5.08	10.2	.00018	.000	1
CalStd9=100	1000.0	993.88	-6.12	-.612	.00327	.000	1
CalStd8=100	100.00	97.106	-2.89	-2.89	.00032	.000	1
CalStd4=5	5.0000	4.7346	-.265	-5.31	.00002	.000	1
CalStd10=10	10000.	10068.	68.3	.683	.03306	.000	1



Cu 223.008 {451}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000005		Re-Slope:	1.000000	
A1 (Gain):	0.000003		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999594		Status:	OK.	
Std Error of Est:	0.000004				
Predicted MDL:	1.702477				
Predicted MQL:	5.674925				

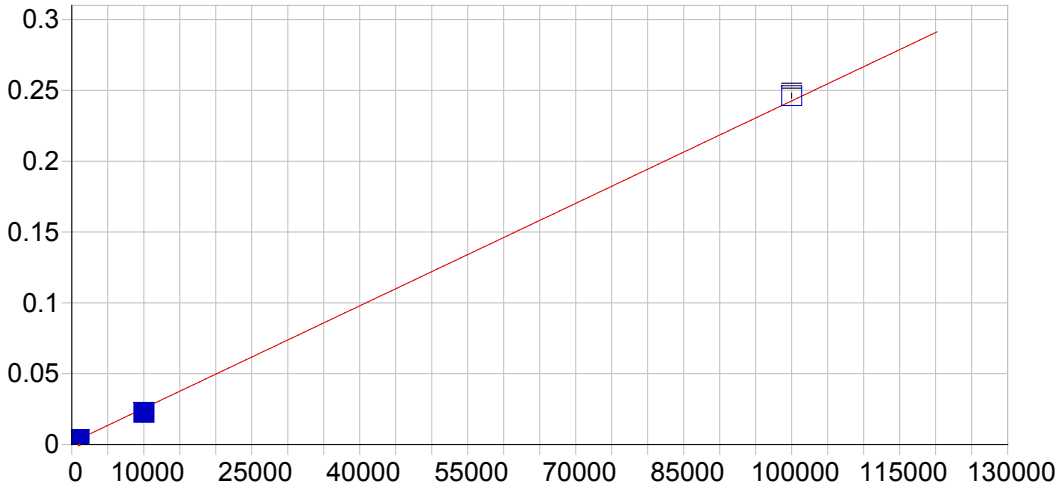
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00239	-.002	.000	.00001	.000	1
CalStd9=100	1000.0	943.88	-56.1	-5.61	.00324	.000	1
CalStd7=50	50.000	55.522	5.52	11.0	.00020	.000	1
CalStd8=100	100.00	96.300	-3.70	-3.70	.00034	.000	1
CalStd6=20	20.000	22.698	2.70	13.5	.00008	.000	1
CalStd12=10	100000.	100930.	928.	.928	.34605	.001	1
CalStd10=10	10000.	9121.4	-879.	-8.79	.03128	.000	1
CalStd5=10	10.000	11.657	1.66	16.6	.00005	.000	1



Cu 224.700 {450}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.189363		Re-Slope:	1.000000	
A1 (Gain):	1.522876		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999253		Status:	OK.	
Std Error of Est:	3.280208				
Predicted MDL:	0.511630				
Predicted MQL:	1.705432				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03416	.034	.000	.24138	.380	1
CalStd9=100	1000.0	922.59	-77.4	-7.74	1394.5	1.99	1
CalStd7=50	50.000	26.972	-23.0	-46.1	41.265	.507	1
CalStd8=100	100.00	65.613	-34.4	-34.4	99.037	4.28	1
CalStd6=20	20.000	5.3592	-14.6	-73.2	8.3507	.768	1
CalStd12=10	100000.	101200.	1200.	1.20	154120.	217.	1
CalStd10=10	10000.	8940.1	-1060.	-10.6	13508.	54.2	1

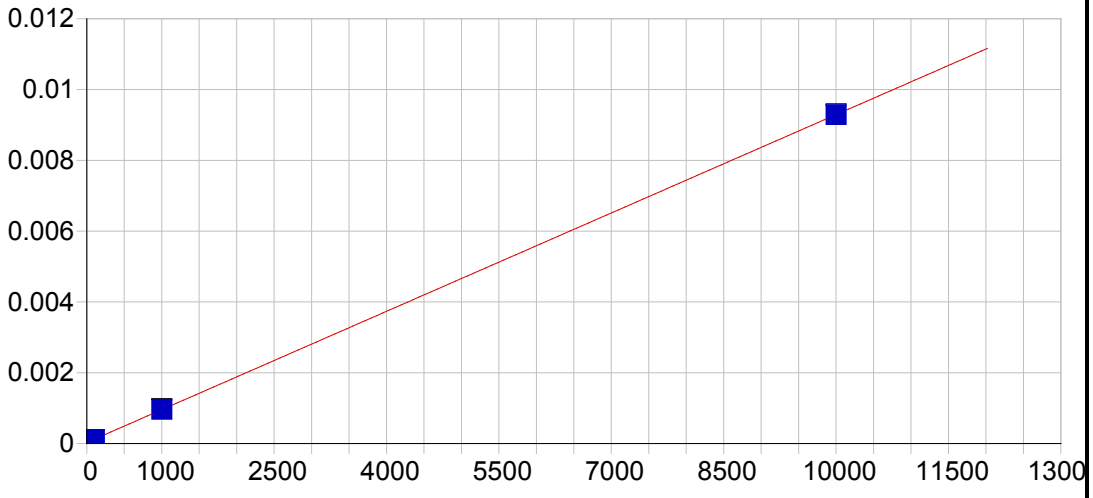


Cu 324.754 {104}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001465	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998538	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	2.809836		
Predicted MQL:	9.366121		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04451	.045	.000	.00146	.000	1
CalStd9=100	1000.0	847.80	-152.	-15.2	.00351	.000	1
CalStd8=100	100.00	25.809	-74.2	-74.2	.00153	.000	1
CalStd10=10	10000.	8764.6	-1240.	-12.4	.02259	.000	1
CalStd12=10	100000.	101520.	1520.	1.52	.24627	.002	1
CalStd5=10	10.000	-11.073	-21.1	-211.	.00144	.000	1
CalStd6=20	20.000	-2.1772	-22.2	-111.	.00146	.000	1
CalStd7=50	50.000	38.404	-11.6	-23.2	.00156	.000	1

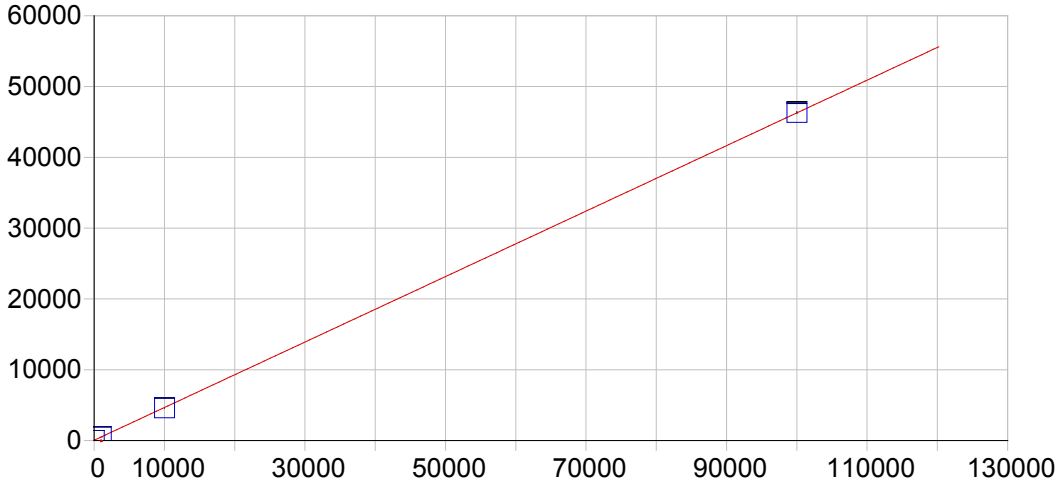


Cu 327.396 {103}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999685	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	9.368032		
Predicted MQL:	31.226772		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00562	.006	.000	.00003	.000	1
CalStd6=20	20.000	23.666	3.67	18.3	.00005	.000	1
CalStd7=50	50.000	51.625	1.63	3.25	.00008	.000	1
CalStd8=100	100.00	101.27	1.27	1.27	.00012	.000	1
CalStd9=100	1000.0	1005.5	5.47	.547	.00096	.000	1
CalStd10=10	10000.	9996.6	-3.44	-.034	.00929	.000	1
CalStd4=5	5.0000	.01846	-4.98	-99.6	.00003	.000	1
CalStd5=10	10.000	6.3925	-3.61	-36.1	.00004	.000	1

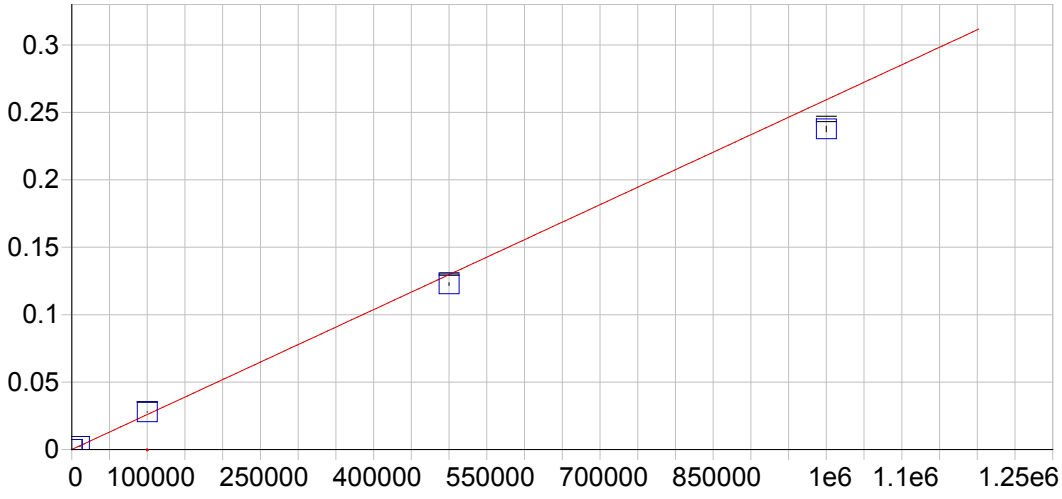


Fe 234.349 {144}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	41.258771	Re-Slope:	1.000000
A1 (Gain):	0.462365	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999982	Status:	OK.
Std Error of Est:	1.310841		
Predicted MDL:	2.091373		
Predicted MQL:	6.971243		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03219	-.032	.000	41.244	1.03	1
CalStd10=10	10000.	9862.0	-138.	-1.38	4601.1	26.7	1
CalStd13=10	100000.	100090.	93.0	.093	46321.	143.	1
CalStd9=100	1000.0	1045.1	45.1	4.51	524.46	1.51	1

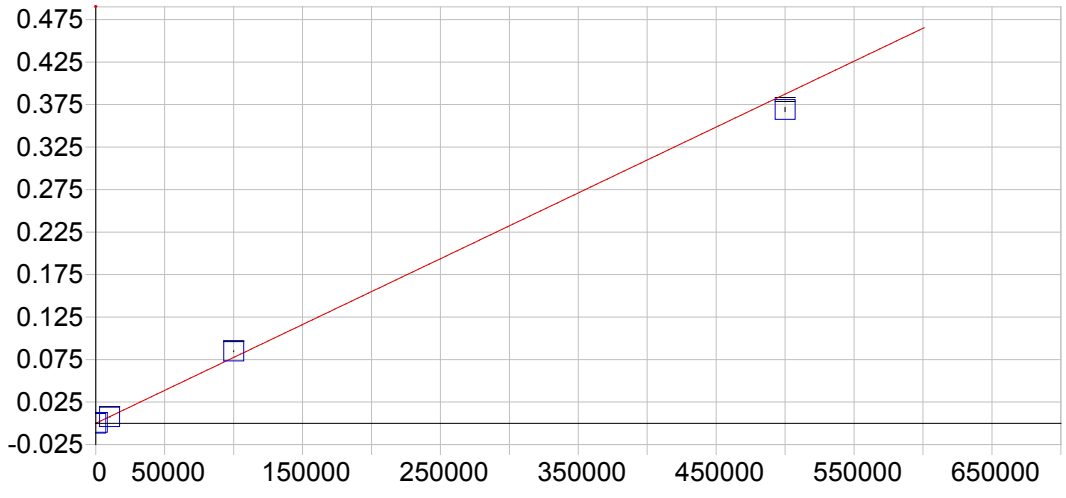


Fe 239.562 {140}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998007	Status:	OK.
Std Error of Est:	0.000050		
Predicted MDL:	10.522385		
Predicted MQL:	35.074618		

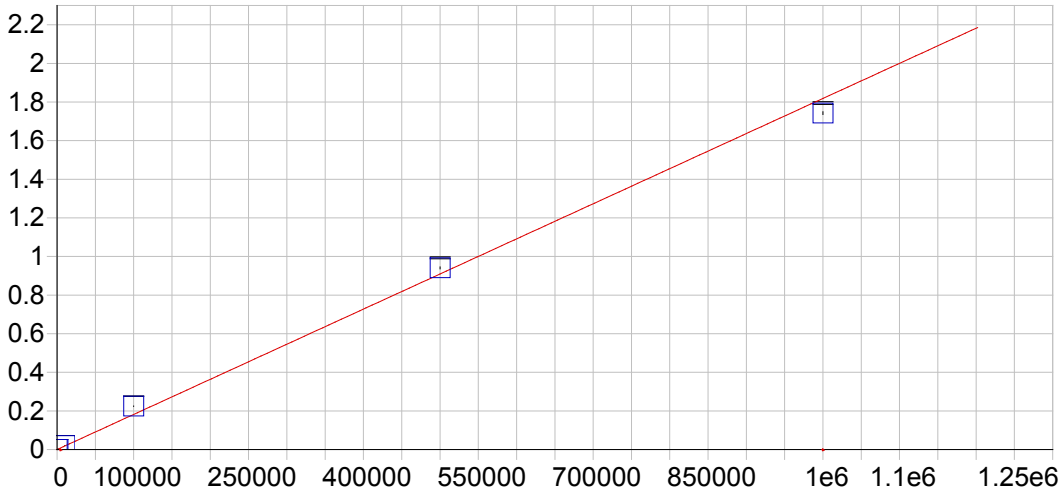
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	9.4612	9.46	.000	.00000	.000	1
CalStd10=10	10000.	9709.3	-291.	-2.91	.00252	.000	1
CalStd13=10	100000.	107520.	7520.	7.52	.02789	.000	1
CalStd14=50	500000.	473140.	-26900.	-5.37	.12272	.001	1
CalStd9=100	1000.0	999.76	-.236	-.024	.00026	.000	1
CalibStd15=	1000000.	916550.	-83500.	-8.35	.23773	.002	1



Fe 259.940 {129}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	-0.000002		Re-Slope:	1.000000	
A1 (Gain):	0.000001		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999475		Status:	OK.	
Std Error of Est:	0.000029				
Predicted MDL:	4.559814				
Predicted MQL:	15.199380				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03585	.036	.000	-.00000	.000	1
CalStd10=10	10000.	9939.2	-60.8	-.608	.00770	.000	1
CalStd13=10	100000.	109550.	9550.	9.55	.08485	.000	1
CalStd14=50	500000.	476590.	-23400.	-4.68	.36915	.002	1
CalStd9=100	1000.0	1008.2	8.24	.824	.00078	.000	1

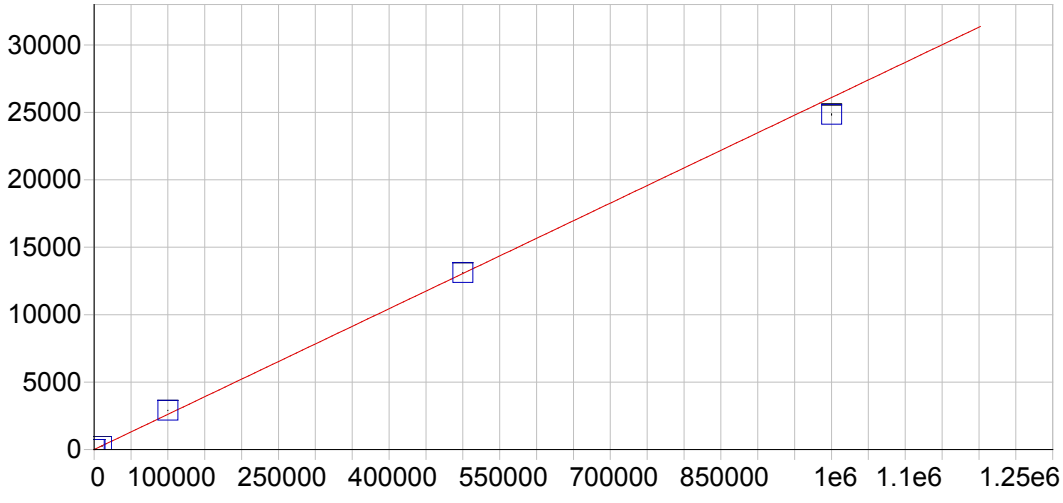


Mg 202.582 {466}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997544	Status:	OK.
Std Error of Est:	0.000198		
Predicted MDL:	3.474787		
Predicted MQL:	11.582622		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.52678	-.527	.000	.00000	.000	1
CalStd13=10	100000.	123290.	23300.	23.3	.22420	.001	1
CalStd10=10	10000.	11115.	1120.	11.2	.02022	.000	1
CalStd14=50	500000.	517320.	17300.	3.46	.94071	.005	1
CalStd9=100	1000.0	1189.6	190.	19.0	.00217	.000	1
CalibStd15=	1000000.	958090.	-41900.	-4.19	1.7422	.007	1

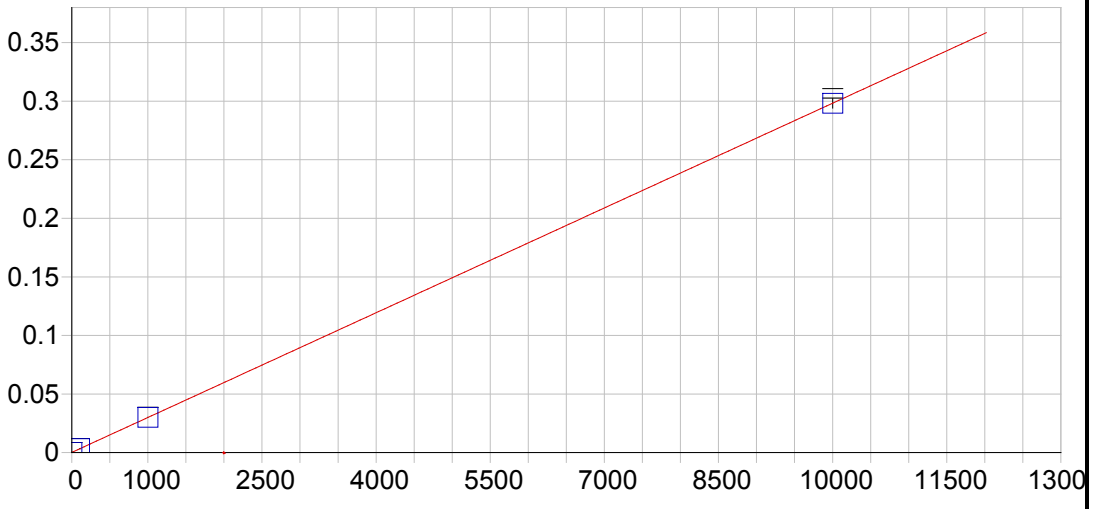


Mg 279.079 {121}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	1.131914	Re-Slope:	1.000000
A1 (Gain):	0.026099	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999628	Status:	OK.
Std Error of Est:	14.810857		
Predicted MDL:	25.139350		
Predicted MQL:	83.797834		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.7313	3.73	.000	1.2293	.392	1
CalStd13=10	100000.	111100.	11100.	11.1	2900.8	10.8	1
CalStd10=10	10000.	9850.2	-150.	-1.50	258.22	1.18	1
CalStd14=50	500000.	502270.	2270.	.455	13110.	10.8	1
CalStd9=100	1000.0	993.52	-6.48	-.648	27.062	.705	1
CalibStd15=	1000000.	951980.	-48000.	-4.80	24847.	51.4	1

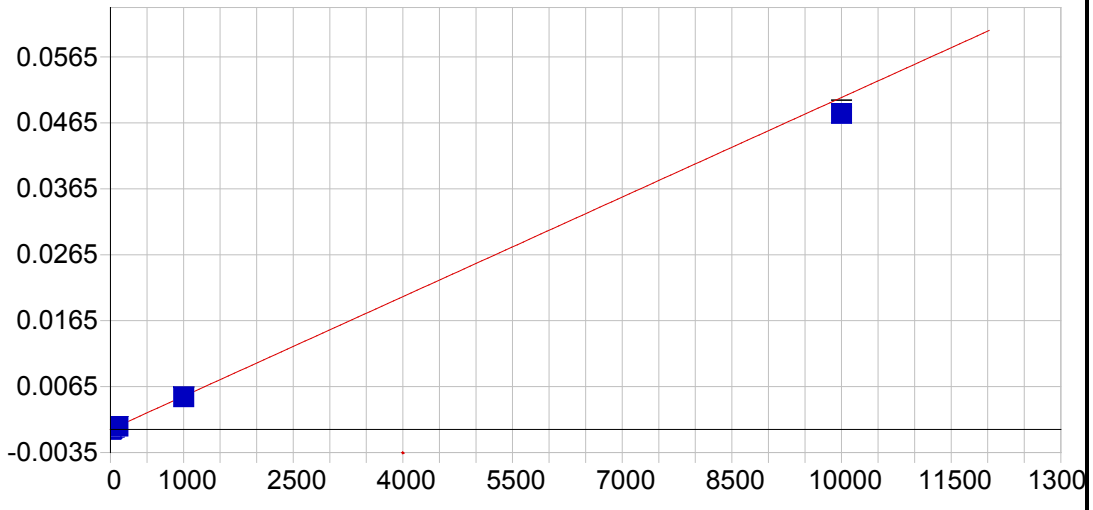


Mg 280.270 {120}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000111	Re-Slope:	1.000000
A1 (Gain):	0.000030	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.042060		
Predicted MQL:	0.140201		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00566	-.006	.000	.00011	.000	1
CalStd9=100	1000.0	1000.2	.180	.018	.02993	.000	1
CalStd10=10	10000.	9994.1	-5.88	-.059	.29811	.004	1
CalStd8=100	100.00	105.70	5.70	5.70	.00326	.000	1

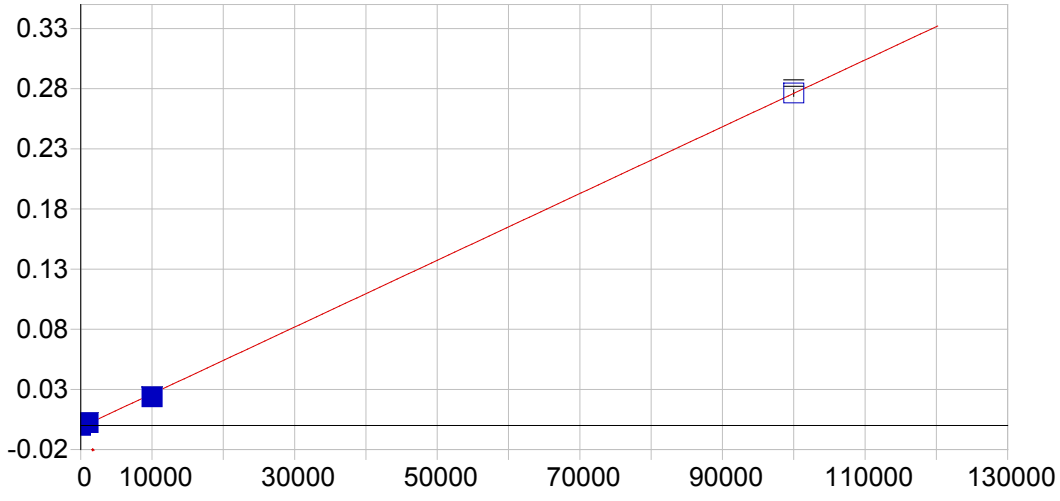


Mn 257.610 {131}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998256	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.268589		
Predicted MQL:	0.895295		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.0973	-1.10	.000	-.00000	.000	1
CalStd5=10	10.000	9.7329	-.267	-2.67	.00005	.000	1
CalStd7=50	50.000	55.434	5.43	10.9	.00028	.000	1
CalStd6=20	20.000	21.822	1.82	9.11	.00011	.000	1
CalStd8=100	100.00	97.132	-2.87	-2.87	.00049	.000	1
CalStd4=5	5.0000	5.3798	.380	7.60	.00003	.000	1
CalStd9=100	1000.0	977.51	-22.5	-2.25	.00492	.000	1
CalStd10=10	10000.	9514.9	-485.	-4.85	.04791	.001	1

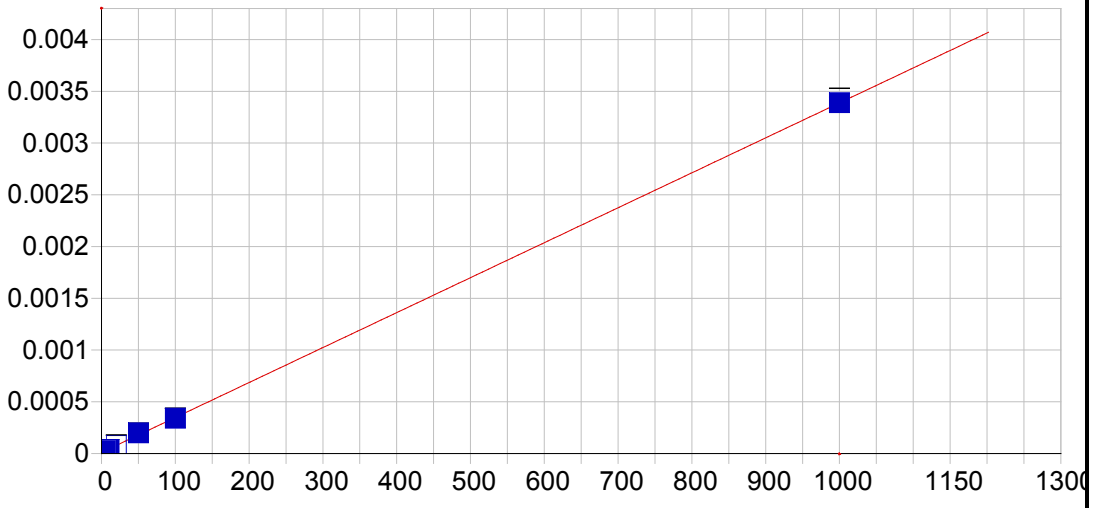


Mn 259.373 {130}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.001412	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999912	Status:	OK.
Std Error of Est:	0.002182		
Predicted MDL:	1.429911		
Predicted MQL:	4.766370		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	508.18	508.	.000	-.00000	.000	1
CalStd10=10	10000.	9071.9	-928.	-9.28	.02380	.000	1
CalStd9=100	1000.0	1330.3	330.	33.0	.00228	.000	1
CalStd12=10	100000.	100090.	89.6	.090	.27636	.003	1

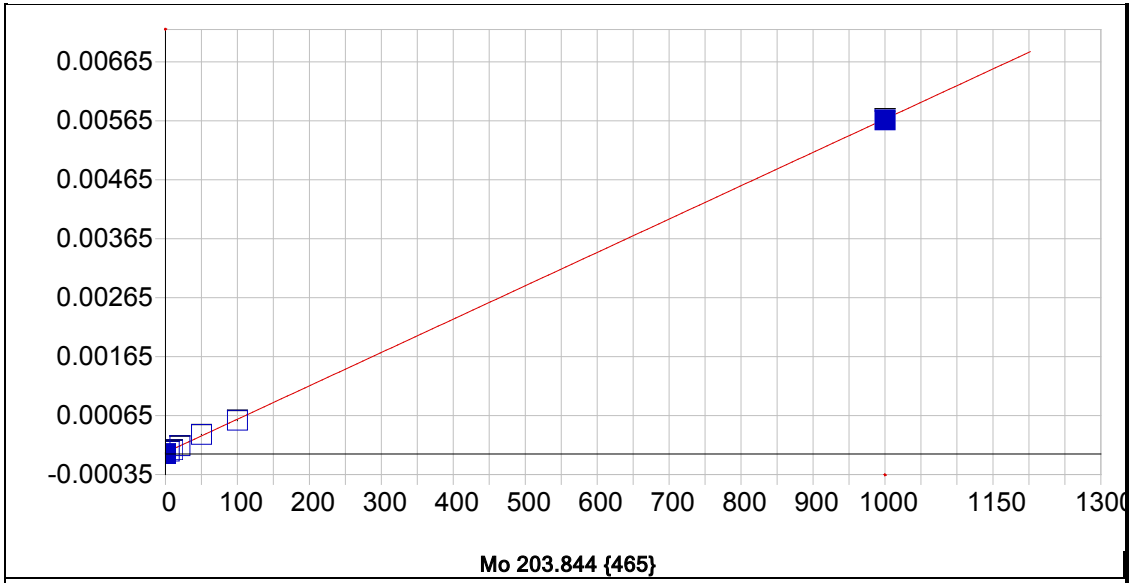


Mo 202.030 {466}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	1.224300		
Predicted MQL:	4.080999		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.3200	-2.32	.000	.00000	.000	1
CalStd7=50	50.000	55.474	5.47	10.9	.00020	.000	1
CalStd6=20	20.000	20.838	.838	4.19	.00008	.000	1
CalStd5=10	10.000	8.6526	-1.35	-13.5	.00004	.000	1
CalStd8=100	100.00	97.603	-2.40	-2.40	.00034	.000	1
CalStd4=5	5.0000	4.7891	-.211	-4.22	.00003	.000	1
CalStd9=100	1000.0	999.96	-.036	-.004	.00339	.000	1

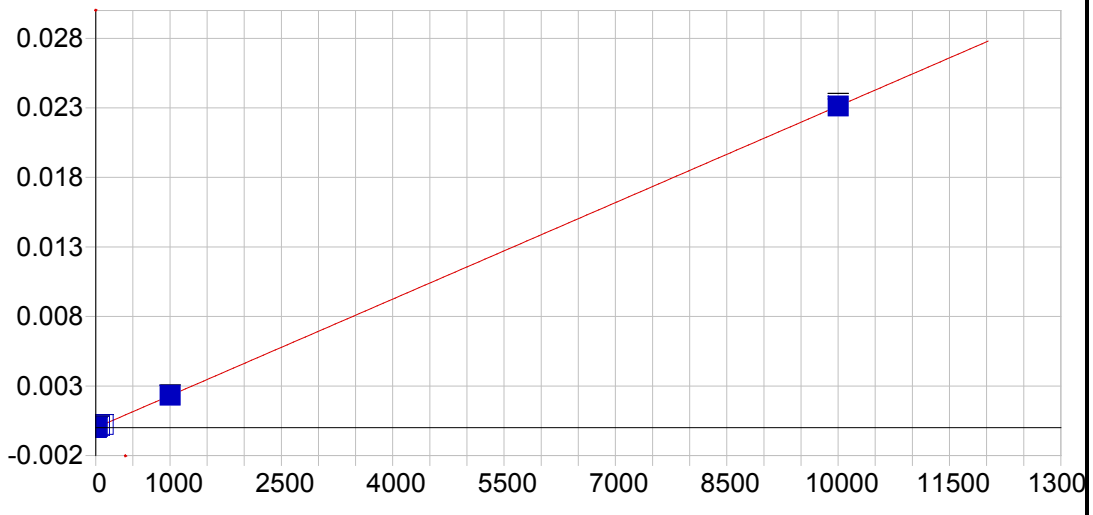


Mo 203.844 {465}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000023	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999387	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.933807		
Predicted MQL:	3.112690		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.3245	-3.32	.000	.00000	.000	1
CalStd7=50	50.000	53.863	3.86	7.73	.00033	.000	1
CalStd6=20	20.000	19.967	-.033	-.163	.00014	.000	1
CalStd5=10	10.000	7.5893	-2.41	-24.1	.00007	.000	1
CalStd8=100	100.00	96.602	-3.40	-3.40	.00057	.000	1
CalStd4=5	5.0000	3.9252	-1.07	-21.5	.00004	.000	1
CalStd9=100	1000.0	996.87	-3.13	-.313	.00566	.000	1

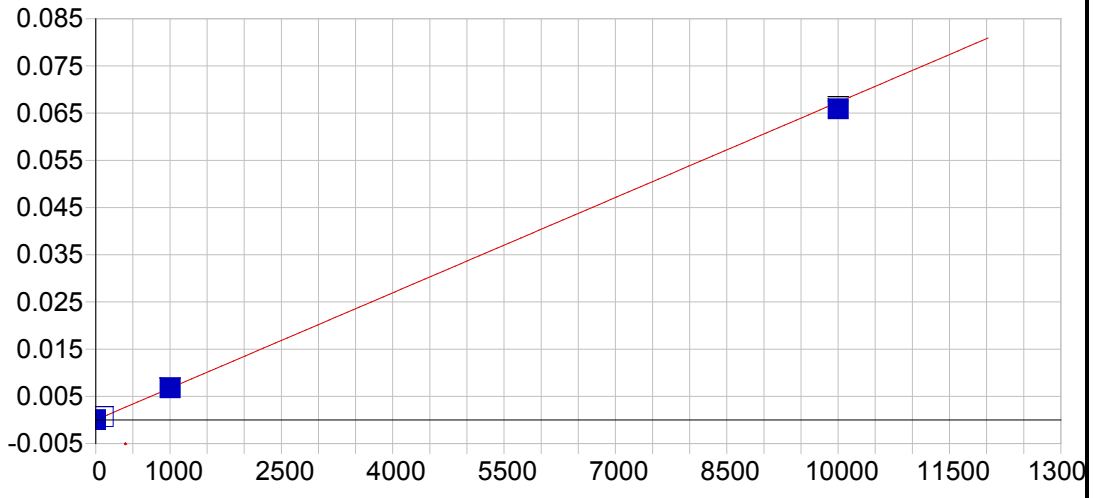


Mo 204.598 {464}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999590	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	2.127907		
Predicted MQL:	7.093024		

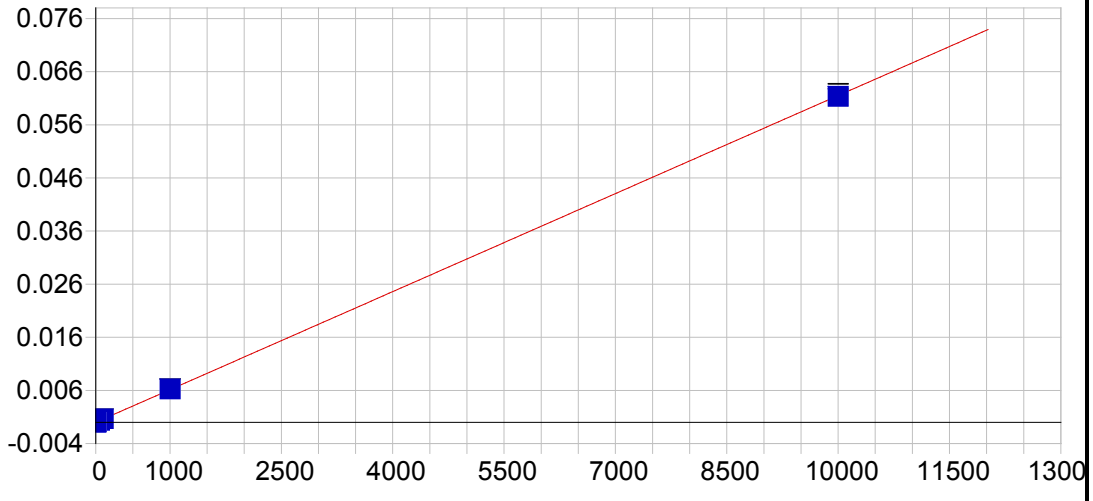
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.4937	-1.49	.000	-.00001	.000	1
CalStd7=50	50.000	56.121	6.12	12.2	.00013	.000	1
CalStd6=20	20.000	22.508	2.51	12.5	.00005	.000	1
CalStd5=10	10.000	10.201	.201	2.01	.00002	.000	1
CalStd8=100	100.00	99.645	-.355	-.355	.00023	.000	1
CalStd4=5	5.0000	6.2961	1.30	25.9	.00001	.000	1
CalStd9=100	1000.0	1007.1	7.08	.708	.00233	.000	1
CalStd10=10	10000.	9998.7	-1.31	-.013	.02312	.000	1



Ni 221.647 {452}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000004		Re-Slope:	1.000000	
A1 (Gain):	0.000007		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999915		Status:	OK.	
Std Error of Est:	0.000013				
Predicted MDL:	1.152149				
Predicted MQL:	3.840496				

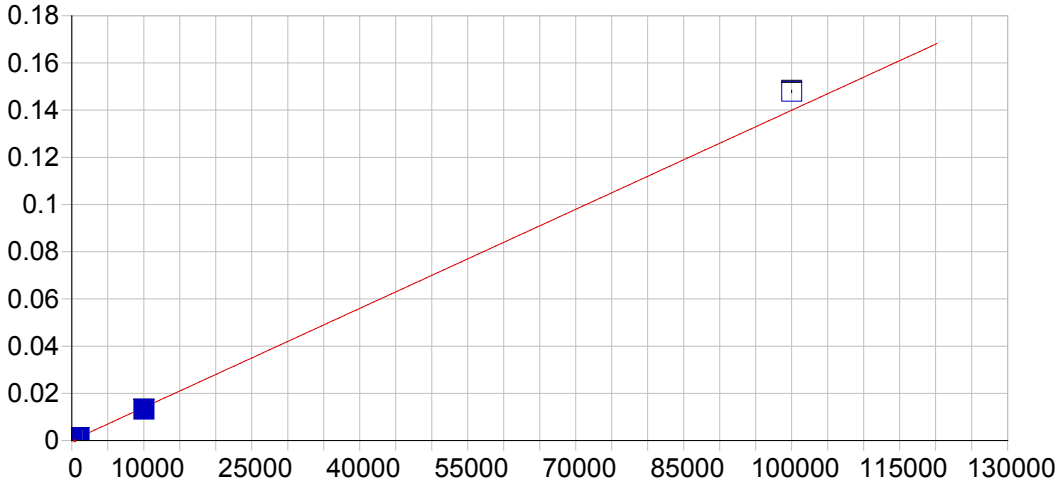
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.36734	-.367	.000	.00000	.000	1
CalStd10=10	10000.	9789.3	-211.	-2.11	.06590	.000	1
CalStd8=100	100.00	100.71	.707	.707	.00068	.000	1
CalStd9=100	1000.0	1006.8	6.76	.676	.00678	.000	1



Ni 231.604 {445}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	-0.000013		Re-Slope:	1.000000	
A1 (Gain):	0.000006		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999879		Status:	OK.	
Std Error of Est:	0.000000				
Predicted MDL:	1.231324				
Predicted MQL:	4.104412				

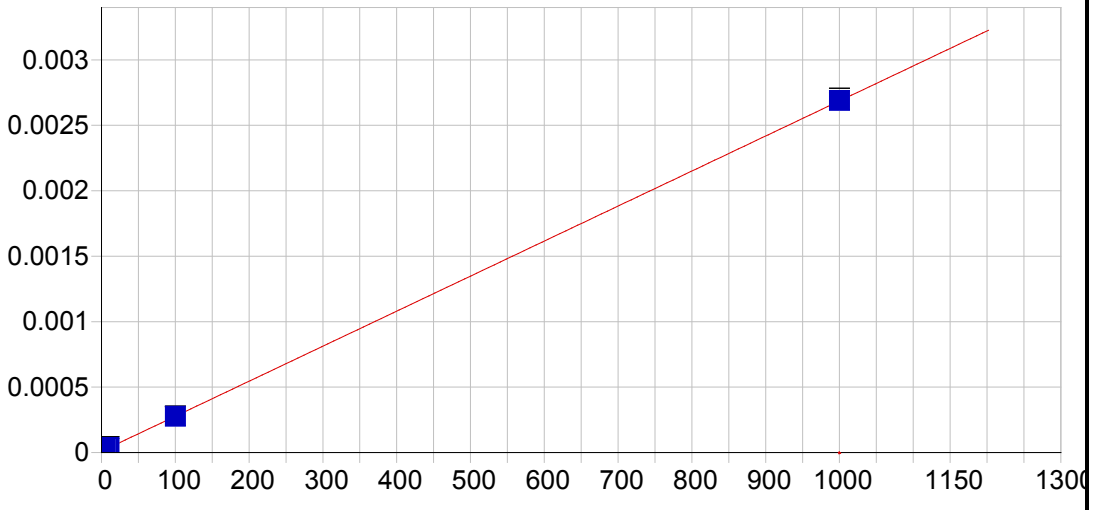
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00039	.000	.000	-.00001	.000	1
CalStd7=50	50.000	57.595	7.59	15.2	.00034	.000	1
CalStd5=10	10.000	9.9339	-.066	-.661	.00005	.000	1
CalStd8=100	100.00	102.05	2.05	2.05	.00061	.000	1
CalStd4=5	5.0000	6.1980	1.20	24.0	.00003	.000	1
CalStd9=100	1000.0	1021.4	21.4	2.14	.00627	.000	1
CalStd3=1	1.0000	.18351	-.816	-81.6	-.00001	.000	1
CalStd10=10	10000.	9968.7	-31.3	-.313	.06142	.000	1



Pb 216.999 {455}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000001		Re-Slope:	1.000000	
A1 (Gain):	0.000001		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.998610		Status:	OK.	
Std Error of Est:	0.000074				
Predicted MDL:	4.466472				
Predicted MQL:	14.888240				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.4737	3.47	.000	.00001	.000	1
CalStd9=100	1000.0	985.18	-14.8	-1.48	.00138	.000	1
CalStd10=10	10000.	9433.3	-567.	-5.67	.01320	.000	1
CalStd8=100	100.00	104.63	4.63	4.63	.00015	.000	1
CalStd5=10	10.000	15.546	5.55	55.5	.00002	.000	1
CalStd12=10	100000.	105710.	5710.	5.71	.14796	.000	1

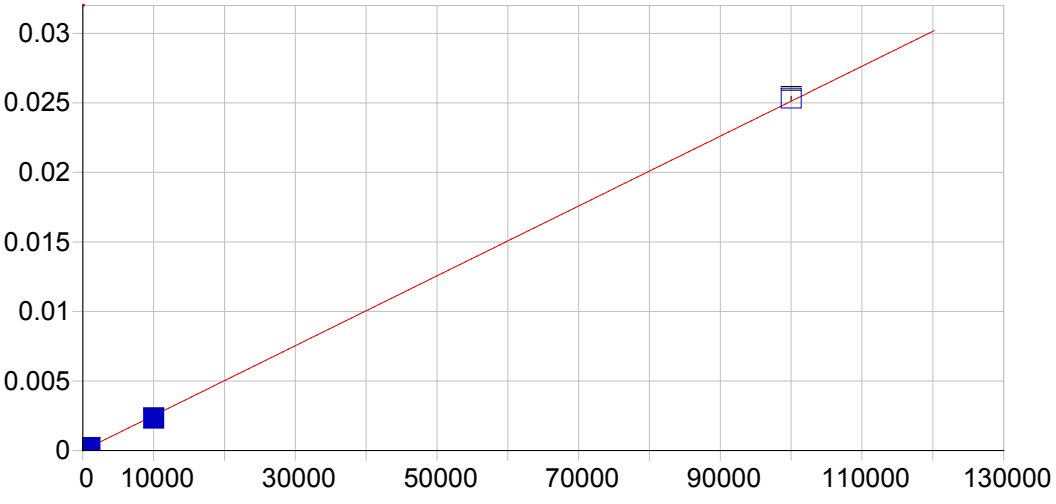


Pb 220.353 {453}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	2.939009		
Predicted MQL:	9.796696		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.22457	.225	.000	.00001	.000	1
CalStd5=10	10.000	11.101	1.10	11.0	.00004	.000	1
CalStd8=100	100.00	99.507	-.493	-.493	.00028	.000	1
CalStd4=5	5.0000	5.9018	.902	18.0	.00003	.000	1
CalStd9=100	1000.0	1001.3	1.32	.132	.00269	.000	1

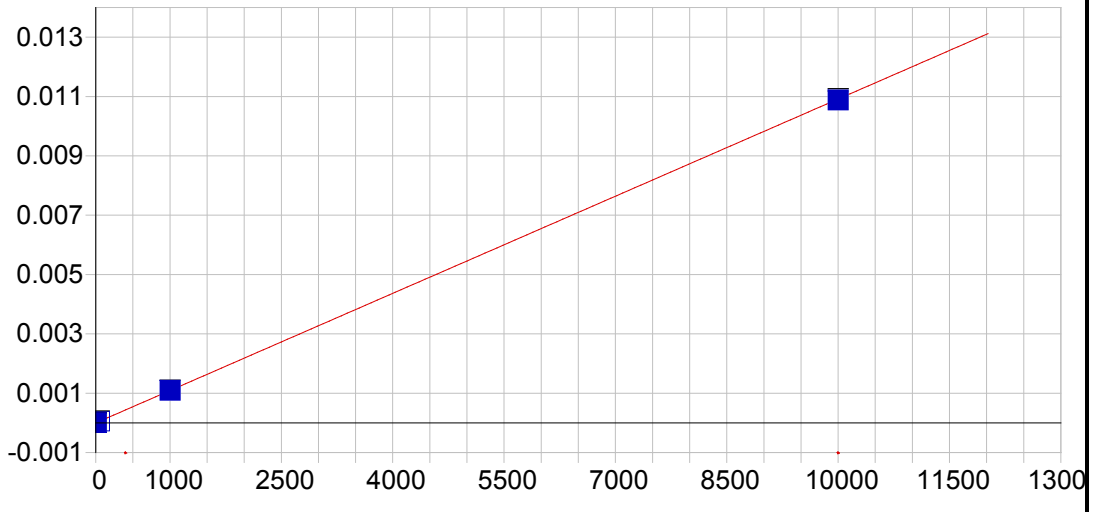


Pb 220.353 {153}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999680	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.894901		
Predicted MQL:	16.316337		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.02251	.023	.000	.00000	.000	1
CalStd9=100	1000.0	943.99	-56.0	-5.60	.00024	.000	1
CalStd10=10	10000.	9226.1	-774.	-7.74	.00232	.000	1
CalStd8=100	100.00	89.988	-10.0	-10.0	.00002	.000	1
CalStd12=10	100000.	100840.	840.	.840	.02533	.000	1

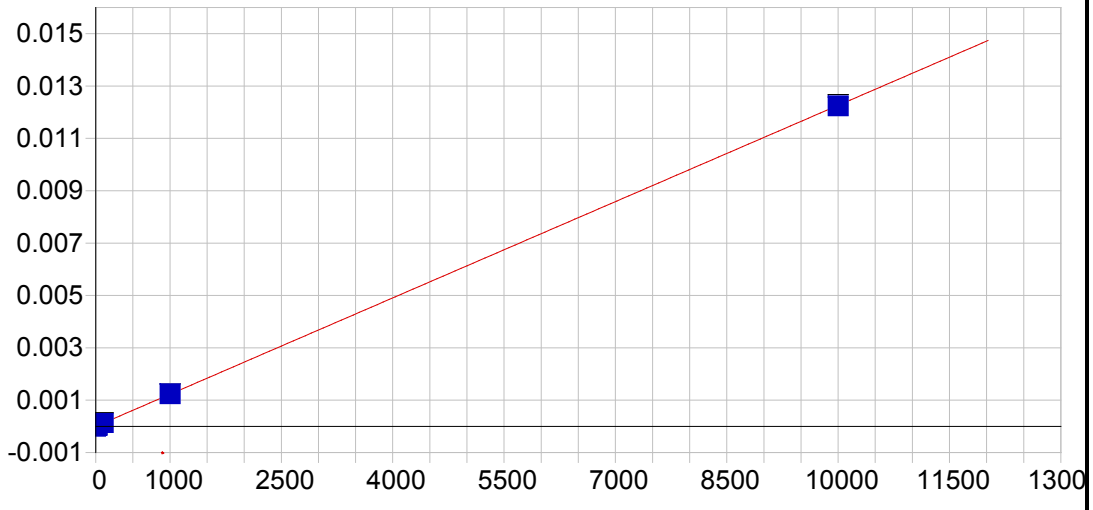


Sb 206.833 {463}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999914	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	4.572563		
Predicted MQL:	15.241876		

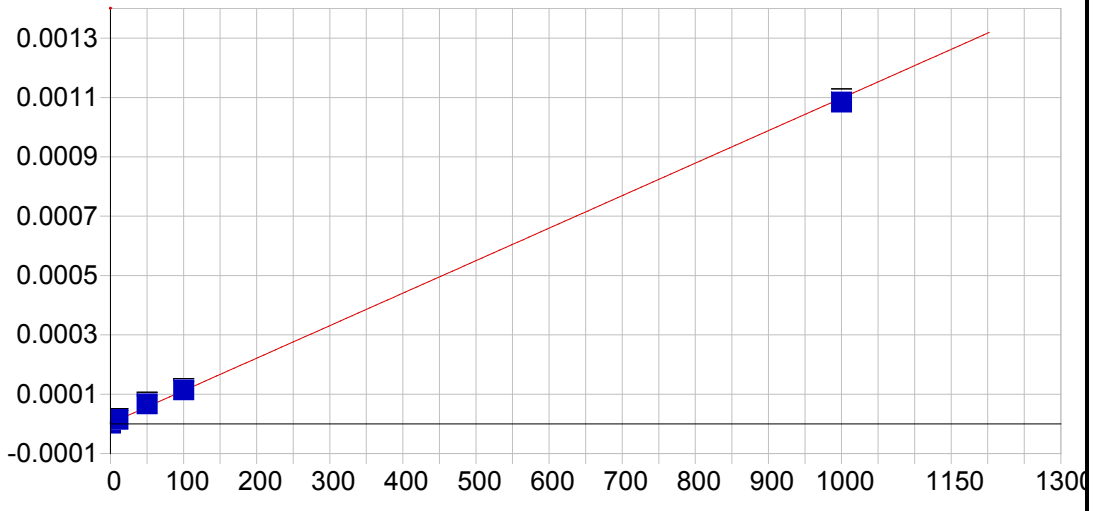
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.2826	-6.28	.000	-.00001	.000	1
CalStd9=100	1000.0	1004.7	4.71	.471	.00110	.000	1
CalStd5=10	10.000	7.5778	-2.42	-24.2	.00001	.000	1
CalStd7=50	50.000	56.764	6.76	13.5	.00006	.000	1
CalStd10=10	10000.	9969.0	-31.0	-.310	.01088	.000	1



Sb 217.581 {455}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000001		Re-Slope:	1.000000	
A1 (Gain):	0.000001		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999852		Status:	OK.	
Std Error of Est:	0.000000				
Predicted MDL:	4.414548				
Predicted MQL:	14.715159				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00479	-.005	.000	.00000	.000	1
CalStd9=100	1000.0	1008.0	7.95	.795	.00124	.000	1
CalStd6=20	20.000	26.040	6.04	30.2	.00003	.000	1
CalStd5=10	10.000	11.847	1.85	18.5	.00002	.000	1
CalStd8=100	100.00	102.50	2.50	2.50	.00013	.000	1
CalStd4=5	5.0000	7.2015	2.20	44.0	.00001	.000	1
CalStd10=10	10000.	9979.5	-20.5	-.205	.01224	.000	1

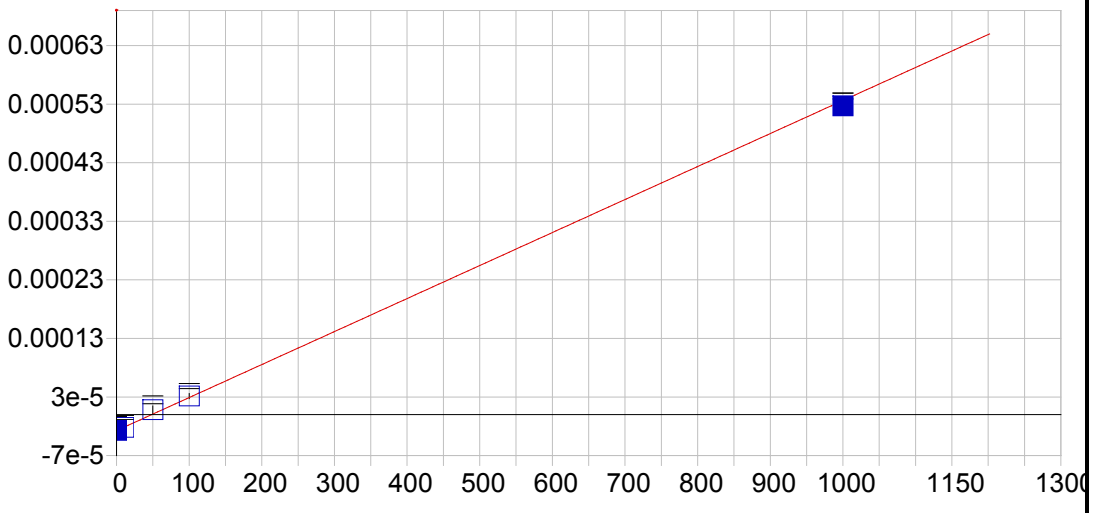


Se 196.090 {472}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999129	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.570619		
Predicted MQL:	15.235398		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00326	-.003	.000	.00000	.000	1
CalStd7=50	50.000	59.009	9.01	18.0	.00007	.000	1
CalStd9=100	1000.0	987.28	-12.7	-1.27	.00108	.000	1
CalStd5=10	10.000	11.349	1.35	13.5	.00001	.000	1
CalStd8=100	100.00	102.36	2.36	2.36	.00011	.000	1

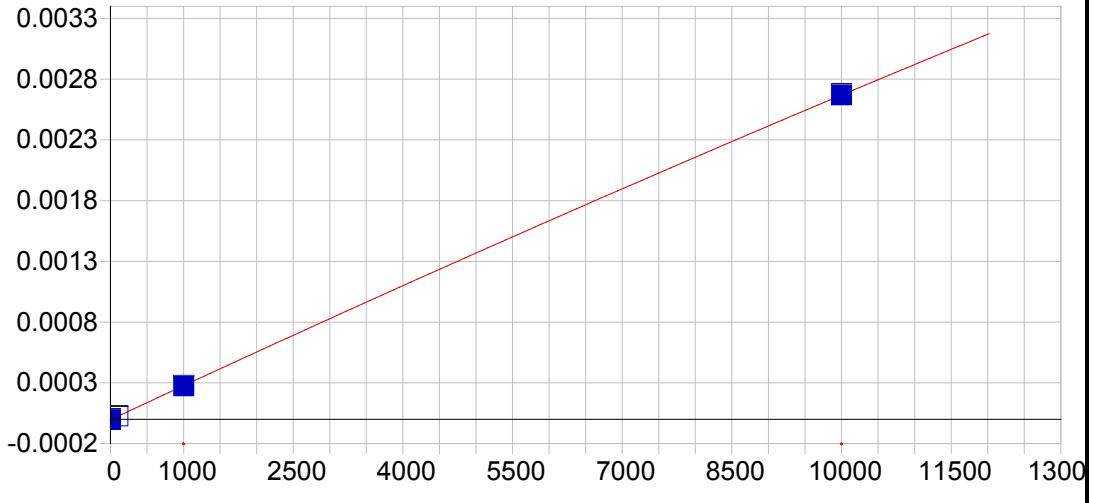


Se 203.985 {465}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000027	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998348	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	10.900606		
Predicted MQL:	36.335352		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00223	-.002	.000	-.00003	.000	1
CalStd7=50	50.000	62.907	12.9	25.8	.00001	.000	1
CalStd9=100	1000.0	983.33	-16.7	-1.67	.00053	.000	1
CalStd5=10	10.000	9.3764	-.624	-6.24	-.00002	.000	1
CalStd8=100	100.00	104.39	4.39	4.39	.00003	.000	1

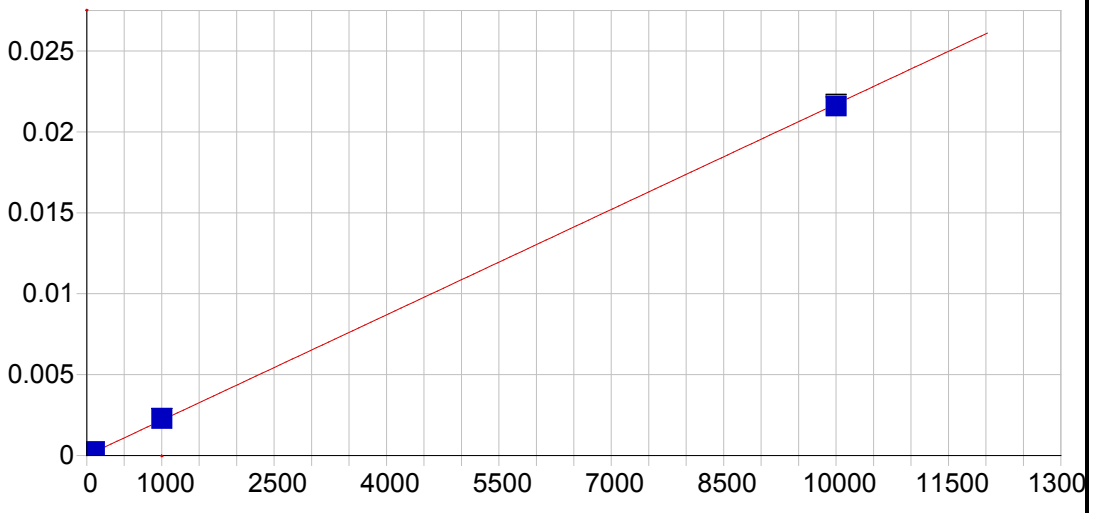


Se 206.279 {463}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999971	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	23.373834		
Predicted MQL:	77.912779		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00643	-.006	.000	-.00000	.000	1
CalStd9=100	1000.0	991.99	-8.01	-.801	.00027	.000	1
CalStd10=10	10000.	10001.	.802	.008	.00267	.000	1
CalStd8=100	100.00	107.23	7.23	7.23	.00003	.000	1

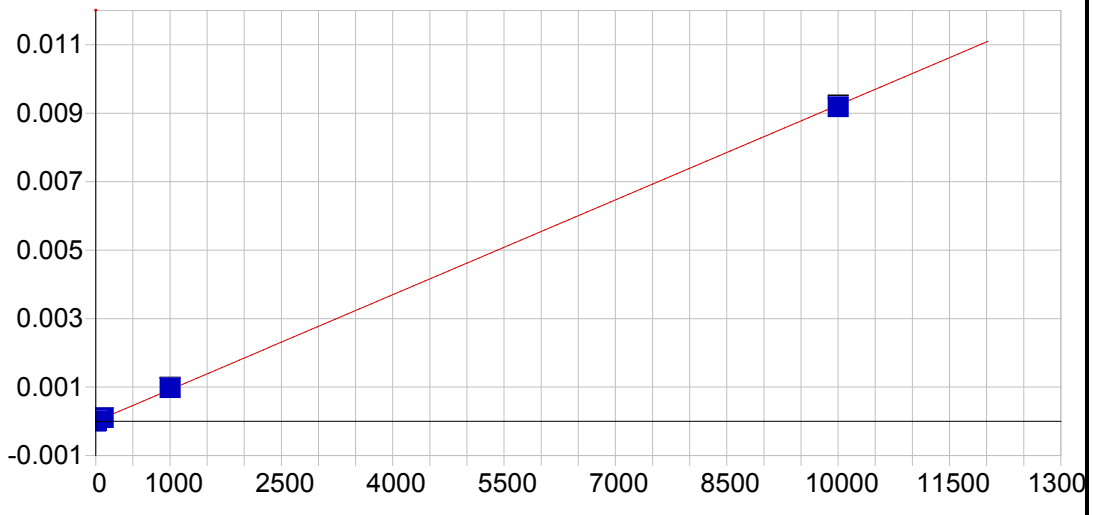


Tl 190.856 {476}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999855	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.332948		
Predicted MQL:	7.776495		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00083	-.001	.000	.00001	.000	1
CalStd9=100	1000.0	1050.6	50.6	5.06	.00229	.000	1
CalStd8=100	100.00	105.80	5.80	5.80	.00024	.000	1
CalStd5=10	10.000	9.8011	-.199	-1.99	.00003	.000	1
CalStd10=10	10000.	9943.8	-56.2	-.562	.02162	.000	1

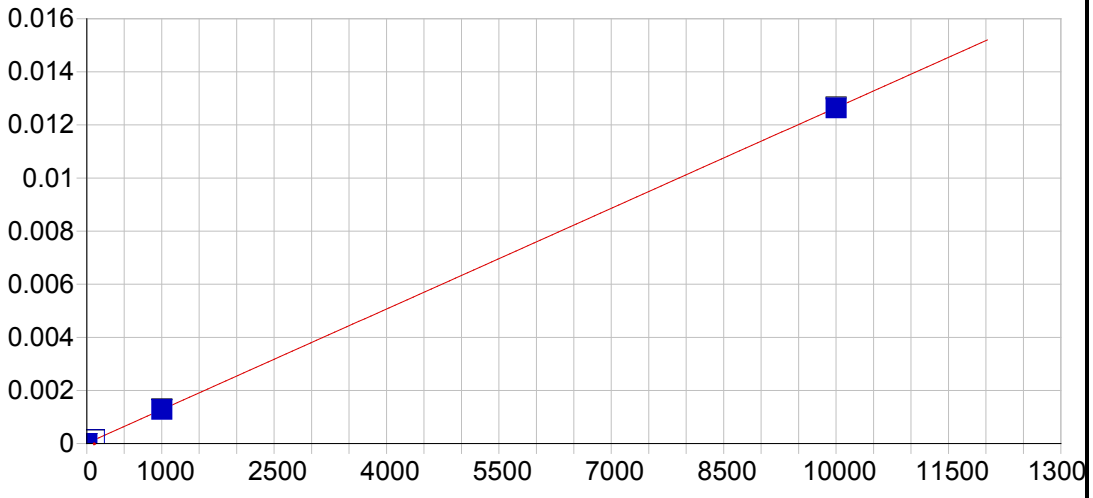


Tl 190.856 {477}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999836	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.395979		
Predicted MQL:	14.653263		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00070	-.001	.000	.00000	.000	1
CalStd9=100	1000.0	1056.6	56.6	5.66	.00098	.000	1
CalStd8=100	100.00	103.10	3.10	3.10	.00010	.000	1
CalStd5=10	10.000	9.8805	-.119	-1.19	.00001	.000	1
CalStd10=10	10000.	9940.5	-59.5	-.595	.00919	.000	1

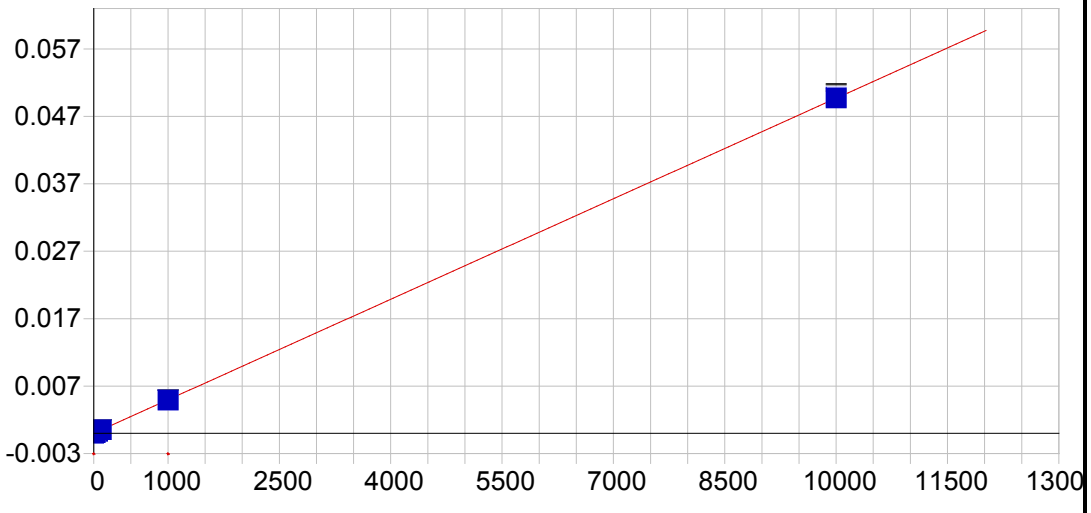


V 290.882 {116}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.436722		
Predicted MQL:	11.455741		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00366	-.004	.000	.00001	.000	1
CalStd9=100	1000.0	1006.3	6.32	.632	.00128	.000	1
CalStd10=10	10000.	9990.6	-9.45	-.094	.01264	.000	1
CalStd8=100	100.00	103.12	3.12	3.12	.00014	.000	1

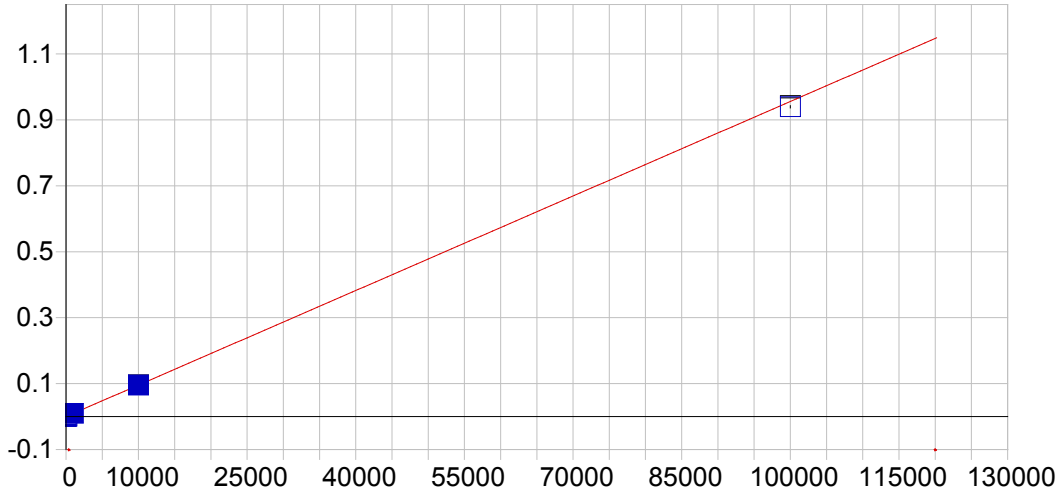


V 292.402 {115}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.898085		
Predicted MQL:	2.993615		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00215	-.002	.000	.00000	.000	1
CalStd7=50	50.000	55.450	5.45	10.9	.00028	.000	1
CalStd9=100	1000.0	988.51	-11.5	-1.15	.00491	.000	1
CalStd6=20	20.000	22.238	2.24	11.2	.00011	.000	1
CalStd5=10	10.000	10.266	.266	2.66	.00005	.000	1
CalStd8=100	100.00	97.800	-2.20	-2.20	.00049	.000	1
CalStd10=10	10000.	10006.	5.72	.057	.04990	.000	1

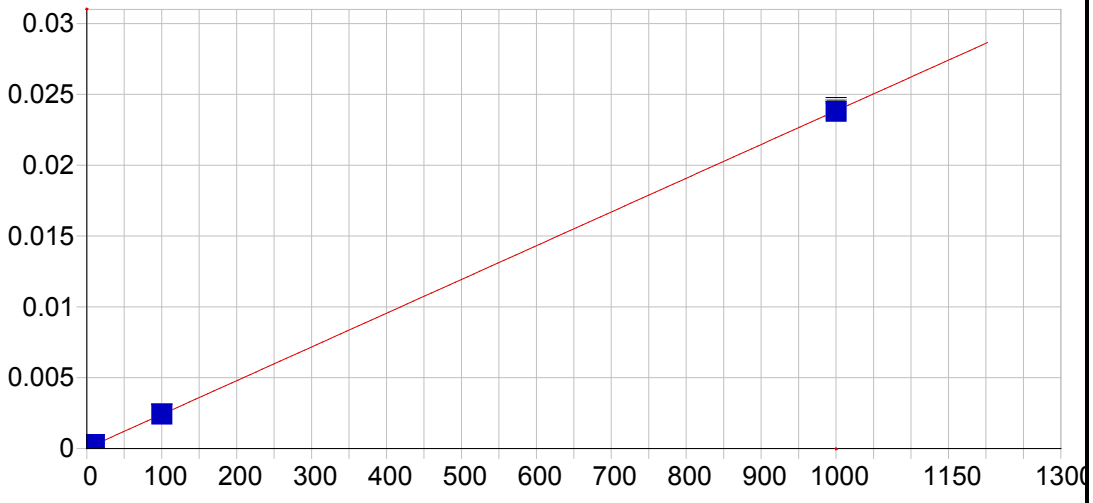


Zn 206.200 {463}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999834	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.571119		
Predicted MQL:	1.903729		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9947.8	-52.2	-.522	.09510	.001	1
Blank	.00000	-1.7326	-1.73	.000	-.00000	.000	1
CalStd9=100	1000.0	1026.2	26.2	2.62	.00982	.000	1
CalStd12=10	100000.	98310.	-1690.	-1.69	.93969	.003	1
CalStd5=10	10.000	9.9838	-.016	-.162	.00011	.000	1
CalStd8=100	100.00	100.77	.767	.767	.00098	.000	1

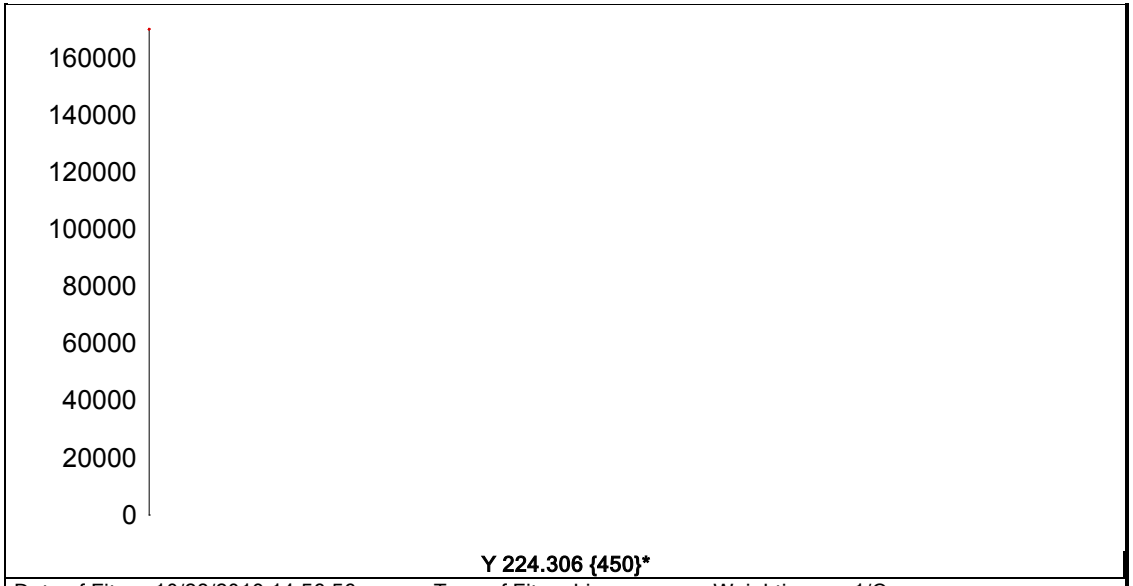


Zn 213.856 {457}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

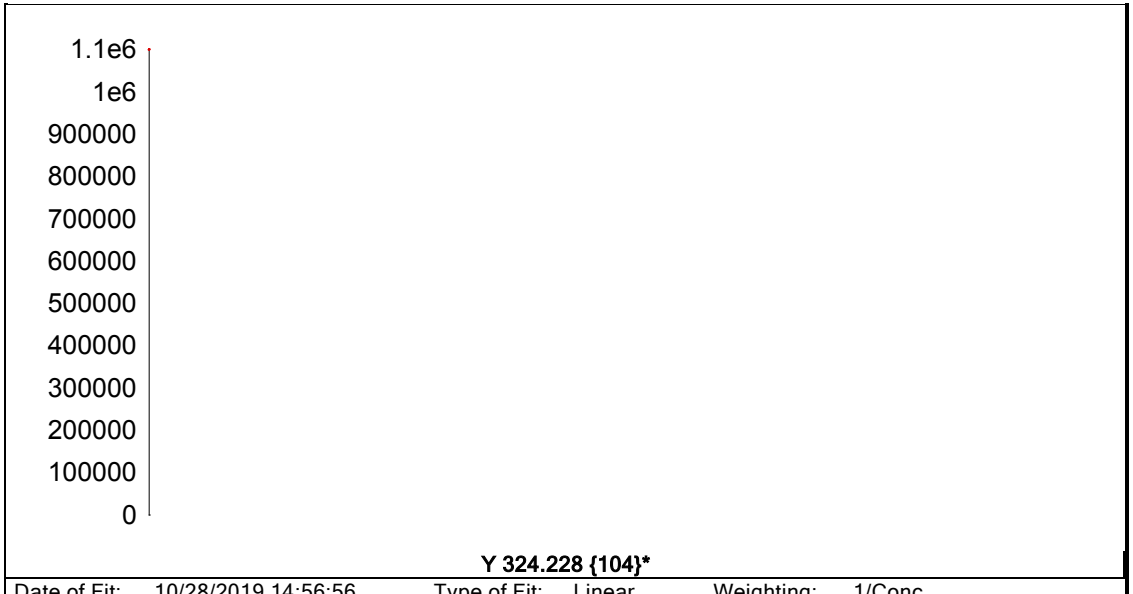
A0 (Offset):	0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999816	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.242893		
Predicted MQL:	0.809643		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00204	-.002	.000	.00002	.000	1
CalStd9=100	1000.0	997.54	-2.46	-.246	.02395	.000	1
CalStd5=10	10.000	12.014	2.01	20.1	.00031	.000	1
CalStd8=100	100.00	100.45	.454	.454	.00243	.000	1



Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

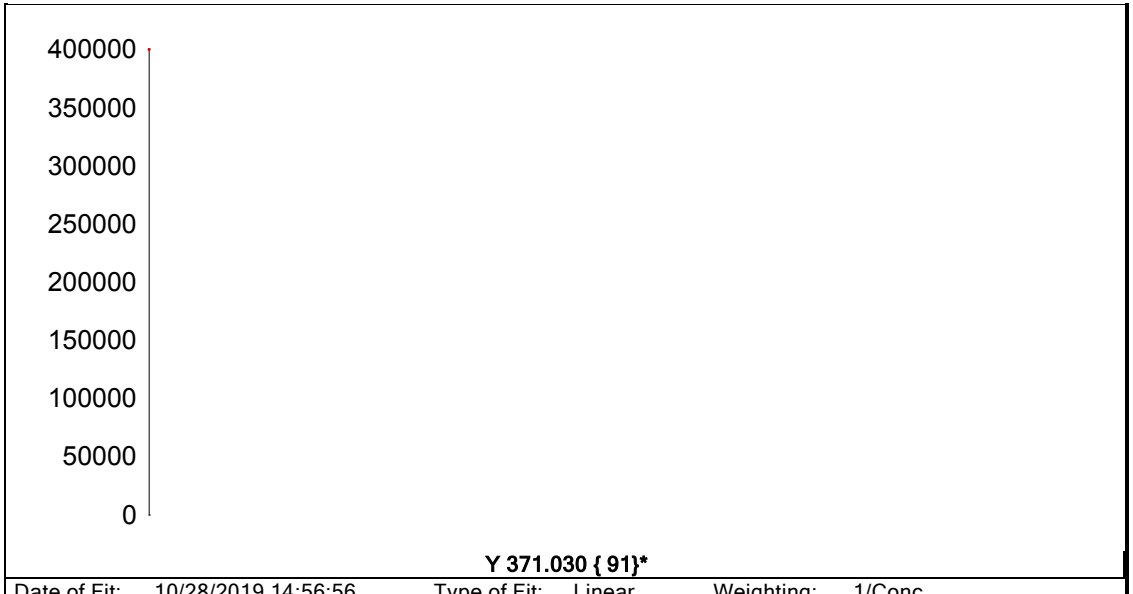
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	157440.	341.	1



Y 324.228 {104}*

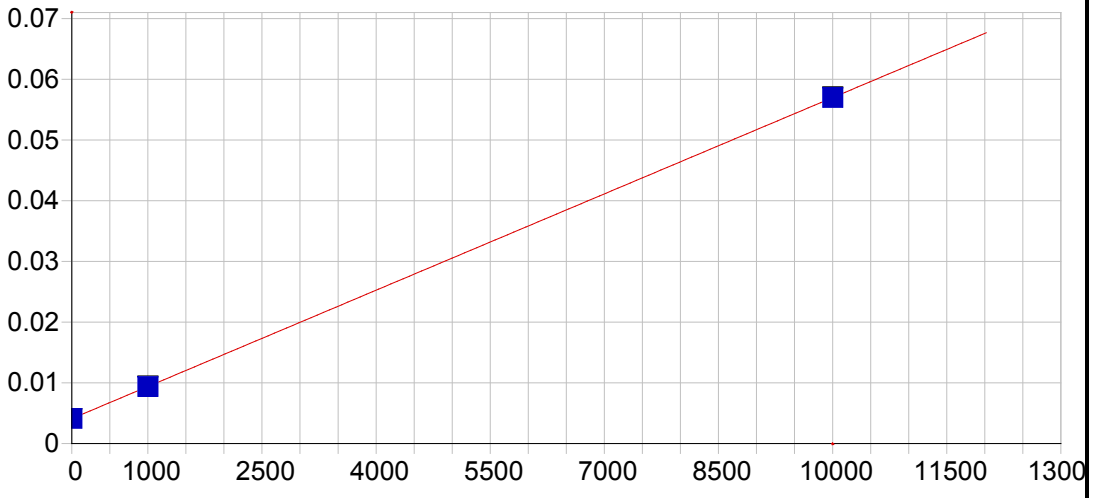
Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1005400.	4260.	1



Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	373300.	3120.	1

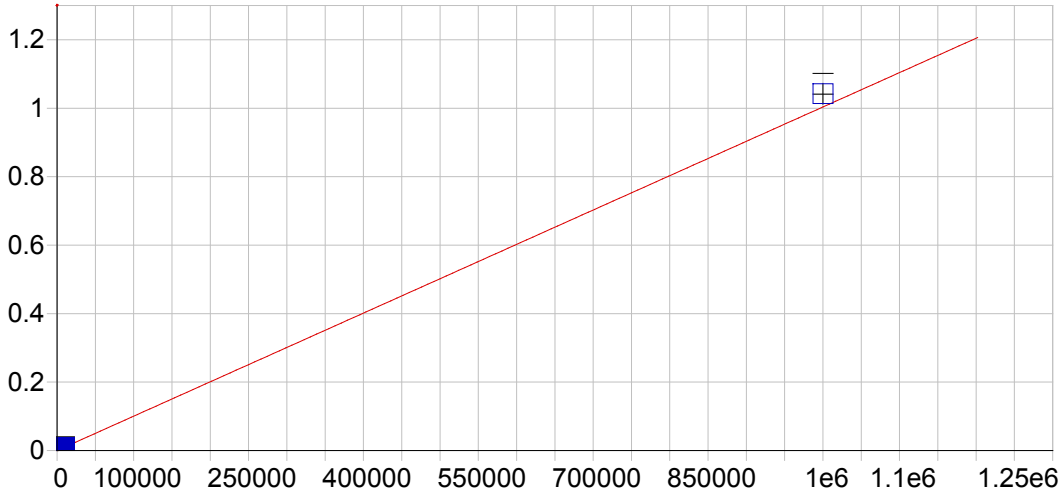


Na 588.995 { 57}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.004105	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	6.256066		
Predicted MQL:	20.853555		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.7381	2.74	.000	.00412	.000	1
CalStd9=100	1000.0	996.96	-3.04	-.304	.00938	.000	1
CalStd10=10	10000.	10000.	.304	.003	.05701	.000	1

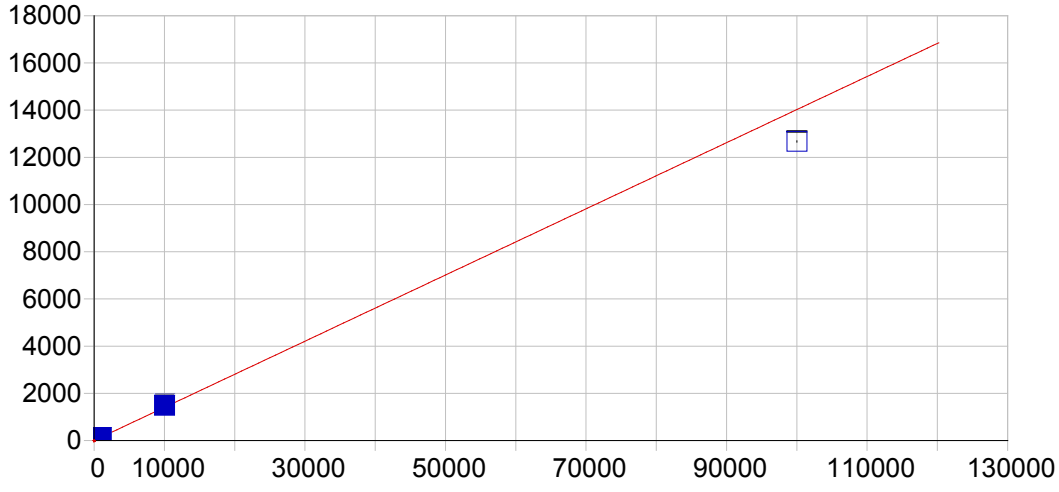


Na 589.592 { 57}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000049	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998889	Status:	OK.
Std Error of Est:	0.000060		
Predicted MDL:	25.128504		
Predicted MQL:	83.761681		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	27.035	27.0	.000	.00008	.000	1
CalStd9=100	1000.0	954.03	-46.0	-4.60	.00101	.000	1
CalStd10=10	10000.	10280.	280.	2.80	.01037	.000	1
CalibStd15=	1000000.	1038400.	38400.	3.84	1.0422	.030	1

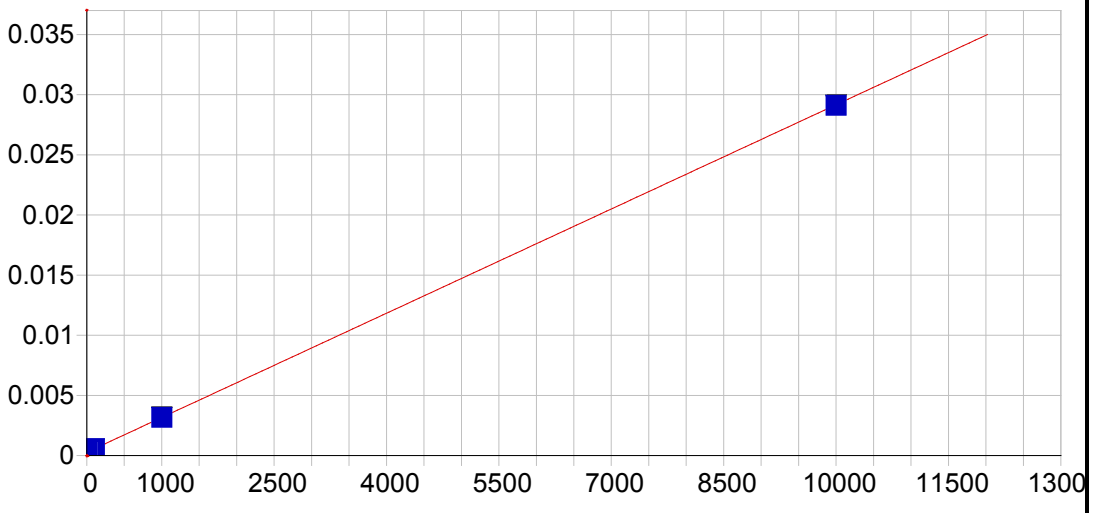


Si 251.611 {134}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	2.892276	Re-Slope:	1.000000
A1 (Gain):	0.140210	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997462	Status:	OK.
Std Error of Est:	12.320226		
Predicted MDL:	7.797696		
Predicted MQL:	25.992320		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.84494	-.845	.000	2.7738	.143	1
CalStd9=100	1000.0	925.65	-74.3	-7.43	143.74	1.03	1
CalStd10=10	10000.	10562.	562.	5.62	1554.1	2.13	1
CalibStd15=	100000.	90367.	-9630.	-9.63	12673.	28.0	1

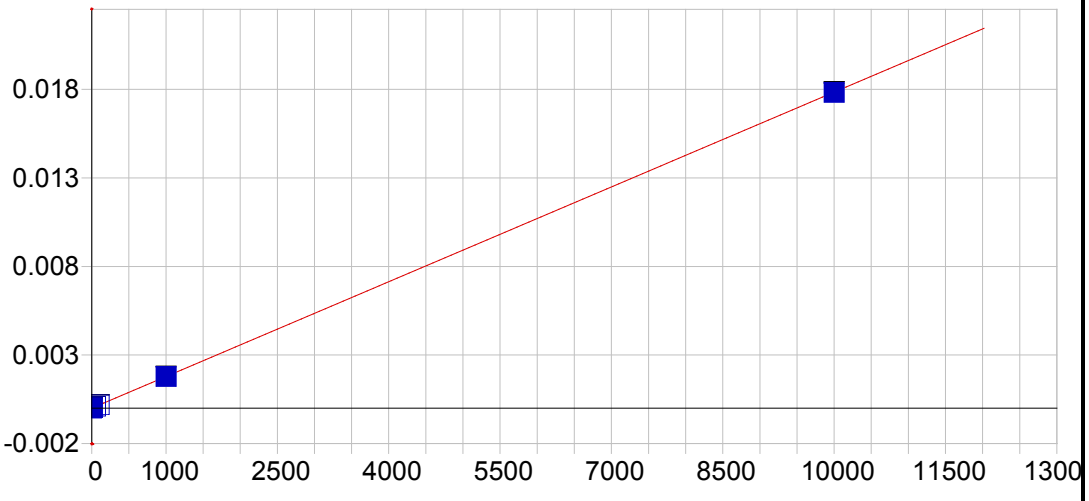


Ti 323.452 {104}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000273	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999836	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.511358		
Predicted MQL:	8.371193		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00510	-.005	.000	.00027	.000	1
CalStd5=10	10.000	13.604	3.60	36.0	.00031	.000	1
CalStd8=100	100.00	104.37	4.37	4.37	.00058	.000	1
CalStd9=100	1000.0	1001.7	1.75	.175	.00317	.000	1
CalStd10=10	10000.	9980.8	-19.2	-.192	.02914	.000	1
CalStd7=50	50.000	57.061	7.06	14.1	.00044	.000	1
CalStd4=5	5.0000	7.3789	2.38	47.6	.00029	.000	1

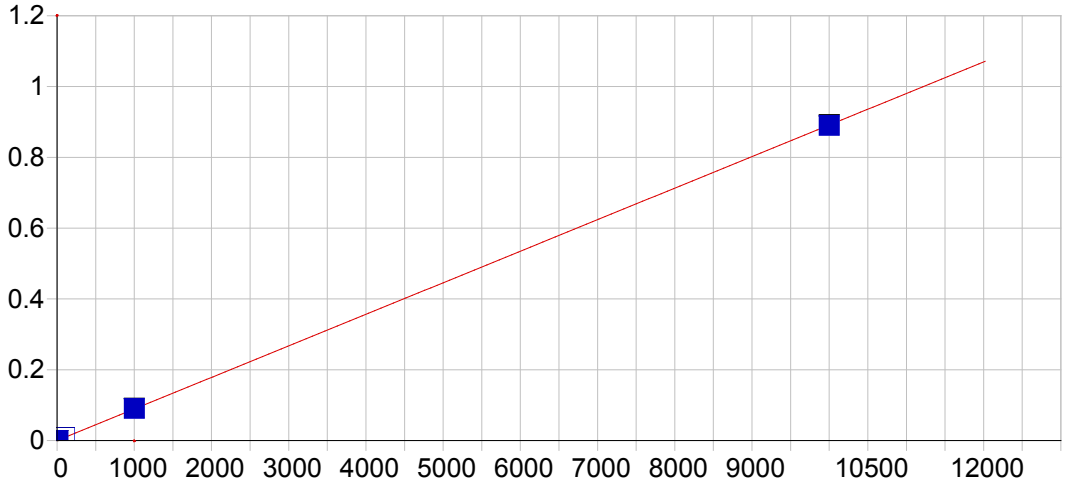


Ti 334.941 {101}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999902	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.797856		
Predicted MQL:	9.326187		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00272	-.003	.000	-.00000	.000	1
CalStd5=10	10.000	10.453	.453	4.53	.00002	.000	1
CalStd8=100	100.00	101.96	1.96	1.96	.00018	.000	1
CalStd9=100	1000.0	997.54	-2.46	-.246	.00178	.000	1
CalStd10=10	10000.	9989.4	-10.6	-.106	.01783	.000	1
CalStd7=50	50.000	59.129	9.13	18.3	.00010	.000	1
CalStd4=5	5.0000	6.4968	1.50	29.9	.00001	.000	1

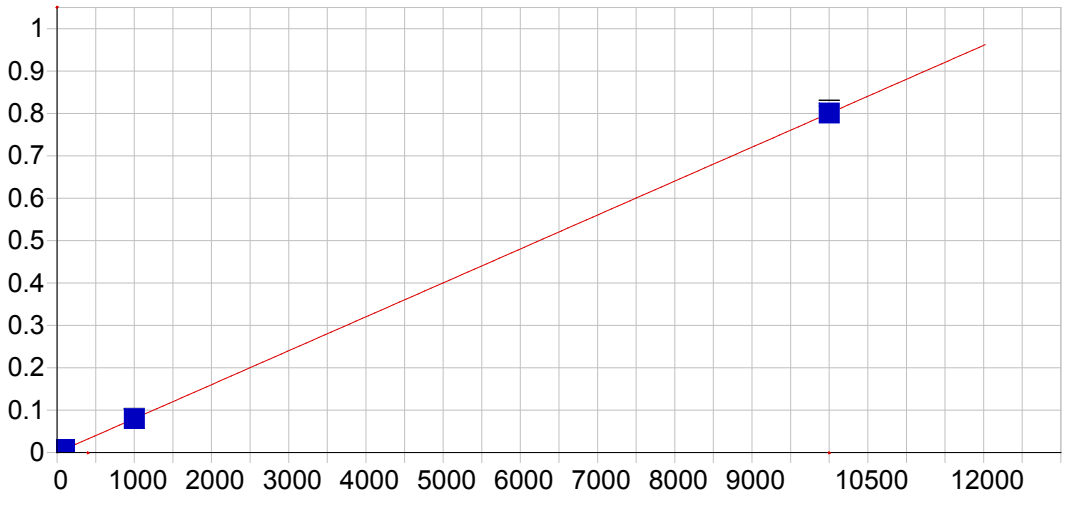


Sr 407.771 { 83}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000091	Re-Slope:	1.000000
A1 (Gain):	0.000089	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999968	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.120337		
Predicted MQL:	0.401123		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00054	-.001	.000	.00009	.000	1
CalStd3=1	1.0000	1.1448	.145	14.5	.00019	.000	1
CalStd4=5	5.0000	6.4489	1.45	29.0	.00067	.000	1
CalStd5=10	10.000	10.869	.869	8.69	.00106	.000	1
CalStd8=100	100.00	101.23	1.23	1.23	.00911	.000	1
CalStd9=100	1000.0	1012.7	12.7	1.27	.09034	.001	1
CalStd10=10	10000.	9983.6	-16.4	-.164	.88985	.002	1

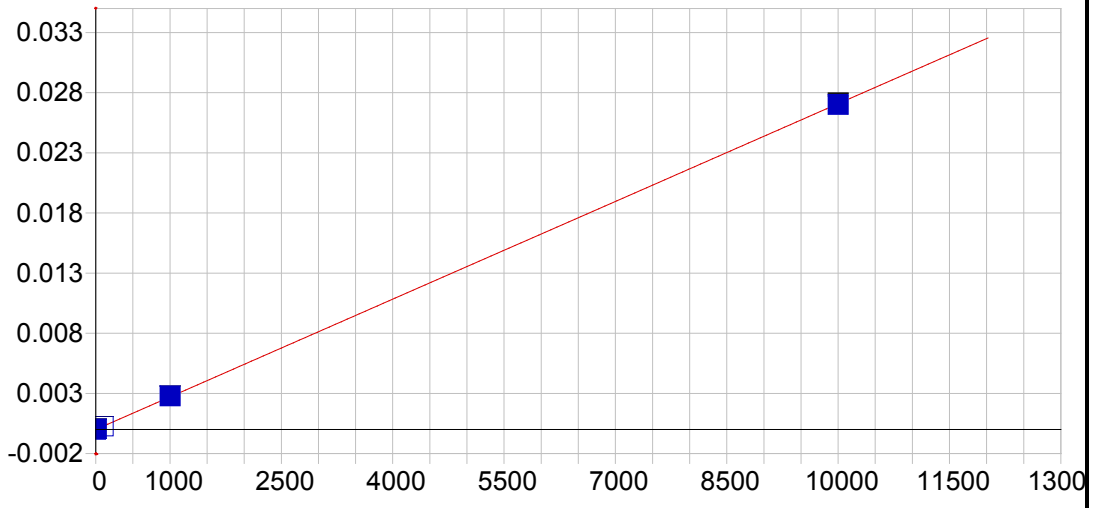


Sr 421.552 { 80}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000080	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.135456		
Predicted MQL:	0.451520		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00038	-.000	.000	.00002	.000	1
CalStd3=1	1.0000	1.0647	.065	6.47	.00010	.000	1
CalStd4=5	5.0000	6.2365	1.24	24.7	.00052	.000	1
CalStd5=10	10.000	10.702	.702	7.02	.00087	.000	1
CalStd8=100	100.00	99.654	-.346	-.346	.00799	.000	1
CalStd9=100	1000.0	997.59	-2.41	-.241	.07988	.001	1
CalStd10=10	10000.	10001.	.751	.008	.80063	.007	1

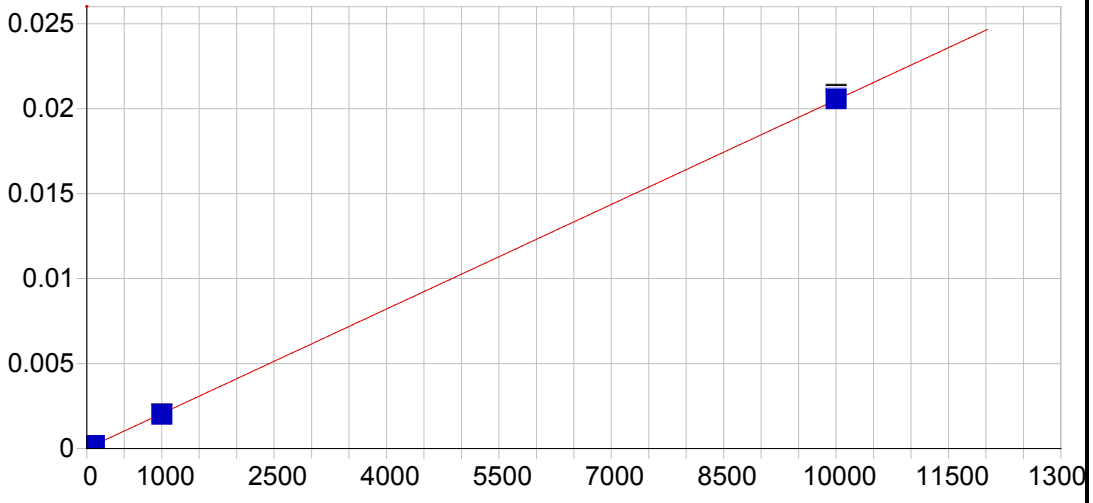


Sn 189.989 {477}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999941	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.573514		
Predicted MQL:	5.245047		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00280	-.003	.000	.00000	.000	1
CalStd10=10	10000.	9971.7	-28.3	-.283	.02701	.000	1
CalStd9=100	1000.0	1024.7	24.7	2.47	.00278	.000	1
CalStd8=100	100.00	101.09	1.09	1.09	.00027	.000	1
CalStd5=10	10.000	12.470	2.47	24.7	.00003	.000	1

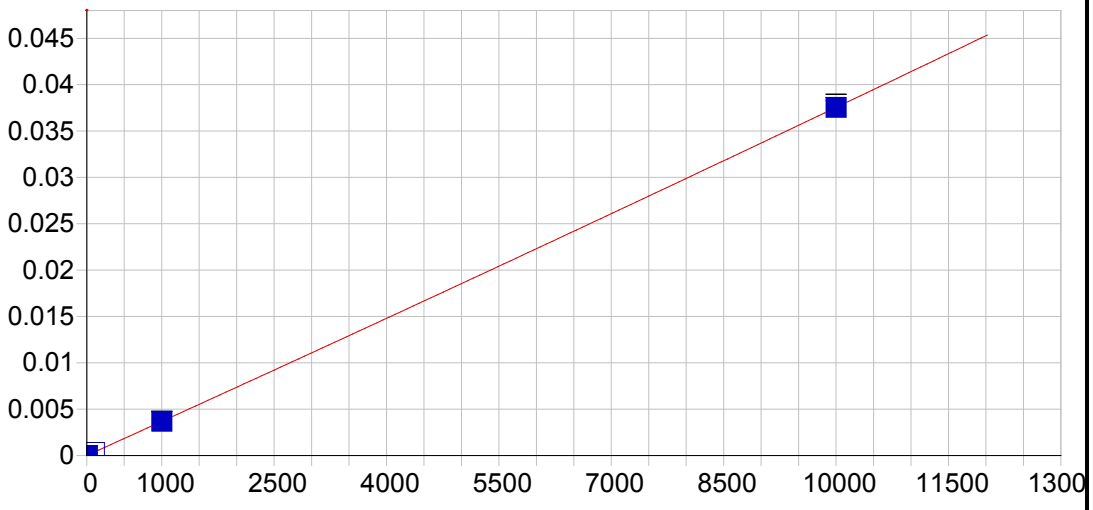


B 249.678 {135}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999956	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.399181		
Predicted MQL:	4.663935		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00166	.002	.000	.00001	.000	1
CalStd8=100	100.00	94.622	-5.38	-5.38	.00020	.000	1
CalStd5=10	10.000	9.0714	-.929	-9.29	.00003	.000	1
CalStd9=100	1000.0	977.31	-22.7	-2.27	.00202	.000	1
CalStd10=10	10000.	10029.	29.0	.290	.02065	.000	1

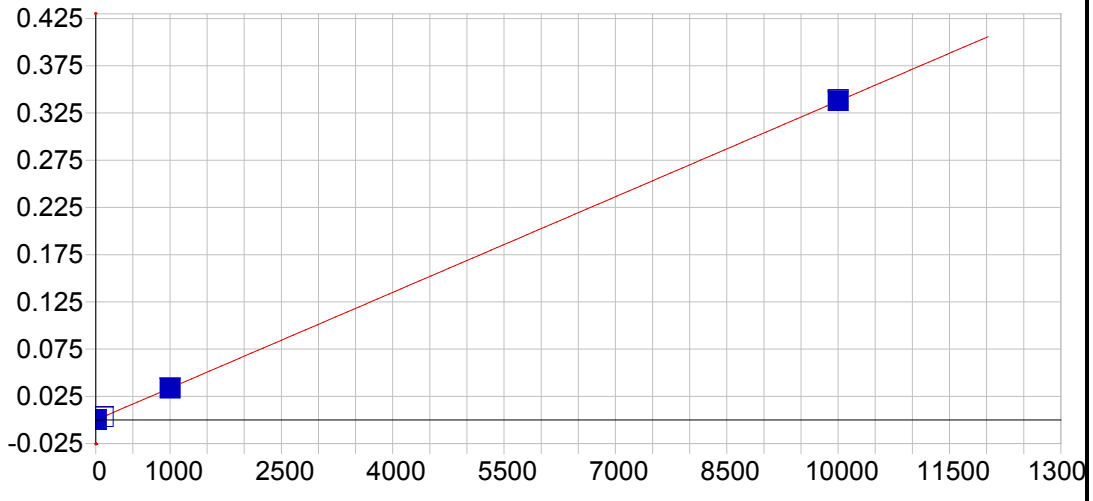


B 249.773 {135}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	Warning Positive Curvature
Std Error of Est:	0.000002		
Predicted MDL:	0.630501		
Predicted MQL:	2.101669		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.07860	.079	.000	.00001	.000	1
CalStd8=100	100.00	97.881	-2.12	-2.12	.00037	.000	1
CalStd5=10	10.000	9.6324	-.368	-3.68	.00005	.000	1
CalStd9=100	1000.0	1001.1	1.10	.110	.00369	.000	1
CalStd10=10	10000.	9994.2	-5.77	-.058	.03757	.000	1

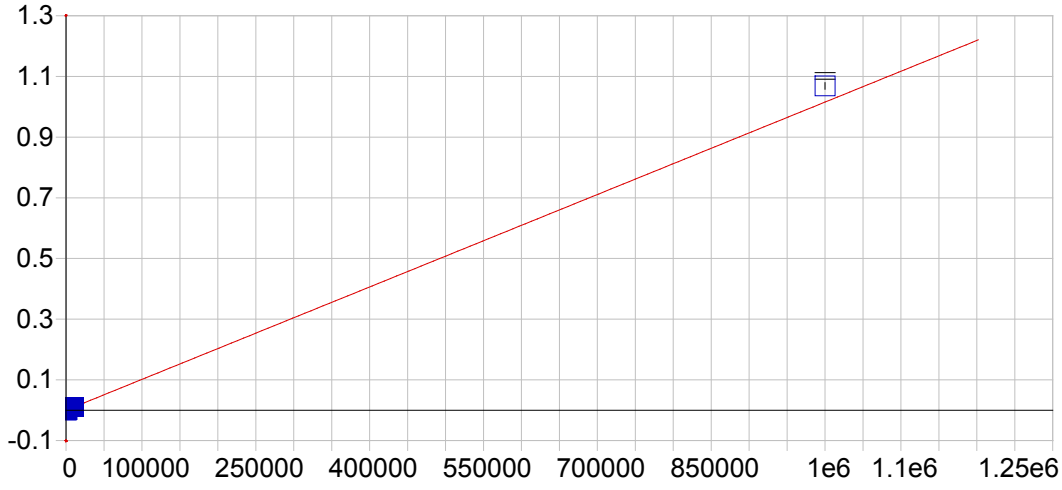


Li 670.784 { 50}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000026	Re-Slope:	1.000000
A1 (Gain):	0.000034	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.871705		
Predicted MQL:	2.905684		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00090	-.001	.000	-.00003	.000	1
CalStd5=10	10.000	11.161	1.16	11.6	.00035	.000	1
CalStd8=100	100.00	98.106	-1.89	-1.89	.00329	.000	1
CalStd9=100	1000.0	992.25	-7.75	-.775	.03348	.000	1
CalStd10=10	10000.	10008.	8.49	.085	.33789	.001	1

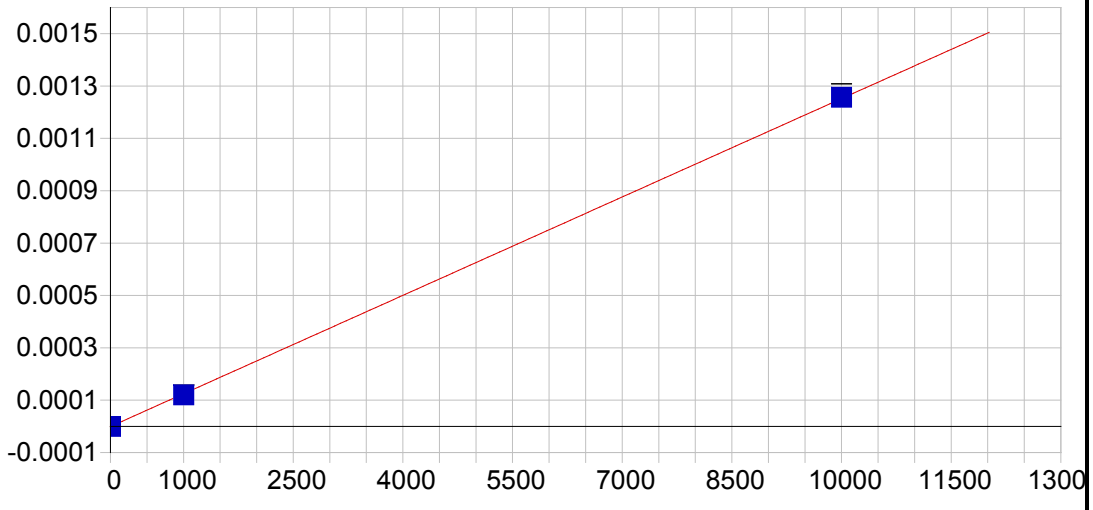


K 766.490 { 44}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999779	Status:	OK.
Std Error of Est:	0.000079		
Predicted MDL:	23.830204		
Predicted MQL:	79.434014		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.6933	8.69	.000	-.00002	.000	1
CalStd9=100	1000.0	1002.7	2.67	.267	.00099	.000	1
CalStd10=10	10000.	9924.7	-75.3	-.753	.01005	.000	1
CalibStd15=	1000000.	1052400.	52400.	5.24	1.0686	.011	1

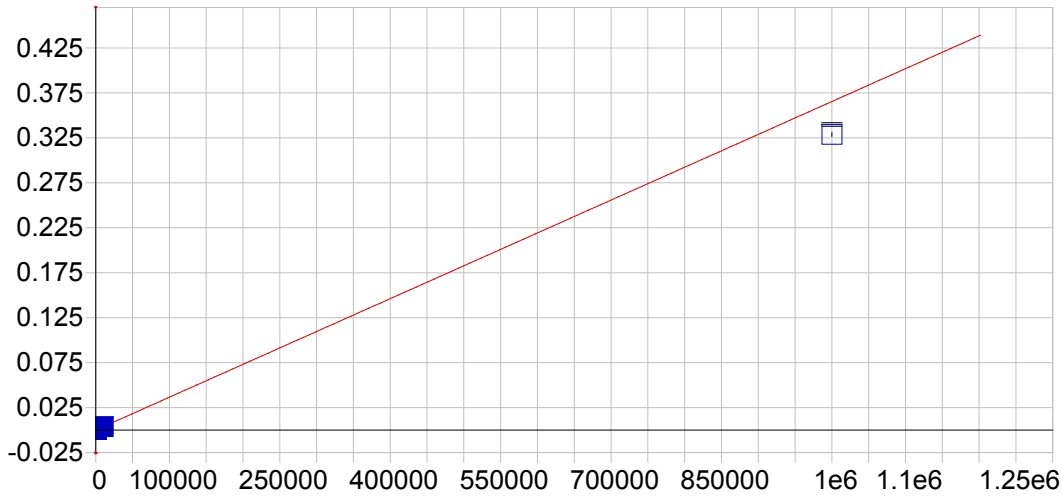


P 213.618 {457}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999924	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.770312		
Predicted MQL:	22.567708		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03512	.035	.000	-.00000	.000	1
CalStd10=10	10000.	10039.	39.0	.390	.00126	.000	1
CalStd9=100	1000.0	960.98	-39.0	-3.90	.00012	.000	1

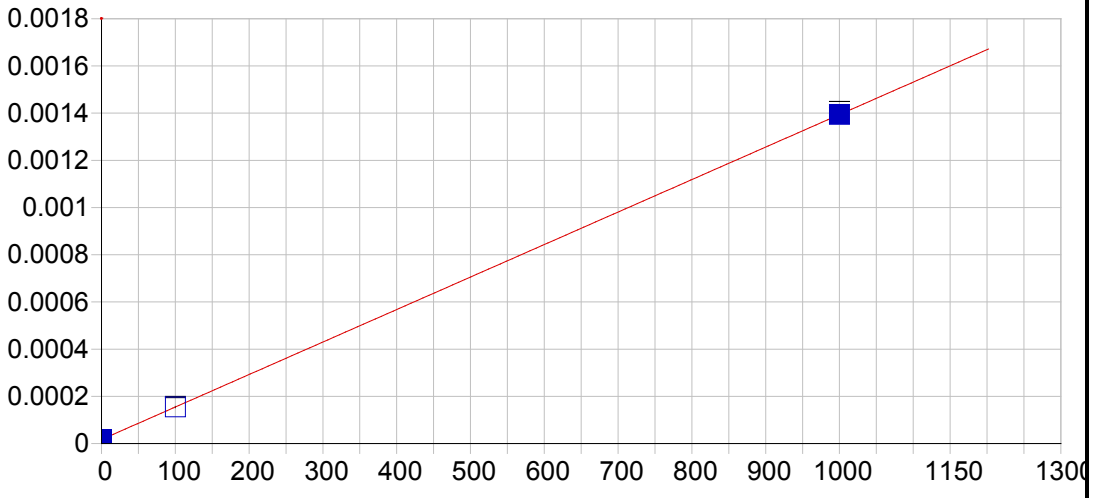


S 182.034 {485}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	9.954942		
Predicted MQL:	33.183142		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00917	.009	.000	.00000	.000	1
CalStd9=100	1000.0	989.71	-10.3	-1.03	.00036	.000	1
CalStd10=10	10000.	10000.	.255	.003	.00366	.000	1
CalibStd15=	1000000.	899690.	-100000.	-10.0	.32876	.002	1

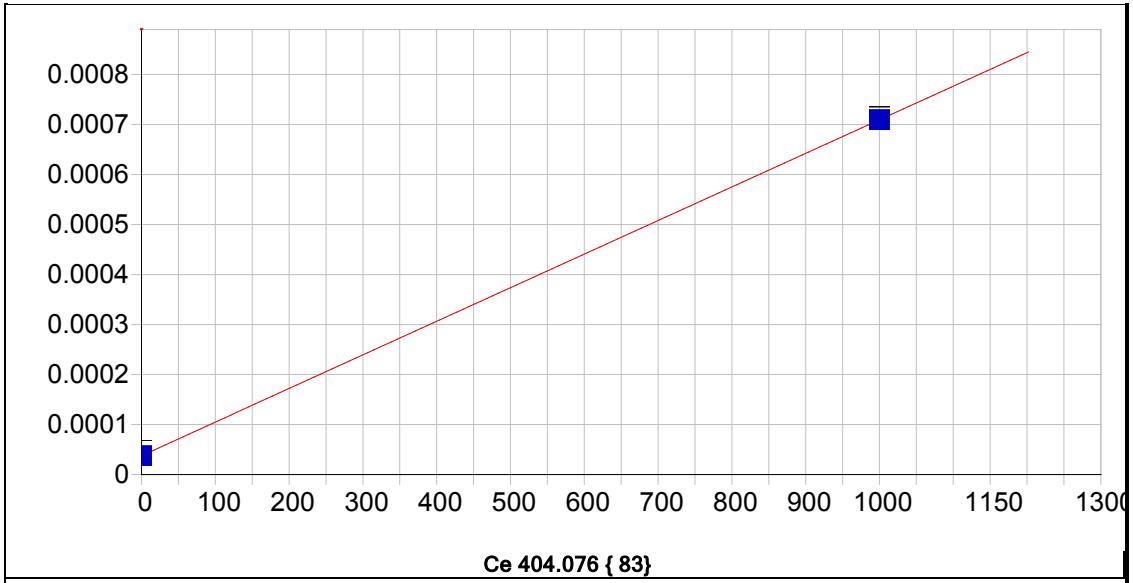


Hg 184.950 {482}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000017	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.940960		
Predicted MQL:	9.803202		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00007	.000	.000	.00002	.000	1
CalStd8=100	100.00	99.927	-.073	-.073	.00015	.000	1
CalStd9=100	1000.0	1000.1	.073	.007	.00139	.000	1



Ce 404.076 { 83}

Date of Fit:	10/28/2019 14:56:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000038	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	16.427212		
Predicted MQL:	54.757372		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00004	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00071	.000	1

Sample Name: Blank Acquired: 10/23/2019 14:45:01 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Ca3158	Ca3933	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**12.2**	**.000**	**-.000**	**.095**	**-.000**	**-.000**	**.011**	**.000**	**.000**	**.001**	**-.000**	**.000**
Stddev	2.0	.000	.000	.510	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	16.3	32.3	18.0	539.	118.	308.	1.01	12.8	4.10	8.35	724.	69.0

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2230	Fe2395	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.000**	**-.000**	**1.23**	**-.000**	**-.000**	**.000**	**-.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.39	.000	.000	.000	.000
%RSD	112.	67.7	45.7	69.3	141.	83.0	74.6	31.9	28.2	281.	84.8	26.2

Elem	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**.000**	**-.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	199.	42.8	81.2	37.6	29.6	490.	156.	165.	42.6	39.6	172.	660.

Elem	Zn2138	Sr4077	Sr4215	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	24.9	3.81	32.9	50.4

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157440.**	**1005400.**	**373300.**
Stddev	341.	4256.	3123.
%RSD	.21687	.42326	.83667

Sample Name: CalStd2=0.5 Acquired: 10/23/2019 14:51:19 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	3.43	48.6	1.72

Int. Std.	Y_2243	Y_3242
Units	Cts/S	Cts/S
Avg	**153540.**	**997990.**
Stddev	438.	2696.
%RSD	.28521	.27012

Sample Name: CalStd3=1 Acquired: 10/23/2019 14:57:36 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Ni2316	Sr4077	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**16.8**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.000**	**.000**	**.000**
Stddev	1.6	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	9.69	36.1	4.86	12.8	19.3	14.2	28.0	78.0	6.76	3.48

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153160.**	**996100.**	**368320.**
Stddev	549.	2330.	1528.
%RSD	.35844	.23390	.41483

Sample Name: CalStd4=5 Acquired: 10/23/2019 15:03:53 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	7.27	.842	1.41	1.00	3.84	4.16	7.81	5.81	13.2	31.1	8.62	42.8

Elem	Sb2175	Sr4077	Sr4215
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.001**
Stddev	.000	.000	.000
%RSD	13.9	1.08	3.12

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**154250.**	**991500.**	**365610.**
Stddev	137.	3484.	1033.
%RSD	.08858	.35137	.28265

Sample Name: CalStd5=10 Acquired: 10/23/2019 15:10:09 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2230
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**44.4**	**.000**	**.642**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	3.0	.000	.670	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	6.82	2.05	104.	168.	4.83	.200	1.57	1.87	1.18	2.58	11.4	7.53

Elem	Mn2576	Mo2020	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.91	6.91	18.9	9.07	29.9	20.9	48.8	14.7	21.5	12.3	7.63	1.06

Elem	Zn2138	Sr4077	Sr4215	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.001**	**.000**
Stddev	.000	.000	.000	.000
%RSD	.792	.438	2.17	9.10

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153520.**	**986130.**	**367940.**
Stddev	517.	2348.	1890.
%RSD	.33692	.23810	.51376

Sample Name: CalStd6=20 Acquired: 10/23/2019 15:16:29 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2230	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	1.13	6.28	.951	4.61	11.3	12.3	2.88

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153880.**	**980980.**	**367240.**
Stddev	247.	5075.	879.
%RSD	.16049	.51730	.23938

Sample Name: CalStd7=50 Acquired: 10/23/2019 15:22:42 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	As1937	As1972	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2230	Mn2576	Mo2020	Mo2045	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**7.70**	**.000**	**.001**	**.002**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.96	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	12.5	15.1	.327	.146	.518	.481	1.43	1.17	.661	1.59	2.16	1.87

Elem	Sb2068	Se1960	V_2924
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	4.20	9.27	1.17

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153990.**	**986900.**	**365900.**
Stddev	174.	6258.	3919.
%RSD	.11296	.63411	1.0710

Sample Name: CalStd8=100 Acquired: 10/23/2019 15:28:55 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4934	Be3130	Ca3933	Cd2265	Cd2288	Co2286	Co2388
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**312.**	**.000**	**13.8**	**.000**	**.001**	**.013**	**.006**	**.018**	**.003**	**.004**	**.002**	**.000**
Stddev	4.	.000	.8	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.30	.720	5.69	7.97	.487	.807	.933	1.25	.389	.233	.230	1.16

Elem	Cr2055	Cr2677	Cu2230	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.001**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.697	1.33	.882	1.11	.368	.348	.696	2.21	2.53	1.22	2.98	4.25

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sr4215	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.002**	**.009**	**.008**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	23.3	1.43	2.44	.764	.421	.550	1.09	1.24	3.65

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153830.**	**993280.**	**369470.**
Stddev	495.	4643.	2607.
%RSD	.32148	.46741	.70562

Sample Name: CalStd9=1000 Acquired: 10/23/2019 15:35:11 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Ca3158	Ca3933	Cd2265	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.001**	**145.**	**.000**	**.009**	**.037**	**.058**	**.000**	**.162**	**.026**	**.036**	**.022**
Stddev	.000	.000	.	.000	.000	.000	.000	.000	.001	.000	.000	.000
%RSD	.232	.304	.127	1.92	.270	.898	.259	2.27	.529	.218	.267	.085

Elem	Co2388	Cr2055	Cr2677	Cu2230	Fe2395	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.014**	**.003**	**.003**	**.000**	**.001**	**27.1**	**.005**	**.002**	**.003**	**.002**	**.007**
Stddev	.000	.000	.000	.000	.000	.000	.7	.000	.000	.000	.000	.000
%RSD	.754	.368	.455	.758	.943	.850	2.60	.335	1.17	1.26	.966	.461

Elem	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.001**	**.003**	**.001**	**.001**	**.001**	**.000**	**.002**	**.001**	**.005**	**.010**	**.024**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.580	.451	.665	.531	.673	1.02	1.40	.322	1.03	.182	.484	.532

Elem	Sr4077	Sr4215	B_2496
Units	Cts/S	Cts/S	Cts/S
Avg	**.090**	**.080**	**.002**
Stddev	.001	.001	.000
%RSD	.617	.786	.154

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153800.**	**982490.**	**366500.**
Stddev	112.	2718.	2464.
%RSD	.07285	.27659	.67217

Sample Name: CalStd10=10000 Acquired: 10/23/2019 15:40:53 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	As1972	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677	Cu2230	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.013**	**.003**	**.269**	**.002**	**.209**	**.019**	**.134**	**.033**	**.031**	**.003**	**.008**	**258.**
Stddev	.000	.000	.005	.000	.001	.000	.000	.000	.000	.000	.000	1.
%RSD	.173	.685	1.69	.520	.303	.845	.157	.866	.521	.563	.202	.457

Elem	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Sb2175	Se2062	Tl1908	V_2908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.048**	**.024**	**.023**	**.066**	**.061**	**.013**	**.011**	**.012**	**.003**	**.022**	**.013**	**.050**
Stddev	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.12	.411	.873	.695	.770	.370	.371	.421	.306	.417	.258	.934

Elem	Zn2062	Sr4077	Sr4215	B_2496
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.095**	**.890**	**.801**	**.021**
Stddev	.001	.002	.007	.000
%RSD	.625	.229	.861	.921

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**150590.**	**927640.**	**367620.**
Stddev	631.	5158.	868.
%RSD	.41885	.55606	.23610

Sample Name: CalStd12=100K Acquired: 10/23/2019 15:47:19 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu2230	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.31**	**.346**	**.276**	**.148**	**.940**
Stddev	.00	.001	.003	.000	.003
%RSD	.117	.186	.962	.309	.363

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**150890.**	**973560.**	**367960.**
Stddev	371.	4596.	2744.
%RSD	.24610	.47204	.74577

Sample Name: CalStd13=100000 Acquired: 10/23/2019 15:53:38 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.145**	**.020**	**.028**	**.085**	**2900.**
Stddev	.001	.000	.000	.000	11.
%RSD	.888	.930	.436	.541	.373

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**147290.**	**360220.**
Stddev	505.	2556.
%RSD	.34254	.70968

Sample Name: CalStd14=500000 Acquired: 10/23/2019 16:00:09 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.691**	**.088**	**.123**	**.369**	**13100.**
Stddev	.009	.001	.001	.002	11.
%RSD	1.35	.646	.743	.624	.082

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**135320.**	**340650.**
Stddev	413.	2416.
%RSD	.30555	.70915

Sample Name: CalibStd15=1000k Acquired: 10/23/2019 16:07:12 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.38**	**.172**	**.238**	**24800.**
Stddev	.01	.002	.002	51.
%RSD	.640	1.10	.854	.207

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**121930.**	**323600.**
Stddev	217.	1947.
%RSD	.17770	.60175

Sample Name: Ag Ba 1000, 50000 Acquired: 10/23/2019 16:14:44 Type: Cal
Method: DOD Calibration Updated 060614(v3580) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4934
Units	Cts/S	Cts/S
Avg	**2800.**	**1.27**
Stddev	8.	.01
%RSD	.298	.522

Int. Std.	Y_3710
Units	Cts/S
Avg	**373180.**
Stddev	1679.
%RSD	.45006

Sample Name: icv Acquired: 10/23/2019 16:27:39 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1972	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cr2677	Cu2230
Avg	**52.2**	**11800.**	**2050.**	**2070.**	**2090.**	**50.0**	**9950.**	**50.5**	**522.**	**208.**	**200.**	**239.**
Stddev	.3	14.	5.	28.	4.	.2	20.	.3	1.	.	1.	3.
%RSD	.553	.116	.239	1.37	.196	.343	.202	.556	.140	.069	.549	1.41
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960
Avg	**5210.**	**9800.**	**497.**	**517.**	**521.**	**509.**	**520.**	**499.**	**509.**	**512.**	**519.**	**2060.**
Stddev	91.	17.	4.	3.	.	1.	3.	3.	6.	5.	4.	4.
%RSD	1.74	.172	.842	.632	.010	.270	.533	.695	1.10	.881	.693	.193
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sr4215
Avg	**2050.**	**2110.**	**514.**	**504.**	**530.**	**519.**	**532.**	**524.**
Stddev	4.	14.	2.	.	4.	3.	1.	.
%RSD	.182	.688	.334	.007	.678	.570	.199	.086
Check ?	None	None	None	None	None	None	None	None
Value								
Range								

Sample Name: icv Acquired: 10/23/2019 16:27:39 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**152460.**	**981630.**	**367120.**
Stddev	225.	2975.	444.
%RSD	.14743	.30311	.12086

Sample Name: ICVLL Acquired: 10/23/2019 16:39:52 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	F **42.0**	**1260.**	**1240.**	**62.3**	**31.8**	**13.0**	**1590.**	**16.2**	**33.8**	**29.4**	**31.4**	**981.**
Stddev	.6	4.	4.	6.4	.4	.1	11.	.1	.4	.7	1.0	8.
%RSD	1.37	.347	.326	10.3	1.34	.526	.695	.671	1.07	2.46	3.30	.860
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Avg	**1570.**	**30.9**	**31.9**	**32.7**	**31.7**	**69.3**	**65.1**	**65.8**	**31.5**	**34.0**	**32.9**	**62.8**
Stddev	36.	.1	1.1	.7	1.9	3.6	6.4	1.5	.5	.3	.3	1.5
%RSD	2.30	.246	3.47	2.05	5.88	5.27	9.85	2.25	1.54	.798	.992	2.41
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**153050.**	**993690.**	**369150.**
Stddev	247.	2445.	2236.
%RSD	.16112	.24600	.60560

Sample Name: icb Acquired: 10/23/2019 16:52:16 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Avg	**.454**	**-2.38**	**.319**	**.117**	**.010**	**6.81**	**-.189**	**-.016**	**-2.22**	**1.02**	**1.73**	**-3.43**
Stddev	.579	.54	7.10	.331	.007	.26	.162	.199	.87	.86	4.16	30.3
%RSD	127.	22.5	2230.	283.	71.1	3.81	85.7	1270.	39.3	84.2	241.	886.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Avg	**-.888**	**-2.18**	**-.197**	**.828**	**3.53**	**-1.00**	**-.726**	**-.595**	**1.27**	**.324**	**-1.80**
Stddev	.274	.73	.493	2.18	.44	5.55	1.66	.906	.26	.098	1.24
%RSD	30.8	33.4	250.	263.	12.4	555.	229.	152.	20.8	30.3	68.9
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**157870.**	**1005800.**	**374110.**
Stddev	489.	5785.	3973.
%RSD	.30956	.57510	1.0620

Sample Name: MRL/LLOQ Acquired: 10/23/2019 16:58:31 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Avg	**16.2**	**426.**	**21.5**	**10.4**	**4.40**	**516.**	**5.37**	**11.1**	**7.90**	**12.1**	**320.**	**517.**
Stddev	.7	1.	6.4	.6	.09	.	.14	.3	.67	1.0	3.	24.
%RSD	4.58	.128	29.5	5.98	1.99	.051	2.53	2.54	8.44	8.48	.847	4.73
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Avg	**9.19**	**8.65**	**11.0**	**9.77**	**19.8**	**18.9**	**20.3**	**10.0**	**12.2**	**10.6**	**18.7**
Stddev	.22	.72	.9	1.69	5.3	4.0	2.4	.3	.2	.1	.8
%RSD	2.37	8.27	7.84	17.3	26.7	21.0	11.8	2.59	1.58	.792	4.49
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**154360.**	**977530.**	**366730.**
Stddev	495.	6089.	2016.
%RSD	.32043	.62293	.54981

Sample Name: ICSA Acquired: 10/23/2019 17:04:42 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2395
Avg	**.011**	**539000.**	**-.295**	**-.213**	**-.562**	**503000.**	**-.058**	**.364**	**-5.67**	**.234**	**485000.**
Stddev	.577	5850.	14.9	.742	.060	2860.	.522	.289	1.29	3.01	2000.
%RSD	5320.	1.09	5040.	349.	10.6	.568	903.	79.4	22.8	1280.	.412
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	Zn2138
Avg	**485000.**	**518000.**	**-2.07**	**.552**	**-.234**	**2.63**	**1.13**	**-8.86**	**1.24**	**11300.**	**-4.46**
Stddev	1430.	1200.	.28	1.21	2.68	3.34	13.9	12.2	4.26	87.	.68
%RSD	.294	.232	13.7	219.	1140.	127.	1240.	138.	344.	.768	15.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit											
Low Limit											

Elem	Sr4077	B_2496
Avg	**.880**	**-1.62**
Stddev	.136	1.31
%RSD	15.4	81.0
Check ?	Chk Pass	Chk Pass
High Limit		
Low Limit		

Sample Name: ICSA Acquired: 10/23/2019 17:04:42 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**135700.**	**870340.**	**339200.**
Stddev	320.	7963.	3089.
%RSD	.23561	.91489	.91058

Sample Name: ICSAB Acquired: 10/23/2019 17:11:43 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	As1972	Ba2335	Be3130	Ca3158	Cd2288	Co2286	Cr2055	Cr2677
Avg	**586.**	**578000.**	**504.**	**431.**	**531.**	**552.**	**550000.**	**570.**	**527.**	**552.**	**523.**
Stddev	2.	4990.	10.	12.	1.	3.	1820.	1.	2.	1.	1.
%RSD	.256	.863	1.90	2.76	.209	.599	.330	.221	.329	.098	.208
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Cu2230	Fe2395	Fe2599	Mg2790	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Avg	**520.**	**519000.**	**517000.**	**550000.**	**510.**	**544.**	**523.**	**516.**	**508.**	**428.**	**475.**
Stddev	2.	4940.	4590.	1240.	6.	5.	8.	2.	2.	6.	7.
%RSD	.334	.953	.889	.226	1.25	.850	1.54	.424	.343	1.31	1.56
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Sb2068	Sb2175	Se1960	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sr4215	B_2496
Avg	**476.**	**552.**	**512.**	**548.**	**580.**	**530.**	**514.**	**535.**	**591.**	**568.**	**523.**
Stddev	8.	7.	14.	2.	10.	6.	3.	2.	2.	2.	3.
%RSD	1.62	1.36	2.63	.444	1.71	1.15	.616	.321	.259	.316	.525
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: ICSAB Acquired: 10/23/2019 17:11:43 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**135220.**	**869630.**	**334580.**
Stddev	678.	1348.	1236.
%RSD	.50156	.15502	.36940

Sample Name: ICVLL ag Acquired: 10/23/2019 17:24:26 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**11.5**	**2.64**	**4.51**	**.024**	**.012**	**3.03**	**.061**	**.108**	**-1.70**	**.499**	**175.**	**4.57**
Stddev	1.0	.58	4.19	.237	.036	.33	.230	.207	.47	.510	53.	20.8
%RSD	8.48	22.0	93.0	972.	306.	10.9	376.	191.	27.8	102.	30.4	455.

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.10**	**-3.17**	**-.432**	**.868**	**.786**	**2.05**	**1.11**	**.105**	**.824**	**.001**	**-2.20**
Stddev	.16	1.13	.600	.898	3.60	2.20	1.52	.170	.152	.129	1.04
%RSD	14.7	35.6	139.	104.	457.	107.	138.	162.	18.4	12100.	47.2

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**156940.**	**1003900.**	**370730.**
Stddev	449.	4379.	2394.
%RSD	.28594	.43617	.64585

Sample Name: lcsw74046 Acquired: 10/23/2019 17:37:12 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.9**	**784.**	**789.**	**871.**	**794.**	**20.6**	**200000.**	**19.8**	**206.**	**80.3**	**102.**
Stddev	1.9	.	12.	18.	1.	.2	2310.	.2	.	1.5	2.
%RSD	9.11	.054	1.48	2.03	.109	1.20	1.16	.940	.230	1.86	2.28

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**424.**	**100000.**	**196.**	**2050.**	**204.**	**195.**	**212.**	**814.**	**793.**	**185.**	**211.**
Stddev	9.	147.	2.	13.	1.	7.	3.	4.	2.	4.	3.
%RSD	2.10	.147	.944	.626	.360	3.52	1.57	.507	.219	2.25	1.41

Elem	Zn2138	Sr4077	B_2496
Units	ug/L	ug/L	ug/L
Avg	**208.**	**3.78**	**-2.12**
Stddev	1.	.07	.90
%RSD	.331	1.72	42.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**143190.**	**915420.**	**359850.**
Stddev	216.	10029.	1438.
%RSD	.15105	1.0955	.39948

Sample Name: mbw74046 Acquired: 10/23/2019 17:43:51 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.069**	**-3.85**	**-3.10**	**.011**	**.015**	**7.21**	**.049**	**-.026**	**-1.86**	**.934**	**10.5**	**2.82**
Stddev	.488	.32	3.00	.370	.023	1.63	.290	.379	.53	1.38	2.0	15.5
%RSD	709.	8.17	96.8	3410.	154.	22.6	595.	1440.	28.2	148.	19.3	550.

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.17**	**-.467**	**-.258**	**-1.29**	**-.267**	**3.18**	**-1.21**	**-.513**	**.691**	**-.131**	**-1.22**
Stddev	.21	1.93	1.09	2.64	4.22	1.25	.86	.905	.241	.141	1.49
%RSD	17.6	414.	424.	205.	1580.	39.3	70.8	176.	34.9	108.	122.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**155010.**	**993220.**	**369300.**
Stddev	535.	10001.	1783.
%RSD	.34525	1.0069	.48285

Sample Name: 343844 Acquired: 10/23/2019 17:50:09 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.254**	**153.**	**-7.34**	**94.0**	**.059**	**93600.**	**-.046**	**-.006**	**.762**	**2.36**	**333.**	**34600.**
Stddev	.445	2.	4.77	.5	.038	1000.	.120	.250	1.04	1.19	5.	83.
%RSD	175.	1.53	65.0	.500	64.3	1.07	262.	4000.	137.	50.7	1.62	.240

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4215	B_2496
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**22.0**	**.766**	**-.054**	**.586**	**-1.56**	**-1.89**	**-1.17**	**-.001**	**15.8**	**3860.**	**24.8**
Stddev	.5	1.12	1.67	2.30	3.37	6.02	2.32	.542	.3	21.	1.5
%RSD	2.25	146.	3110.	393.	216.	319.	199.	51600.	1.71	.536	5.97

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**148940.**	**949400.**	**359010.**
Stddev	81.	3959.	2083.
%RSD	.05467	.41696	.58006

Sample Name: I343844 Acquired: 10/23/2019 17:56:45 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.340**	**34.3**	**.110**	**23.9**	**.029**	**23400.**	**-.030**	**.169**	**-1.76**	**1.25**	**78.8**	**8870.**
Stddev	.367	.4	2.36	.5	.052	180.	.104	.276	.59	1.93	5.0	31.
%RSD	108.	1.12	2140.	1.99	182.	.768	343.	163.	33.6	154.	6.34	.346

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	Sr4215	B_2496
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4.68**	**-2.27**	**-1.19**	**-1.68**	**2.29**	**-.924**	**-1.06**	**-.392**	**3.95**	**969.**	**952.**	**5.24**
Stddev	.10	.64	.85	3.47	3.01	2.62	2.74	.375	.13	3.	3.	1.18
%RSD	2.19	28.2	70.8	206.	132.	284.	259.	95.8	3.40	.350	.322	22.5

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**154340.**	**980140.**	**369250.**
Stddev	371.	4234.	1107.
%RSD	.24067	.43197	.29988

Sample Name: dup343844 Acquired: 10/23/2019 18:03:20 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.210**	**158.**	**-7.16**	**97.3**	**.024**	**96300.**	**-.082**	**.190**	**.429**	**1.76**	**337.**	**35900.**
Stddev	1.27	1.	5.46	.5	.029	373.	.323	.461	.822	1.31	5.	59.
%RSD	603.	.651	76.3	.463	122.	.387	392.	242.	192.	74.4	1.52	.165

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4215	B_2496
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**22.8**	**1.41**	**.226**	**1.20**	**-.690**	**1.89**	**-1.13**	**-.041**	**16.3**	**3970.**	**23.1**
Stddev	.3	1.03	1.20	2.28	5.65	2.38	2.23	1.26	.5	33.	.4
%RSD	1.50	73.4	533.	189.	819.	126.	198.	3100.	3.19	.825	1.75

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**149070.**	**958670.**	**363550.**
Stddev	332.	3531.	2487.
%RSD	.22261	.36830	.68398

Sample Name: msw343844 Acquired: 10/23/2019 18:09:55 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.9**	**987.**	**1140.**	**779.**	**871.**	**885.**	**20.6**	**296000.**	**19.8**	**207.**	**81.0**
Stddev	.8	1.	8.	2.	29.	4.	.1	1460.	.2	1.	.5
%RSD	3.72	.125	.736	.214	3.31	.437	.461	.494	.875	.655	.597

Elem	Cu2230	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**105.**	**733.**	**137000.**	**214.**	**2020.**	**199.**	**194.**	**211.**	**816.**	**781.**	**179.**
Stddev	3.	9.	262.	3.	23.	2.	4.	5.	7.	3.	2.
%RSD	2.39	1.16	.191	1.24	1.15	1.07	2.10	2.14	.910	.347	1.01

Elem	V_2924	Zn2138	Sr4215	B_2496
Units	ug/L	ug/L	ug/L	ug/L
Avg	**208.**	**223.**	**3910.**	**23.9**
Stddev	2.	2.	7.	1.6
%RSD	.908	.961	.184	6.80

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**140670.**	**906500.**	**356950.**
Stddev	266.	3872.	875.
%RSD	.18900	.42715	.24509

Sample Name: msdw343844 Acquired: 10/23/2019 18:16:30 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3961	As1937	As1972	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.4**	**1010.**	**1160.**	**822.**	**925.**	**921.**	**21.4**	**302000.**	**20.4**	**212.**	**85.2**
Stddev	.4	5.	11.	13.	8.	2.	.1	2320.	.1	2.	.7
%RSD	1.97	.450	.981	1.54	.854	.227	.609	.769	.734	.970	.771

Elem	Cu2230	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**109.**	**751.**	**141000.**	**225.**	**2140.**	**213.**	**202.**	**223.**	**852.**	**804.**	**186.**
Stddev	3.	12.	311.	2.	10.	1.	3.	3.	5.	4.	4.
%RSD	2.35	1.59	.221	.705	.465	.474	1.42	1.53	.540	.539	2.19

Elem	V_2924	Zn2138	Sr4215	B_2496
Units	ug/L	ug/L	ug/L	ug/L
Avg	**218.**	**232.**	**3930.**	**22.1**
Stddev	.	1.	40.	.4
%RSD	.227	.325	1.01	1.71

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**141190.**	**902600.**	**360000.**
Stddev	456.	3345.	1586.
%RSD	.32288	.37055	.44056

Sample Name: 343878 Acquired: 10/23/2019 18:23:04 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.440**	**3520.**	**2.08**	**164.**	**.149**	**69500.**	**-.040**	**2.78**	**5.66**	**7.88**	**3640.**	**35400.**
Stddev	.417	25.	2.78	1.	.040	484.	.101	.46	.99	.68	45.	64.
%RSD	94.7	.696	133.	.316	26.6	.697	249.	16.4	17.5	8.63	1.25	.182

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**374.**	**.318**	**5.84**	**7.55**	**-.549**	**1.47**	**-1.79**	**5.44**	**28.2**	**201.**	**14.4**
Stddev	4.	.988	.80	.28	3.34	4.69	.14	.98	.2	1.	2.1
%RSD	1.01	311.	13.7	3.69	609.	320.	7.65	18.1	.620	.686	14.3

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**149070.**	**953430.**	**359210.**
Stddev	788.	6404.	2487.
%RSD	.52877	.67164	.69244

Sample Name: ccv1 Acquired: 10/23/2019 18:29:38 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3130	Ca3158	Cd2288	Co2388	Cr2055	Cu2230	Fe2599	Mg2790
Avg	**509.**	**5070.**	**4990.**	**5140.**	**508.**	**4980.**	**519.**	**5040.**	**5040.**	**4570.**	**5040.**	**4940.**
Stddev	1.	23.	11.	31.	4.	62.	1.	48.	10.	9.	35.	30.
%RSD	.286	.451	.216	.592	.763	1.25	.148	.955	.192	.199	.700	.613
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062	Sr4215	B_2496
Avg	**4720.**	**4990.**	**4920.**	**4990.**	**4720.**	**4980.**	**5000.**	**5070.**	**5120.**	**5090.**	**5050.**	**5110.**
Stddev	16.	3.	9.	6.	24.	16.	24.	11.	38.	9.	32.	30.
%RSD	.342	.064	.193	.115	.517	.314	.483	.218	.747	.180	.639	.579
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**151400.**	**937890.**	**361410.**
Stddev	494.	1949.	1504.
%RSD	.32642	.20780	.41623

Sample Name: ccv2 Acquired: 10/23/2019 18:35:07 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2230
Avg	**53.0**	**505.**	**501.**	**494.**	**495.**	**50.3**	**492.**	**50.3**	**516.**	**507.**	**501.**	**460.**
Stddev	1.1	1.	4.	11.	.	.6	2.	.5	1.	1.	5.	2.
%RSD	2.12	.176	.762	2.24	.070	1.16	.398	.994	.258	.099	1.08	.428
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960
Avg	**512.**	**482.**	**486.**	**490.**	**494.**	**492.**	**501.**	**487.**	**496.**	**494.**	**495.**	**487.**
Stddev	7.	12.	5.	3.	4.	3.	2.	5.	1.	5.	6.	3.
%RSD	1.30	2.56	.961	.670	.843	.622	.343	.971	.235	1.10	1.15	.691
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sr4215	B_2496
Avg	**527.**	**506.**	**493.**	**505.**	**489.**	**502.**	**494.**	**501.**
Stddev	4.	1.	6.	1.	1.	1.	2.	8.
%RSD	.728	.220	1.22	.193	.291	.248	.389	1.57
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: ccv2 Acquired: 10/23/2019 18:35:07 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**155370.**	**985260.**	**365270.**
Stddev	406.	11700.	675.
%RSD	.26127	1.1875	.18467

Sample Name: ccb Acquired: 10/23/2019 18:40:57 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Avg	**.424**	**-4.19**	**8.20**	**.067**	**.043**	**2.83**	**-.140**	**.234**	**-1.59**	**.830**	**1.84**	**-5.49**
Stddev	1.13	.88	5.89	.235	.033	.17	.120	.378	.74	2.25	1.54	17.2
%RSD	267.	21.1	71.8	350.	78.1	6.18	86.0	161.	46.3	271.	83.8	314.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Avg	**-.830**	**-1.39**	**-.771**	**.233**	**3.76**	**1.51**	**2.30**	**.210**	**.536**	**.326**	**4.24**
Stddev	.174	1.26	.964	2.32	3.81	3.77	1.77	1.24	.225	.107	.64
%RSD	21.0	90.5	125.	998.	101.	249.	77.0	588.	42.1	32.9	15.1
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**160290.**	**1007300.**	**375470.**
Stddev	539.	6604.	3399.
%RSD	.33624	.65562	.90531

Sample Name: pdsw343844 Acquired: 10/23/2019 18:47:15 Type: Unk
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2055	Cr2677
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**81.4**	**3650.**	**3540.**	**3610.**	**83.4**	**429000.**	**80.9**	**102.**	**839.**	**343.**	**330.**
Stddev	1.1	45.	7.	30.	.3	3390.	.4	.	1.	.	1.
%RSD	1.35	1.22	.188	.822	.400	.790	.445	.455	.134	.142	.248

Elem	Cu2230	Fe2599	Mg2790	Mn2576	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**391.**	**1950.**	**206000.**	**808.**	**1720.**	**835.**	**815.**	**823.**	**797.**	**885.**	**881.**
Stddev	2.	20.	253.	2.	11.	3.	5.	3.	5.	7.	11.
%RSD	.615	1.03	.123	.217	.638	.400	.632	.407	.609	.841	1.21

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4215	B_2496
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**3400.**	**3140.**	**851.**	**843.**	**847.**	**871.**	**3810.**	**25.0**
Stddev	27.	7.	11.	3.	3.	4.	26.	1.4
%RSD	.790	.226	1.28	.364	.404	.443	.669	5.45

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**140000.**	**900710.**	**354120.**
Stddev	483.	3644.	2325.
%RSD	.34525	.40460	.65667

Sample Name: ccv1 Acquired: 10/23/2019 19:52:31 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1972	Ba4934	Be3130	Ca3158	Cd2288	Co2388	Cr2055	Cu2230	Fe2599	Mg2790
Avg	**512.**	**5160.**	**5120.**	**5200.**	**506.**	**5210.**	**522.**	**5060.**	**5070.**	**4680.**	**5210.**	**4950.**
Stddev	1.	33.	29.	33.	4.	47.	.	41.	9.	23.	38.	20.
%RSD	.178	.640	.561	.629	.765	.911	.079	.800	.172	.501	.723	.400
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
Value												
Range												

Elem	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062	Sr4215	B_2496
Avg	**4940.**	**5140.**	**5070.**	**5150.**	**4720.**	**5090.**	**5020.**	**5020.**	**5180.**	**5250.**	**5150.**	**5180.**
Stddev	41.	40.	21.	34.	28.	21.	40.	9.	21.	16.	28.	34.
%RSD	.837	.771	.412	.655	.594	.407	.792	.175	.410	.299	.542	.655
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**153830.**	**965450.**	**364020.**
Stddev	448.	4145.	1795.
%RSD	.29133	.42934	.49296

Sample Name: ccv2 Acquired: 10/23/2019 19:57:59 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2055	Cr2677	Cu2230
Avg	**53.5**	**508.**	**519.**	**524.**	**502.**	**50.3**	**506.**	**51.0**	**512.**	**516.**	**509.**	**483.**
Stddev	.8	4.	7.	12.	1.	.2	2.	.2	1.	1.	1.	3.
%RSD	1.55	.788	1.37	2.26	.191	.400	.453	.445	.168	.265	.260	.613
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960
Avg	**538.**	**503.**	**510.**	**520.**	**522.**	**522.**	**531.**	**487.**	**504.**	**513.**	**509.**	**495.**
Stddev	7.	3.	3.	3.	2.	2.	3.	5.	3.	5.	3.	9.
%RSD	1.35	.600	.507	.581	.387	.436	.629	1.12	.609	.902	.657	1.73
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Sr4077	Sr4215	B_2496
Avg	**525.**	**522.**	**501.**	**533.**	**512.**	**524.**	**518.**	**517.**
Stddev	3.	4.	2.	2.	1.	2.	3.	5.
%RSD	.627	.799	.371	.356	.108	.448	.484	.873
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value								
Range								

Sample Name: ccv2 Acquired: 10/23/2019 19:57:59 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**158790.**	**1022300.**	**363150.**
Stddev	398.	1617.	3258.
%RSD	.25038	.15821	.89713

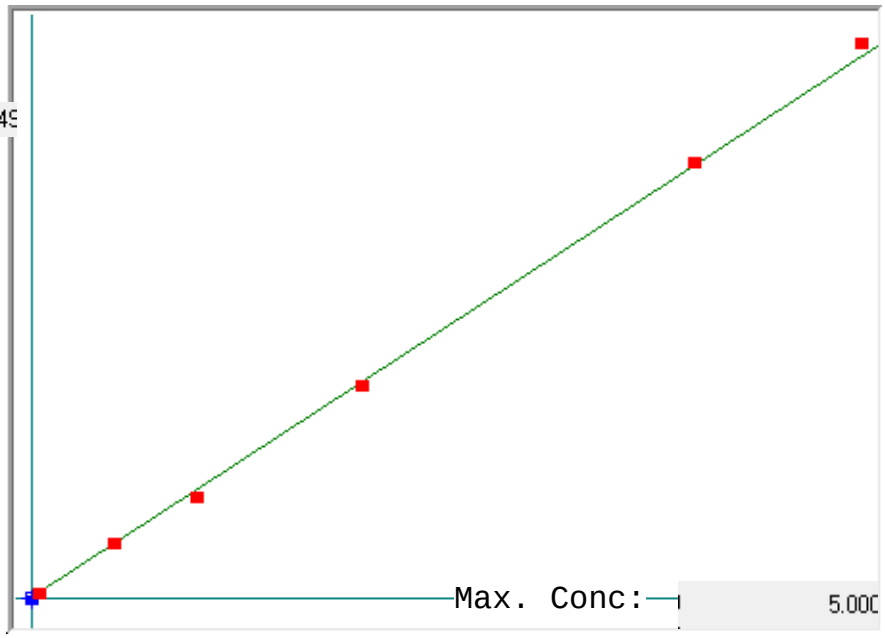
Sample Name: ccb Acquired: 10/23/2019 20:03:49 Type: QC
Method: DOD Calibration Updated 060614(v3580) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2790
Avg	**.611**	**-4.34**	**5.19**	**.166**	**-.070**	**3.74**	**-.125**	**.255**	**-1.37**	**-.508**	**-.832**	**-14.7**
Stddev	.898	.29	1.81	.189	.022	.31	.052	.186	.64	1.01	1.57	31.5
%RSD	147.	6.60	35.0	114.	31.7	8.37	41.7	72.9	46.5	198.	188.	214.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Sr4077	B_2496
Avg	**-.781**	**-2.06**	**-.234**	**.838**	**-.208**	**4.97**	**.142**	**-.653**	**.644**	**.331**	**4.39**
Stddev	.146	.94	.867	2.42	2.26	3.87	2.36	.763	.264	.181	.58
%RSD	18.8	45.5	370.	289.	1090.	77.9	1660.	117.	41.1	54.9	13.1
Check ?	None	None	None	None	None	None	None	None	None	None	None
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**163480.**	**1041200.**	**373570.**
Stddev	733.	3229.	1067.
%RSD	.44834	.31014	.28552

Hg WATERS



A= 0.0000e+000

B= 1.4544e-004

C= -4.2766e-003

Rho= 0.9995373

Accept= Accepted

Accepted Date=

10/24/19 08:02

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
Calibration Blank	0.000	0.000	0.000	29	1.118	28	30	31	29	
0.05	0.050	0.049	-0.001	368	2.0 %	358	367	372	378	
0.5	0.500	0.527	0.027	3655	3.1 %	3499	3605	3711	3806	
1.0	1.000	0.947	-0.053	6542	3.2 %	6252	6464	6635	6817	
2.0	2.000	1.974	-0.026	13604	2.6 %	13111	13469	13761	14076	
4.0	4.000	4.051	0.051	27885	2.9 %	26714	27592	28361	28876	
5.0	5.000	5.137	0.137	35349	2.5 %	34199	34924	35689	36585	

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
Calibration Blank	24 Oct 2019 07:48:02	Hg			29.500
0.05	24 Oct 2019 07:50:02	Hg			368.750
0.5	24 Oct 2019 07:52:04	Hg			3655.250
1.0	24 Oct 2019 07:54:05	Hg			6542.000
2.0	24 Oct 2019 07:56:06	Hg			13604.250
4.0	24 Oct 2019 07:58:08	Hg			27885.750
5.0	24 Oct 2019 08:00:10	Hg			35349.250
ICV	24 Oct 2019 08:02:24	Hg			3.017
ICB	24 Oct 2019 08:06:50	Hg			-0.022
342860lcsw 73988	24 Oct 2019 08:10:49	Hg			1.662
343318lcsw 74000	24 Oct 2019 08:12:51	Hg			1.671
343340lcsw 74009	24 Oct 2019 08:14:53	Hg			1.577
344336lcsw 74031	24 Oct 2019 08:16:55	Hg			1.652
342195lcsw 73975	24 Oct 2019 08:18:56	Hg			1.597
345081lcsw 74067	24 Oct 2019 08:20:58	Hg			1.684
343336lcsw 74007	24 Oct 2019 08:23:00	Hg			1.582
CCV	24 Oct 2019 08:29:05	Hg			2.741
CCB	24 Oct 2019 08:33:15	Hg			0.011
342859mbw 73988	24 Oct 2019 08:35:14	Hg			0.026
343317mbw 74000	24 Oct 2019 08:37:15	Hg			0.000
343339mbw 74009	24 Oct 2019 08:39:16	Hg			-0.000
344335mbw 74031	24 Oct 2019 08:41:15	Hg			-0.011
342194mbw 73975	24 Oct 2019 08:43:15	Hg			-0.005
345080mbw 74067	24 Oct 2019 08:45:14	Hg			-0.011
343335mbw 74007	24 Oct 2019 08:47:14	Hg			-0.009
342264	24 Oct 2019 08:49:12	Hg			-0.004
342265	24 Oct 2019 08:51:12	Hg			0.020
CCV	24 Oct 2019 08:55:11	Hg			2.822
CCB	24 Oct 2019 08:59:21	Hg			-0.019
342266	24 Oct 2019 09:01:21	Hg			0.003
342267	24 Oct 2019 09:03:20	Hg			-0.005
342268	24 Oct 2019 09:05:21	Hg			-0.003
342269	24 Oct 2019 09:07:22	Hg			-0.001
342270	24 Oct 2019 09:09:23	Hg			-0.004
342271	24 Oct 2019 09:11:22	Hg			0.004
342272	24 Oct 2019 09:13:21	Hg			0.018
342273	24 Oct 2019 09:15:20	Hg			0.002
342274	24 Oct 2019 09:17:20	Hg			0.020
CCV	24 Oct 2019 09:21:18	Hg			2.855
CCB	24 Oct 2019 09:25:28	Hg			-0.022
342861dup 342264	24 Oct 2019 09:27:28	Hg			-0.003
342862msw 342264	24 Oct 2019 09:31:27	Hg			1.727
342863msdw 342264	24 Oct 2019 09:33:30	Hg			1.751
342965	24 Oct 2019 09:37:37	Hg			-0.002
342980	24 Oct 2019 09:39:38	Hg			-0.007
342981	24 Oct 2019 09:41:38	Hg			0.012
342982	24 Oct 2019 09:43:38	Hg			0.001
342983	24 Oct 2019 09:45:37	Hg			0.000
CCV	24 Oct 2019 09:47:36	Hg			3.204
CCB	24 Oct 2019 09:51:38	Hg			-0.017
342984	24 Oct 2019 09:53:37	Hg			0.650
342985	24 Oct 2019 09:55:37	Hg			-0.100
342986	24 Oct 2019 09:57:37	Hg			0.006
342987	24 Oct 2019 09:59:36	Hg			-0.003
343319dup 342965	24 Oct 2019 10:01:37	Hg			0.002
343320msw 342965	24 Oct 2019 10:03:37	Hg			2.252
343321msdw 342965	24 Oct 2019 10:05:38	Hg			1.886
343340lcsw 74009	24 Oct 2019 10:07:41	Hg			-0.257
343336lcsw 74007	24 Oct 2019 10:09:45	Hg			2.036
343340 lcsw 74009	24 Oct 2019 10:11:44	Hg			1.824
CCV	24 Oct 2019 10:13:46	Hg			3.058
CCB	24 Oct 2019 10:17:54	Hg			-0.012
343071	24 Oct 2019 10:19:54	Hg			-0.011
343112	24 Oct 2019 10:21:54	Hg			-0.006
343130	24 Oct 2019 10:23:53	Hg			-0.009

102419w

Method: Hg WATERS Operator: Admin Date of Analysis: 24 Oct 2019 07:21:00

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
343498	24 Oct 2019 10:25:53	Hg			-0.005
343341dup 343130	24 Oct 2019 10:27:52	Hg			-0.005
343342msw 343130	24 Oct 2019 10:29:52	Hg			2.012
343343msdw 343130	24 Oct 2019 10:31:52	Hg			1.911
343844	24 Oct 2019 10:35:58	Hg			-0.006
343878	24 Oct 2019 10:37:59	Hg		See next page	-0.003
CCV	24 Oct 2019 10:40:00	Hg			3.131
CCV	24 Oct 2019 10:45:44	Hg			3.241
CCB	24 Oct 2019 10:49:46	Hg			-0.007
3443337dup 343844	24 Oct 2019 10:51:46	Hg			0.003
344338msw 343844	24 Oct 2019 10:53:46	Hg			2.107
344339msdw 343844	24 Oct 2019 10:55:46	Hg			1.893
341312	24 Oct 2019 10:59:51	Hg			-0.002
341898	24 Oct 2019 11:01:51	Hg			0.004
343073	24 Oct 2019 11:03:52	Hg			0.026
343086	24 Oct 2019 11:05:52	Hg			0.525
343960	24 Oct 2019 11:07:52	Hg			-0.057
CCV	24 Oct 2019 11:11:53	Hg			2.954
CCB	24 Oct 2019 11:15:57	Hg			-0.002
342196msw 341312	24 Oct 2019 11:17:58	Hg			2.028
342197msdw 341312	24 Oct 2019 11:19:59	Hg			1.866
345082msw 341898	24 Oct 2019 11:22:02	Hg			1.945
343337msw 343073	24 Oct 2019 11:24:05	Hg			1.868
343338msdw 343073	24 Oct 2019 11:26:08	Hg			1.850
319007mbw 73257	24 Oct 2019 11:30:14	Hg			-0.009
315195	24 Oct 2019 11:32:14	Hg			0.067
lqckw	24 Oct 2019 11:34:15	Hg		See next page	0.123
CCV	24 Oct 2019 11:36:15	Hg			3.105
CCB	24 Oct 2019 11:42:18	Hg			-0.008

102419w ccvs

Method: Hg WATERS Operator: Admin Date of Analysis: 24 Oct 2019 07:21:00

Sample ID	Date	Element	Units	Extended ID	Mean
CCV	24 Oct 2019 10:40:00	Hg			(H)111.0% 3.331
CCV	24 Oct 2019 10:41:58	Hg			97.7% 2.932
CCV	24 Oct 2019 10:45:44	Hg			108.0% 3.241
CCV	24 Oct 2019 11:36:15	Hg			(H)110.7% 3.320
CCV	24 Oct 2019 11:38:13	Hg			96.3% 2.889

Software averaged CCV results.

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
165750 on 11/08/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	349443								MICP WATER QSM				
					ICV					0			
	349444								MICP WATER QSM				
					ICVLL					0			
	349445								MICP WATER QSM				
					ICB					0			
	349446								MICP WATER QSM				
					ICSA					0			
	349447								MICP WATER QSM				
					ICSAB					0			
	349448								MICP WATER QSM				
					ICVLL					0			
	344414								ICP TOTAL QSM 5.0				
					LCSW					74046			
	344413								ICP TOTAL QSM 5.0				
					MBW					74046			
149018	343844		10/14/2019	1600			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-54	ICP TOTAL QSM 5.0		GW	**4**	
		54IDW								74046			
	349449								ICP TOTAL QSM 5.0				
					L	343844				0			
	344415		10/14/2019	1600					ICP TOTAL QSM 5.0				
		54IDW			DUP	343844				74046			
	344416		10/14/2019	1600					ICP TOTAL QSM 5.0				
		54IDW			MSW	343844				74046			
	344417		10/14/2019	1600					ICP TOTAL QSM 5.0				
		54IDW			MSDW	344416				74046			
148990	343878		10/17/2019	1530			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP TOTAL QSM 5.0		GW	**4**	
		49IDW								74046			
	349451								MICP WATER QSM				
					CCV1					0			
	349452								MICP WATER QSM				
					CCV2					0			
	349453								MICP WATER QSM				
					CCB					0			
	349450								ICP TOTAL QSM 5.0				
					PDSW	343844				0			
	349454								MICP WATER QSM				
					CCV1					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
165750 on 11/08/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	349455						MICP WATER QSM				
				CCV2				0			
	349456						MICP WATER QSM				
				CCB				0			

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
165751 on 11/08/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	346556								MICP WATER QSM K&Na				
					ICV					0			
	346557								MICP WATER QSM K&Na				
					ICVLL					0			
	346558								MICP WATER QSM K&Na				
					ICB					0			
	346559								MICP WATER QSM K&Na				
					MRL					0			
	346560								MICP WATER QSM K&Na				
					ICSA					0			
	346561								MICP WATER QSM K&Na				
					ICSAB					0			
	346562								MICP WATER QSM K&Na				
					CCV					0			
	346563								MICP WATER QSM K&Na				
					CCB					0			
	344414								ICP K TOTAL QSM 5.0				
					LCSW					74046			
	344414								ICP NA TOTAL QSM 5.0				
					LCSW					74046			
	346564								MICP WATER QSM K&Na				
					CCV					0			
	346565								MICP WATER QSM K&Na				
					CCB					0			
	344413								ICP K TOTAL QSM 5.0				
					MBW					74046			
	344413								ICP NA TOTAL QSM 5.0				
					MBW					74046			
149018	343844		10/14/2019	1600			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-54	ICP K TOTAL QSM 5.0		GW	**4**	
		54IDW								74046			
149018	343844		10/14/2019	1600			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-54	ICP NA TOTAL QSM 5.0		GW	**4**	
		54IDW								74046			
	346566								ICP K TOTAL QSM 5.0				
					L	343844				0			
	346566								ICP NA TOTAL QSM 5.0				
					L	343844				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
165751 on 11/08/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	344415		10/14/2019	1600					ICP K TOTAL QSM 5.0				
		54IDW			DUP	343844				74046			
	344415		10/14/2019	1600					ICP NA TOTAL QSM 5.0				
		54IDW			DUP	343844				74046			
	344416		10/14/2019	1600					ICP K TOTAL QSM 5.0				
		54IDW			MSW	343844				74046			
	344416		10/14/2019	1600					ICP NA TOTAL QSM 5.0				
		54IDW			MSW	343844				74046			
	344417		10/14/2019	1600					ICP K TOTAL QSM 5.0				
		54IDW			MSDW	344416				74046			
	344417		10/14/2019	1600					ICP NA TOTAL QSM 5.0				
		54IDW			MSDW	344416				74046			
	346567								ICP K TOTAL QSM 5.0				
					PDSW	343844				0			
	346567								ICP NA TOTAL QSM 5.0				
					PDSW	343844				0			
148990	343878		10/17/2019	1530			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP K TOTAL QSM 5.0		GW	**4**	
		49IDW								74046			
148990	343878		10/17/2019	1530			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP NA TOTAL QSM 5.0		GW	**4**	
		49IDW								74046			
	346568								MICP WATER QSM K&Na				
					CCV					0			
	346569								MICP WATER QSM K&Na				
					CCB					0			

30 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
165806 on 11/08/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	347231								MERCURY QSM 5.0				
					ICV					0			
	347232								MERCURY QSM 5.0				
					ICB					0			
	344336								MERCURY TOTAL QSM 5.0				
					LCSW					74031			
	347233								MERCURY QSM 5.0				
					CCV					0			
	347234								MERCURY QSM 5.0				
					CCB					0			
	344335								MERCURY TOTAL QSM 5.0				
					MBW					74031			
	347235								MERCURY QSM 5.0				
					CCV					0			
	347236								MERCURY QSM 5.0				
					CCB					0			
	347237								MERCURY QSM 5.0				
					CCV					0			
	347238								MERCURY QSM 5.0				
					CCB					0			
149018	343844		10/14/2019	1600			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-54	MERCURY TOTAL QSM 5.0		GW	**4**	
		54IDW								74031			
148990	343878		10/17/2019	1530			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	MERCURY TOTAL QSM 5.0		GW	**4**	
		49IDW								74031			
	347239								MERCURY QSM 5.0				
					CCV					0			
	348220								MERCURY QSM 5.0				
					CCV								
	347240								MERCURY QSM 5.0				
					CCV					0			
	347241								MERCURY QSM 5.0				
					CCB					0			
	344337		10/14/2019	1600					MERCURY TOTAL QSM 5.0				
		54IDW			DUP	343844				74031			
	344338		10/14/2019	1600					MERCURY TOTAL QSM 5.0				
		54IDW			MSW	343844				74031			
	344339		10/14/2019	1600					MERCURY TOTAL QSM 5.0				
		54IDW			MSDW	344338				74031			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
165806 on 11/08/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	347242						MERCURY QSM 5.0				
				CCV				0			
	347243						MERCURY QSM 5.0				
				CCB				0			

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 11/08/2019

Prep Batch **74,046** Date Prepped: 10/21/2019 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	344413	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	344413	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	344413	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	344414	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	344414	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	344414	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
149018	343844			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	343844			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	343844			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
148990	343878			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	343878			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	343878			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	344415	DUP	343844	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	344415	DUP	343844	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	344415	DUP	343844	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	344416	MSW	343844	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	344416	MSW	343844	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 11/08/2019

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	344416	MSW	343844	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	344417	MSDW	344416	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	344417	MSDW	344416	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	344417	MSDW	344416	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 11/08/2019

Prep Batch **74,031** Date Prepped: 10/22/2019 Prepped By BMM

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	344335	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	344336	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
149018	343844			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
148990	343878			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	344337	DUP	343844	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	344338	MSW	343844	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	344339	MSDW	344338	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

Program: QSM
*Matrix: LIQUID

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	74046
Prep Method:	200.2
Analyst:	NAH
Date:	10/21/2019
Start Time:	10:53

Prep Analyst: NAH
Balance ID:

End Date: 10/21/2019
End Time: 19:32

Reagent:	Ref. #
Nitric Acid:	AB.677
Hydrochloric Acid:	AB.680
Hydrogen Peroxide:	

Digestion Tube Lot #: MP3334
Block Used: D2
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 93
Final-Digestion Temp (ºC): 92

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
344413	(MB)			50.0	50
344414	(LCS)			50.0	50
343844				50.0	50
343878	**Comments:**			50.0	50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
344415	(DUP)			50.0	50
344416	(MS)	Parent Sample		50.0	50
344417	(MSD)	373844		50.0	50
	(DUP)				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M13903
0.5	M13840
0.5	M13811
0.1	M13860

LCS Spike Amount (ml)	Spike Ref. #
0.2	M13903
0.5	M13840
0.5	M13811
0.1	M13860

Reviewed By/Date:

11/08/201910:21

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M14013
ICV/LCSW ID: M14014

*Matrix: GW
Balance ID:

Prep Batch #:	74031
Prep Method:	7470A
Analyst:	BMM
Date:	10/22/2019
Start Time:	15:03

7470A= Hg Liquids
7471A= Hg Solids

End Date: 10/22/2019
End Time: 17:05

Digestion Tube Lot #: 4919103
Block Used: D2
Cell Position for Temp. Check: A
Initial-DigestionTemp (ºC): 91
Final-Digestion Temp (ºC): 91
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M14012

Reagent:	Ref. #
HNO3:	AB.677
H2SO4:	AB.674
NaCl/Hydrox.SO4:	M13875
KMnO4:	M13873
K2S2O8:	M13867
Aqua-Regia:	

	Sample			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	344335	(MB)			25.0	25
	344336	(LCS)			25.0	25
	343844				25.0	25
	343878	**Comments:**			25.0	25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
	344337	(DUP)			25.0	25
	344338	(MS)	Parent Sample		25.0	25
	344339	(MSD)	343844		25.0	25
Leave >>		(DUP)				25
blank		(MS)	Parent Sample			25
		(MSD)				25
		(DUP)				25
		(MS)	Parent Sample			25
if N/A		(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M14014

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

Cal Std ID: 111383	LIMS # : 163750	Analyst: [illegible]	Reviewer: MMS	Approved? Yes / No

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL/LLOQ: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#: 240916 Dig. Meth. 200.2	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Se >LOD <½ RL.
Spiked samples in batch:					
a) 343844 matrix = GW	✓		✓		
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					

iCAP 6000 /6500 Data Review Checklist	Analysis Date: 10/22/19	Data File: MK102219r1191	Date of review: 10/24/19
Cal Std ID: M13933 LIMS # : 165751	Analyst: DMD	Reviewer:	Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? Yes No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 74046 Dig. Meth. 7002	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:			✓		
a) 343844 matrix = GW	✓	✓	✓	✓	Dup invalid K
b)_____ matrix =_____					
c)_____ matrix =_____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix =_____					
b)_____ matrix =_____					
c)_____ matrix =_____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix =_____					
b)_____ matrix =_____					
c)_____ matrix =_____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix =_____					
b)_____ matrix =_____					
c)_____ matrix =_____					
PDS: ±15% / 20% / 25% Sample#:_____					

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		Hydra II CETAC Hg ANALYZER			
Analysis Date: 10/24/19	Data File: 102419w		Date Review: 10/25/19		Analyte: Hg	
Cal Std ID: M14012	LIMS #: 165806	Analyst: MMS	Reviewer:		Approved? Yes	No

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓				
2) ICV: 90-110% 95-105%	✓				
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓				
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓	✓			CCV failed ↑, was reanalyzed twice + was acceptable
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					Software averaged results @ 1040
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 74031 Dig. Meth. 7470a	✓				
LCS - generated limits or project specific limits	✓				
MB - <LOD / <2.2X LOD / ≤ ½RL	✓				
Spiked samples in batch:					
a) 343844 matrix = GW	✓	✓			Dup invalid
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
d) matrix =					
e) matrix =					
PDS: ±15% / 20% / 25% Sample#					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. Std	A/I Source	Pressure (kPa) Comments	Analysis Tube Lot#	ICSA/ ICSAB
7/17/19	0857 / 1239	MDS	NaK	162628 162592, 162631, 162635, 162643	NaK071719 v1164	M13705	M13707 M13708	360	283466	M13760 M13779
7/17/19	1253 / 1455	MDS	NaK	162643, 162628	NaK071919 v1165	M13705	M13707 M13708	360	283466	M13760 M13779
7/23/19	1441 / 1732	MDS	NaK	162842, 162841 162592, 162628, 162836, 162838	NaK072319 v1166	M13705	M13707 M13708	350	2834166	M13760 M13779
7/26/19	1001 / 1305	MDS	NaK	162937, 162842, 162933	NaK072619 v1168	M13705	M13707 M13708	350	2834166	M13760 M13779
7/31/19	1119 / 1407	MDS	NaK	163006, 163013, 163008	NaK073119 v1169	M13705	M13707 M13708	350	283466	M13760 M13779
8/7/19	0849 / 1207	MDS	NaK	163263 163186, 163266, 163268, 163259,	NaK080719 v1171	M13705	M13707 M13708	350	2834166	M13760 M13779
8/7/19	1211 / 1424	MDS	NaK	163263, 163164, 163271	NaK080719B v1172	M13705	M13707 M13708	350	283466	M13760 M13779
8/13/19	1404 / 1751	MDS	NaK	163357, 163312 163337, 163443, 163445, 163447,	NaK081319 v1174 v1173	M13705	M13707 M13208	350	289548	M13760 M13779
8/20/19	1048 / 1436	MDS	NaK	163465 163357, 163391, 163561, 163568, 163666	NaK082019 v1176 v1175	M13705	M13707 M13708	350	289548	M13760 M13779
8/27/19	1101 / 1406	MDS	NaK	163887, 163871 163879, 163875, 163775, 163823, 163796	NaK082719 v1180 v1179	M13705	M13707 M13708	350	289548	M13760 M13779
8/30/19	0832 / 1054	MDS	NaK	163991, 163994	NaK083019 v1181	M13705	M13707 M13708	350	289548	M13760 M13779
9/6/19	0911 / 1522	MDS	NaK	164134, 164033, 164031, 164201 164141, 164047, 164137, 164035, 164040	NaK090619 v1182	M13933	M13935 M13936	350	289548	M13760 M13937
9/12/19	0838 / 1252	MDS	NaK	164258, 164257 164141, 164278, 164201, 164315, 164314	NaK091219 v1183	M13933	M13935 M13936	350	289548	M13760 M13937
9/13/19	0819 / 1250	MDS	NaK	164354, 164390, 164394, 164391, 164388	NaK091319 v1184	M13933	M13935 M13936	350	289548	M13760 M13937
9/17/19	1113 / 1401	MDS	NaK	164482, 164483, 164427, 164479, 164213	NaK091719 v1185	M13933	M13935 M13936	350	289548	M13760 M13937
10/9/19	0742 / 1253	MDS	NaK	165157, 165194, 165281, 165149, 165172 164965, 165182, 165211, 165162, 165183,	NaK100919 v1186	M13933	M13935 M13936	350	289548	M13937
10/10/19	1214 / 1619	MDS	DOD	163896, 163874, 163878 163884, 163883, 163892, 163881, 163877,	D00101019				289548	
10/14/19	1343 / 1496	MDS	S	163878	S101419	M13989	M13990	300	289548	
10/14/19	1506 / 1556	MDS	B+Si	163874	BSi101419	M13801	M13802	350	289548	
10/15/19	1330 / 1501	MDS	Lz	165876	Lz101519	M13796	M13798	350	289548	
10/17/19	1114 / 1508	MDS	NaK	165307, 165361, 165469 165391, 165375, 165302, 165297,	NaK101719 v1188 v1187	M13933	M13935 M13936	350	289548	M13937
10/22/19	0957 / 1738	MDS	NaK	165749, 165755, 165742, 165744, 165633, 165633 165464, 165567, 165629, 165630, 165624	NaK102219 v1191	M13933	M13935 M13936	350	289548	M13937
10/23/19	0757 / 1708	MDS	NaK	165753, 165752, 165564 165567, 165629, 165630, 165747, 165744	NaK102319 v1192	M13933	M13935 M13936	350	289548	M13937
	/									
	/									
	/									

Checked by: _____ Verified by: _____

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version	Comments
10/9/19	1458 / 10/10/19 1242	JA	100919	DODCal w	165141, 165210 165186 165181 165187, 165180, 165182 165179 165184 165176 165188	260	m13831 m13834	V3550 V3547	M13704 m13857 m13760 m13822 m13830
10/10/19	1512 / 10/11/19 1519	JA	101019	DODCal w	165156 165156 165148 165293 165304 165327 165305 165301 165285 165158 165303 165213 165301 165300, 165280 165299 165298 165331 165353 165354 165524 165377	260	m13831 m13834	V3552 V3551	M13704 m13857 m13760 m13822 m13830
10/11/19	1528 / 0544	JA	101119	DODCal w	165389 165384 165180 165502 165387 165385 165503, 165506 165383 165179 165408 165373 165372 165371 165390 165524 165168 165527 165870 165530 165528	260	m13831 m13834	V3559 V3553	M13704 m13857 m13760 m13822 m13830
10/16/19	1157 / 0750	JA	101619	DODCal w	165527 165555 165528 165529	260	m13831 m13834	V3560	M13704 m13857 m13760 m13822 m13830
10/17/19	1314 / 2257	JA	101719	DODCal w	165501 165560 165566 165529 165569 165565, 72, 63 165504 165568 165632	260	m13831 m13834	V3564	M13704 m13857 m13760 m13822 m13830
10/18/19	0835 / 1508	JA	101819	DODCal w	165746 165748 165626 165628 165820 165754 165742 165745	260	m13834 m13831	V3565	M13704 M13857 M13760 M13822 M13830
10/19/19	1535 / 0830	JA	101919	DODCal w	165750 165736 165753 165793 165799 165794	260	m13834 m13831	V3563 V3576 V3569 V3577	M13704 M13857 M13760 M13822 M13830
10/22/19	1356 / 1434	JA	102219	DODCal w	165794 165796 165814 165795 165873 165816 165824 165798 165823	260	m13834 m13831	V3570	M13704 M13857 M13760 M13822 M13830
10/23/19	1445 / 10/24 0300	JA	102319	DODCal w	165815 165826, 20 165917 165663 165919 165918 165665 165921 165920 165914	260	M13834 m13831	V3572 V3571	M13704 m13857 m13760 m13822 m13830
10/24/19	0823 / 10/25 11:49	JA	102419	DODCal w					
10/25/19	1156 / 0655	JA	102519	DODCal w					
	/								

Comments: _____

Checked By / Date: _____

CT Laboratories Instrument Run Log

Instrument ID: Thermo M Series AA

Date	Start Time	End Time	Analyst	Analyte	LIMS Run #	Data File ID	Analysis ID	Cal. Std ID #	CCV Std ID #	ICV Std ID #	PMT	Char. Conc.	Cuvette Lot #	Sample Cup Lot #	Instrument Check
10/16/19	1333	1916	MDS	As	165380 165490,165492,165381	As101619	4	M13997	M13998	M13999	521	0.9167	103387371	5118	✓
10/17/19	0824	0850	MDS	Tl MSA	165474	Tl101719	1	M13997	—	—	467	—	103387371	5118	
10/17/19	1119	1624	MDS	As	165487,165488,165498	As101719	3	M13997	M13998	M13999	521	0.9160	103387371	5118	✓
10/18/19	0830	1024	MDS	Tl	165595	Tl101819	5	M13997	M13998	M13999	452	0.7714	103387371	5118	✓
10/18/19	1307	1456	MDS	Sb	165596,165355	Sb101819	6	M13997	M13998	M13999	404	1.4129	103387371	5118	✓
10/21/19	0843	1312	MDS	Pb	165473 165593,165356,165472	Pb102119	5	M13997	M13998	M13999	551	0.2328	103387371	5118	✓
10/21/19	1352	1921	MDS	As	165581,165732,165733	As102119	1	M13997	M13998	M13999	521	0.8787	103387371	5118	
10/22/19	1122	1837	MDS	Tl	165611,165730,165731	Tl102219	2	M13997	M13998	M13999	453	1.0903	103387371	5118	
10/23/19	0945	1218	MDS	Tl	165611	Tl102319	3	M13997	M13998	M13999	453	0.7802	103387371	5118	
10/23/19	1238	1717	MDS	Tl	165611,165730,165731	Tl102319	4	M13997	M13998	M13999	453	0.9181	103387371	5118	
10/24/19	0927	1209	MDS	Tl	165730	Tl102419	2	M13997	M13998	M13999	477	2.1986	103387371	5118	
10/25/19	0844	1051	MDS	Tl	165731	Tl102519	2	M13997	M13998	M13999	467	2.2202	103387371	5118	
10/25/19	1431	1617	MDS	Sb	165729	Sb102519	4	M13997	M13998	M13999	403	1.4637	103387371	5118	
10/28/19	0932	1122	MDS	Sb	165729	Sb102819	5	M13997	M13998	M13999	404	1.2504	103387371	5118	✓
10/28/19	1250	1457	MDS	As	165998	As102819	3	M13997	M13998	M13999	522	0.8208	103387371	5118	✓
10/28/19	1606	1734	MDS	Sb	165596,165355	Sb102819	9	M13997	M13998	M13999	403	1.2226	103387371	5118	
10/29/19	0841	1048	MDS	Sb	166030	Sb102919	2	M13997	M13998	M13999	399	1.2209	103387371	5118	
10/29/19	1125	1544	MDS	Tl	166031,166032	Tl102919	1	M13997	M13998	M13999	467	1.0322	103387371	5118	
10/30/19	1118	1511	MDS	Tl	166032,166033	Tl103019	2	M13997	M13998	M13999	468	1.4018	103387371	5118	
10/31/19	1042	1452	MDS	As	166063,166062	As103119	2	M13997	M13998	M13999	521	1.1181	103387371	5118	
10/31/19	1501	1907	MDS	As	166064	As103119	3	M13997	M13998	M13999	521	1.1476	103387371	5118	
11/01/19	0824	0851	MDS	Tl MSA	166032	Tl110119	2	M13997	—	✓	477	—	103387371	5118	
11/1/19	1244	1648	MDS	As	166172,166171	As110119	4	M13997	M13998	M13999	521	0.7981	103387371	5118	✓
11/4/19	1414	1936	MDS	As	166174,166193	As110419	4	M13997	M13998	M13999	521	0.9246	103387371	5118	
11/6/19	0744	0920	MDS	Pb	166246	Pb110619	3	M13997	M13998	M13999	551	0.2667	103387371	0819	
11/6/19	1124	1255	MDS	Se	166173	Se110619	3	M13997	M13998	M13999	526	1.3131	103387371	0819	

Reviewed By (Initials/Date):_____

Type	Date/Time	Message	User name	Application	Sequence Name
	10/17/2019 13:58:44	Running 338191 (37)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:01:41	Running msw338191 (38)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:04:38	Running msdw338191 (39)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:07:35	Running pdsw338191 (40)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:10:32	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:13:19	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:16:05	Running lcsw73922 (41)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:18:52	Running mbw73922 (42)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:21:38	Running 339578 (43)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:24:20	Running 339580 (44)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:27:06	Running msw339580 (45)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:29:52	Running msdw339580 (46)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:32:38	Running pdsw339580 (47)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:35:24	Running blank (48)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:38:12	Running 338844 (49)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:40:57	Running l338844 (50)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:43:43	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:46:29	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:49:16	Running dup338844 (51)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:52:01	Running msw338844 (52)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:54:47	Running msdw338844 (53)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 14:57:33	Running pdsw338844 (54)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 15:00:19	Running 338847 (55)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 15:03:05	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 15:05:51	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 15:08:38	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/17/2019 15:11:25	Plasma off	MDS	iTEVA Control Center	
	10/17/2019 15:11:25	Plasma extinguished successfully	MDS	Analyst	
	10/17/2019 15:11:27	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	10/22/2019 09:46:02	Plasma On	MDS	iTEVA Control Center	
	10/22/2019 09:46:07	Plasma ignition successful	MDS	Analyst	
	10/22/2019 09:46:46	D33534 - Debug:Wavelength check : x = -0.364, y =-0.297	MDS	Analyst	
	10/22/2019 09:57:00	Autosampler Run Started	MDS	Analyst	
	10/22/2019 09:57:00	Sequence Started	MDS	Analyst	S_Sodium and Pota
	10/22/2019 09:57:20	Running Blank (1)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:00:17	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:03:02	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:05:48	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:08:35	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:11:22	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:14:09	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:16:55	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:19:51	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:22:44	Running icv (10)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:25:30	Running ICVLL (17)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:28:16	Running icb (11)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:31:01	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:33:47	Running icsa (12)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:36:41	Running icsab (13)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:39:35	Running lcsw (1)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:42:20	Running mbw (2)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:45:06	Running 344135 (3)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	10/22/2019 10:47:51	Running msw344135 (4)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:50:36	Running msdw344135 (5)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:53:21	Running 344138 (6)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:56:06	Running 344140 (7)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 10:58:51	Running lcsw73981 (8)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:01:37	Running mbw73981 (9)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:04:24	Running 342264 (10)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:07:11	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:09:58	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:12:44	Running l342264 (11)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:15:30	Running dup342264 (12)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:18:16	Running msw342264 (13)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:21:00	Running msdw342264 (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:23:43	Running pdsw342264 (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:26:28	Running 342265 (16)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:29:13	Running 342266 (17)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:32:08	Running 342267 (18)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:34:53	Running 342268 (19)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:37:38	Running 342269 (20)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:40:24	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:43:10	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:45:56	Running 342270 (21)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:48:42	Running 342271 (22)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:51:27	Running 342272 (23)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:54:11	Running 342273 (24)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:56:56	Running 342274 (25)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 11:59:41	Running lcsw73997 (26)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:02:27	Running mbw73997 (27)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:05:13	Running 342965 (28)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:08:07	Running l342965 (29)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:11:05	Running dup342965 (30)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:13:59	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:16:46	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:19:32	Running msw342965 (31)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:22:32	Running msdw342965 (32)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:25:38	Running pdsw342965 (33)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:28:34	Running 342980 (34)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:31:31	Running 342981 (35)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:34:29	Running 342982 (36)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:37:16	Running 342983 (37)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:40:12	Running 342984 (38)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:43:09	Running 342985 (39)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:45:53	Running 342986 (40)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:48:50	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:51:36	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:54:22	Running 342987 (41)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:57:06	Running lcsw73998 (42)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 12:59:52	Running mbw73998 (43)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:02:38	Running 343101 (44)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:05:24	Running l343101 (45)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:08:09	Running dup343101 (46)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:10:56	Running msw343101 (47)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	10/22/2019 13:13:42	Running msdw343101 (48)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:16:29	Running pdsw343101 (49)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:19:14	Running 343104 (50)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:22:01	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:24:47	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:27:33	Running 343105 (51)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:30:29	Running lcsw73999 (52)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:33:25	Running mbw73999 (53)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:36:12	Running 343071 (54)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:38:59	Running 343112 (55)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:41:45	Running 343130 (56)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:44:31	Running l343130 (57)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:47:18	Running dup343130 (58)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:50:04	Running msw343130 (59)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:53:01	Running msdw343130 (60)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:55:59	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 13:58:45	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:01:32	Running pdsw343130 (61)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:04:18	Running lcsw74037 (62)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:07:04	Running mbw74037 (63)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:09:52	Running 343498 (64)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:12:38	Running l343498 (65)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:15:26	Running dup343498 (66)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:18:12	Running msw343498 (67)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:20:58	Running msdw343498 (68)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:23:42	Running pdsw343498 (69)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:26:29	Running lcsw74046 (70)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:29:16	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:32:03	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:34:49	Running mbw74046 (71)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:37:37	Running 343844 (72)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:40:24	Running l343844 (73)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:43:10	Running dup343844 (74)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:45:57	Running msw343844 (75)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:48:42	Running msdw343844 (76)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:51:29	Running pdsw343844 (77)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:54:16	Running 343878 (78)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:57:01	Running lcsw74047 (79)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 14:59:47	Running mbw74047 (80)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:02:35	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:05:21	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:08:08	Running 343880 (81)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:10:54	Running 343886 (82)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:13:39	Running 343887 (83)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:16:24	Running 343888 (84)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:19:22	Running 343889 (85)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:22:19	Running 343890 (86)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:25:16	Running 343891 (87)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:28:13	Running 343892 (88)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:31:10	Running 343893 (89)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:34:08	Running 343894 (90)	MDS	Analyst	S_Sodium and Pota
	10/22/2019 15:37:05	Running ccv (14)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	10/23/2019 13:30:13	Running pdsw343366 (153)	NAH	Analyst	S_DOD Calibration
	10/23/2019 13:35:10	Closing will close the method and all associated samples.	NAH	Analyst	
	10/23/2019 13:36:43	Running lcsw74062 (154)	NAH	Analyst	S_DOD Calibration
	10/23/2019 13:39:57	Closing will close the method and all associated samples.	NAH	Analyst	
	10/23/2019 13:43:22	Running mbw74062 (155)	NAH	Analyst	S_DOD Calibration
	10/23/2019 13:49:44	Running 343367 (156)	NAH	Analyst	S_DOD Calibration
	10/23/2019 13:56:30	Running l343367 (157)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:03:08	Running dup343367 (158)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:09:36	Closing will close the method and all associated samples.	NAH	Analyst	
	10/23/2019 14:09:54	Running msw343367 (159)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:16:27	Running msdw343367 (160)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:17:20	Closing will close the method and all associated samples.	NAH	Analyst	
	10/23/2019 14:23:00	Running ccv1 (31)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:28:33	Running ccv2 (29)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:34:15	Closing will close the method and all associated samples.	NAH	Analyst	
	10/23/2019 14:34:29	Running ccb (30)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:40:49	Running pdsw343367 (161)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:41:08	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:44:40	Sequence Started	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:44:40	Autosampler Run Started	NAH	Analyst	
	10/23/2019 14:45:01	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:51:19	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	10/23/2019 14:57:36	Running CalStd3=1 (3)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:03:53	Running CalStd4=5 (4)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:10:09	Running CalStd5=10 (5)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:16:29	Running CalStd6=20 (6)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:22:42	Running CalStd7=50 (7)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:28:55	Running CalStd8=100 (8)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:35:11	Running CalStd9=1000 (9)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:40:53	Running CalStd10=10000 (10)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:47:19	Running CalStd12=100K (11)	NAH	Analyst	S_DOD Calibration
	10/23/2019 15:53:38	Running CalStd13=100000 (12)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:00:09	Running CalStd14=500000 (13)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:07:12	Running CalibStd15=1000k (14)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:14:44	Running Ag Ba 1000, 50000 (15)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:21:26	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:27:39	Running icv (16)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:33:45	Running icv (16)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:39:52	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:46:02	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:52:16	Running icb (17)	NAH	Analyst	S_DOD Calibration
	10/23/2019 16:58:31	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:04:42	Running ICSA (20)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:11:43	Running ICSAB (21)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:18:14	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:24:26	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:30:43	Running pdsw343367 (161)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:37:12	Running lcsw74046 (162)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:43:51	Running mbw74046 (163)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:50:09	Running 343844 (164)	NAH	Analyst	S_DOD Calibration
	10/23/2019 17:56:45	Running l343844 (165)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:03:20	Running dup343844 (166)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	10/23/2019 18:09:55	Running msw343844 (167)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:16:30	Running msdw343844 (168)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:23:04	Running pdsw343844 (169)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:29:38	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:35:07	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:40:57	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:47:15	Running 343878 (170)	NAH	Analyst	S_DOD Calibration
	10/23/2019 18:53:45	Running lcsw74033 (171)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:00:24	Running mbw74033 (172)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:06:43	Running 343960 (173)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:13:25	Running msw343960 (174)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:20:00	Running msdw343960 (175)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:26:34	Running pdsw343960 (176)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:32:56	Running 345198 (2)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:39:32	Running msw345198 (3)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:46:01	Running msdw345198 (4)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:52:31	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/23/2019 19:57:59	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:03:49	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:10:03	Running 345199 (5)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:16:43	Running 345200 (6)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:23:24	Running 345202 (7)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:30:00	Running 343791 (8)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:36:39	Running 343792 (9)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:43:04	Running 343793 (10)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:49:35	Running 343794 (11)	NAH	Analyst	S_DOD Calibration
	10/23/2019 20:55:54	Running 343795 (12)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:02:05	Running 343796 (13)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:08:30	Running 343798 (14)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:14:49	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:20:17	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:26:07	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:32:23	Running 344135 (15)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:39:04	Running 344138 (16)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:45:45	Running 344140 (17)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:52:27	Running lcswtclp (18)	NAH	Analyst	S_DOD Calibration
	10/23/2019 21:58:48	Running mbwtclp (19)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:05:02	Running 341887 (20)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:11:38	Running msw341887 (21)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:18:08	Running 341888 (22)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:25:01	Running 341889 (23)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:31:59	Running 341898 (24)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:38:47	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:44:16	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:50:05	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	10/23/2019 22:56:20	Running lcss74069 (25)	NAH	Analyst	S_DOD Calibration
	10/23/2019 23:02:07	Running mbs74069 (26)	NAH	Analyst	S_DOD Calibration
	10/23/2019 23:08:21	Running 344799 (27)	NAH	Analyst	S_DOD Calibration
	10/23/2019 23:14:33	Running l344799 (28)	NAH	Analyst	S_DOD Calibration
	10/23/2019 23:20:48	Running dup344799 (29)	NAH	Analyst	S_DOD Calibration
	10/23/2019 23:27:23	Running mss344799 (30)	NAH	Analyst	S_DOD Calibration
	10/23/2019 23:33:44	Running msds344799 (31)	NAH	Analyst	S_DOD Calibration

		Instrument:	ICP 6000
Standard Log #:	M14035	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M14008 Sr (1000 µg/mL) M14007 Ti (1000 µg/mL) M14009 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M14036	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/04/2019	Expiration Date:	02/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXX	1000	5	XX/XXXX
Ti	10/30	M14009	1000	0.5	04/2021
Sr	10/30	M14007	1000	0.5	04/2021
Sn	20/60	M14008	1000	1	04/2021

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M14037	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/04/2019	Expiration Date:	05/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M14033	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/04/2019	Expiration Date:	05/30/2020
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M14034	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/28/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M14008, **0.1 mL** of Sr (1000 µg/mL) M14007, **0.1 mL** of Ti (1000 µg/mL) M14009, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	CETAC
Standard Log #:	M14032	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/31/2019	Expiration Date:	10/31/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M14028	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	10/2020
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13947 and Si (1000 mg/L) M13810 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14029	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/30/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13947, **0.05 mL** of Si (1000 µg/mL) M13810 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M14030	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13839 and **1.0 mL** Si (1000 mg/L) M13981 and brought up to volume using milli-Q H_2O.		

Standard ID#:	M14031	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Acid Washed TCLP filters
Date Received:	10/31/2019	Lot #:	400165
Expiration Date (if any):		Catalog #:	FG77150MM

		Instrument:	HydraII
Standard Log #:	M14024	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14025	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14026	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/29/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14027	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/30/2019	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

MRL BASE STD M14024 Analyst NAH

Prep Date 10/30/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M13690	10000	2	06/2020
Ba	10	M13949	1000	0.5	02/2021
Be	4	M13579	1000	0.2	02/2020
Cd	5	M13570	1000	0.25	01/2020
Co	10	M13575	1000	0.5	01/2020
Cr	10	M13617	10000	0.05	03/2020
Cu	10	M13618	10000	0.05	03/2020
Mg	500	M13752	10000	2.5	09/2020
Mn	10	M13616	10000	0.05	03/2020
Mo	10	M13860	1000	0.5	12/2020
Ni	10	M13569	1000	0.5	01/2020
Pb	10	M13615	10000	0.05	03/2020
Sb	20	M13950	1000	1	02/2021
V	10	M13578	1000	0.5	02/2020
Zn	10	M13610	10000	0.05	03/2020
K	1000	M14003	10000	5	04/2021
Na	1000	M13862	10000	5	12/2020
As	20	M13763	1000	1	12/2020
Ca	500	M13985	10000	2.5	04/2021
Fe	300	M13751	10000	1.5	09/2020
Se	20	M13948	1000	1	02/2021
Tl	20	M13583	1000	1	02/2020
Si	100	M13810	1000	5	10/2020
B	20	M13947	1000	1	02/2021
Li	20	M13577	1000	1	02/2020
W	50	Mxxxxxx	1000	2.5	xxxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	03/2020
Sn	50	M14008	1000	2.5	04/2021
S	300	M13604	10000	1.5	03/2020

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14022	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14023	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	10/30/2019	Expiration Date:	02/2020
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13738 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

Standard Log #:	M14020	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14021	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

Standard ID#:	M14016	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14017	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14018	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	10/24/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14019	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14012	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14013	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14014	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/21/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14015	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/22/2019	Expiration Date:	09/30/2020
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13954 and **10 mL** Mg (10,000 mg/L) M13752 and brought up to volume.		

Standard Log #:	M14010	Reagent:	SPLP ACID MIX
Analyst:	BMM		60/40 H_2SO_4 - HNO_3
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 200 mL volumetric flask, partially filled with DI H_2O, add **12 g** H_2SO_4 AB.674 and **8 g** HNO_3 AB.677 and bring up to volume using DI H_2O.		

Standard Log #:	M14011	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 HNO_3 - H_2SO_4 M14010.		

Standard ID#:	M14005	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/17/2019	Lot #:	168189-30
Expiration Date (if any):	04/2021	Catalog #:	4400-110M671

Standard ID#:	M14006	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	10/17/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14007	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	10/17/2019	Lot #:	168227-95
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000531

Standard ID#:	M14008	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	10/17/2019	Lot #:	977645-2
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000613

Standard ID#:	M14009	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	10/17/2019	Lot #:	987438-36
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000623

		Instrument:	CETAC
Standard Log #:	M14000	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/16/2019	Expiration Date:	04/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M14001	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	10/17/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard Log #:	M14002	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	10/17/2019	Expiration Date:	10/17/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W47366 and brought up to volume.		

Standard ID#:	M14003	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/17/2019	Lot #:	980507-31
Expiration Date (if any):	04/2021	Catalog #:	4400-10M411

Standard ID#:	M14004	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/17/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13997	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13998	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13999	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M13993	Vendor:	Thermo fisher Scientific
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	10/15/2019	Lot #:	193463
Expiration Date (if any):	06/2024	Catalog #:	S271-500

Standard ID#:	M13994	Vendor:	Thermo Fisher Scientific
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	10/15/2019	Lot #:	189407
Expiration Date (if any):	05/2024	Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13995	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/15/2019	Expiration Date:	10/16/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13996	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/16/2019	Expiration Date:	10/16/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13992	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/15/2019	Expiration Date:	01/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M13989	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	06/2020
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13696 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13990	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13991	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/14/2019	Expiration Date:	12/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13861 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	HydraII
Standard Log #:	M13986	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13987	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13988	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13982	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10000 mg/L
Date Received:	10/09/2019	Lot #:	992536-16
Expiration Date (if any):	04/2021	Catalog #:	4400-10M11

Standard ID#:	M13983	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/09/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

Standard ID#:	M13984	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	10/09/2019	Lot #:	1013353-4
Expiration Date (if any):	04/2021	Catalog #:	4400-10M311

Standard ID#:	M13985	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/09/2019	Lot #:	855297-68
Expiration Date (if any):	04/2021	Catalog #:	4400-10M91

		Instrument:	CETAC
Standard Log #:	M13978	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/08/2019	Expiration Date:	04/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13979	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/09/2019	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M13980	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	10/08/2019	Lot #:	52-248CR
Expiration Date (if any):	10/30/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13981	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/l
Date Received:	10/09/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

		Instrument:	HydraII
Standard Log #:	M13976	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13975 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13977	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/07/2019	Expiration Date:	10/07/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13973	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13974	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13975	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13970	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13971	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13972	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13969	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	10/02/2019	Expiration Date:	10/02/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13967	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13966 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13968	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/01/2019	Expiration Date:	10/01/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13964	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13965	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13966	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13963	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/30/2019	Expiration Date:	09/30/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13961	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	09/24/2019	Lot #:	7-093AB
Expiration Date (if any):	09/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M13962	Reagent:	Stannous Chloride Solution
Analyst:	NAH		
Prep Date:	09/25/2019	Expiration Date:	09/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13960	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/19/2019	Expiration Date:	03/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.678 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M13958	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M13959	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13958 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13955	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/17/2019	Expiration Date:	09/17/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13956	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13957	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M13952	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13953	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13954	Vendor:	Environmental Expresss
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/13/2019	Lot #:	1925215
Expiration Date (if any):	09/30/2020	Catalog #:	HP1900-100

		Instrument:	CETAC
Standard Log #:	M13946	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/10/2019	Expiration Date:	03/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13947	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 mg/lL
Date Received:	09/10/2019	Lot #:	982524-80
Expiration Date (if any):	02/2021	Catalog #:	S4400-100074

Standard ID#:	M13948	Vendor:	CPI
Analyst:	NAH	Chemical:	Selenium 1000 mg/L
Date Received:	09/10/2019	Lot #:	982461-61
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000491

Standard ID#:	M13949	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	09/10/2019	Lot #:	994634-28
Expiration Date (if any):	02/2021	Catalog #:	S4400-100041

Standard ID#:	M13950	Vendor:	CPI
Analyst:	NAH	Chemical:	Antimony 1000 mg/L
Date Received:	09/10/2019	Lot #:	1013797-3
Expiration Date (if any):	02/2019	Catalog #:	S4400-100023

Standard ID#:	M13951	Vendor:	CPI
Analyst:	NAH	Chemical:	Silver 1000 mg/L
Date Received:	09/10/2019	Lot #:	975475-71
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000511

		Instrument:	HydraII
Standard Log #:	M13944	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13943 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13945	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/09/2019	Expiration Date:	09/09/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13941	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13942	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13943	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13938	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13939	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13940	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13937	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **2.5 mL** of K (10,000 mg/L) M13755, **2.5 mL** of Na (10,000 mg/L) M13691 and **7.5 mL** of Fe (10,000 mg/L) M13695 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13933	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13934	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13935	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13755 and Na (10,000 mg/L) M13691 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13936	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13691 and **0.15 mL** K (10,000 µg/mL) M13755 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M13929	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13928 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13930	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/03/2019	Expiration Date:	10/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard Log #:	M13931	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13932	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M13926	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13927	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13928	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13924	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	08/29/2019	Lot #:	1833905
Expiration Date (if any):	02/28/2021	Catalog #:	HP10M67-1

		Instrument:	HydraII
Standard Log #:	M13920	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13919 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13921	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/28/2019	Expiration Date:	09/28/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13922	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13923	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	HydraII
Standard Log #:	M13917	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13918	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13919	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13916	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13914	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13915	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M13913 (A)	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	12/19/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13861	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13913 combined with A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	06/20/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13696	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13911	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13912	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/21/2019	Expiration Date:	08/21/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13909	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13908 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13910	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/20/2019	Expiration Date:	08/20/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13906	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13907	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13908	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13904	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13905	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13902	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/15/2019	Expiration Date:	02/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13903	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/15/2019	Lot #:	52-161Cr
Expiration Date (if any):	8/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13898	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/13/2019	Expiration Date:	08/13/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13899	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13900	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13901	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/13/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13897	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	08/12/2019	Expiration Date:	10/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

Standard Log #:	M13896	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	08/09/2019	Expiration Date:	08/09/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13895	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/06/2019	Expiration Date:	02/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13894	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13893 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13891	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13892	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13893	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13890	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/29/2019	Expiration Date:	01/29/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13888	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13889	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M13884	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	07/22/2019	Expiration Date:	
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13885	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13886	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13887	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13883	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13879	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13880	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13881	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13882	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13881 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13876	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13877	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard Log #:	M13878	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M45383. Dilute to 20 L and mix.		

Standard Log #:	M13873	Reagent:	Potassium Permanganate Solution
Analyst:	NAH		
Prep Date:	07/17/2019	Expiration Date:	07/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13874	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	07/17/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard Log #:	M13875	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	NAH		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13872	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/12/2019	Expiration Date:	07/12/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13871	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/11/2019	Expiration Date:	07/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13870	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/10/2019	Expiration Date:	07/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13869	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/08/2019	Expiration Date:	07/08/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13868	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13864	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	07/02/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13865	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard Log #:	M13866	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13867	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13858	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/26/2019	Expiration Date:	06/26/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13859	Vendor:	CPI
Analyst:	NAH	Chemical:	Ce 1000 mg/L
Date Received:	06-26-2019	Lot #:	171633-12
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000101

Standard ID#:	M13860	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06-26-2019	Lot #:	987189-17
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000343

Standard ID#:	M13861	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06-26-2019	Lot #:	175213-60
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13862	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	06-26-2019	Lot #:	752887-32
Expiration Date (if any):	12/2020	Catalog #:	4400-10M521

Standard ID#:	M13863	Vendor:	CPI
Analyst:	NAH	Chemical:	As 1000 mg/L
Date Received:	06-26-2019	Lot #:	175385-105
Expiration Date (if any):	12/2020	Catalog #:	S4400-100031

Standard Log #:	M13856	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13857	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13855	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/19/2019	Expiration Date:	06/19/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13851	Vendor:	CPI
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06-19-2019	Lot #:	52-082CR
Expiration Date (if any):	06/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M13852	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13853	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13854	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	CETAC
Standard Log #:	M13850	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/14/2019	Expiration Date:	06/14/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13849	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	06/13/2019	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13458	1000	0.01
As	2	M13392	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13459	1000	0.1
Se	2	M13460	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13848	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13611	**10000**	0.18
As	24	M13753	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13692	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13697	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13609	**10000**	0.5
Mg	40	M13694	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13697	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13847	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13611	**10000**	0.048
As	32	M13753	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13692	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13697	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13609	**10000**	0.36
Mg	32	M13694	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13697	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13845	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M13811	10000	2.5
Na	600	M13691	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13846	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M13811	10000	13.2
Na	960	M13691	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13839	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	52-038CR
Expiration Date (if any):	05/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13840	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	5-244AB
Expiration Date (if any):	06/30/2020	Catalog #:	XCTWWI-1-500

Standard ID#:	M13841	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/11/2019	Lot #:	855297-41
Expiration Date (if any):	11/2020	Catalog #:	4400-10M91

Standard ID#:	M13842	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/11/2019	Lot #:	169484-36
Expiration Date (if any):	11/2020	Catalog #:	4400-10M11

Standard ID#:	M13843	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/11/2019	Lot #:	168189-30
Expiration Date (if any):	11/20	Catalog #:	4400-10M671

Standard ID#:	M13844	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06/11/2019	Lot #:	175213-60
Expiration Date (if any):	11/2020	Catalog #:	S4400-1000504F

		Instrument:	GFAA
Standard Log #:	M13838	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	06/07/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13836	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13837	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13835	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/06/2019	Expiration Date:	06/06/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13832	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13833	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13834	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13738, **15 mL** Fe (10,000 mg/L) M13751, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13830	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/03/2019	Expiration Date:	12/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13831	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M13810 and 1 mL M13703 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13811. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13610, **10 mL** of Zn (10,000 mg/L) M13615 and **10 mL** of Na (10,000 mg/L) M13691. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13752, **10 mL** of Fe (10,000 mg/L) M13751, **10 mL** of Ca (10,000 mg/L) M13690 and **10 mL** Al (10,000 mg/L) M13693. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	CETAC
Standard Log #:	M13829	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/31/2019	Expiration Date:	05/31/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13828	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/30/2019	Expiration Date:	05/30/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13827	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-29-2019	Lot #:	XCTWI-4-500
Expiration Date (if any):	5/30/2020	Catalog #:	5-116AB

		Instrument:	CETAC
Standard Log #:	M13823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13824	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13825	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13826	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13818	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	05/22/2019	Expiration Date:	05/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.676 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13819	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/22/2019	Expiration Date:	05/22/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13817	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/16/2019	Expiration Date:	05/16/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13813	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	05/14/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13694 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13814	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13815	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13816	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13812	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/13/2019	Expiration Date:	11/13/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13808	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	158237-121
Expiration Date (if any):	10/20	Catalog #:	4400-1000521-500

Standard ID#:	M13809	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	832313-110
Expiration Date (if any):	10/20	Catalog #:	4400-1000411-500

Standard ID#:	M13810	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	05-09-2019	Lot #:	175213-60
Expiration Date (if any):	10/20	Catalog #:	S400-1000504F

Standard ID#:	M13811	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	980507-14
Expiration Date (if any):	10/20	Catalog #:	4400-10M411-500

		Instrument:	CETAC
Standard Log #:	M13805	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/07/2019	Expiration Date:	05/07/2019
Prep:	Carefully mixed **3** parts HCl AB.677 with **1** part HNO_3 AB.676 in a hood.		

Standard Log #:	M13806	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13807	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

MRL BASE STD M13804 Analyst NAH

Prep Date 05/07/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/19
Al	400	M13611	10000	2	3/20
Ba	10	M13457	1000	0.5	10/19
Be	4	M13579	1000	0.2	2/20
Cd	5	M13570	1000	0.25	1/20
Co	10	M13575	1000	0.5	1/20
Cr	10	M13617	10000	0.05	3/20
Cu	10	M13618	10000	0.05	3/20
Mg	500	M13694	10000	2.5	6/20
Mn	10	M13616	10000	0.05	3/20
Mo	10	M13697	1000	0.5	6/20
Ni	10	M13569	1000	0.5	1/20
Pb	10	M13615	10000	0.05	3/20
Sb	20	M13579	1000	1	10/19
V	10	M13578	1000	0.5	2/20
Zn	10	M13610	10000	0.05	3/20
K	1000	M13755	10000	5	9/20
Na	1000	M13691	10000	5	6/20
As	20	M13753	1000	1	10000 std 0.1, 9/20
Ca	500	M13692	10000	2.5	6/20
Fe	300	M13695	10000	1.5	6/20
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	2/20
Si	100	M13754	1000	5	9/20
B	20	M13531	1000	1	12/19
Li	20	M13577	1000	1	2/20
W	50	xxxx	1000	2.5	xxxx
Ti	10	M13573	1000	0.5	1/20
Sr	10	M13580	1000	0.5	2/20
Sn	50	M13572	1000	2.5	1/20
S	300	M13604	10000	1.5	3/20

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/19

		Instrument:	CETAC
Standard Log #:	M13800	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/06/2019	Expiration Date:	11/06/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13801	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	12/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13531 and Si (1000 mg/L) M13731 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13802	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **1.0 mL** Si (1000 mg/L) M13754 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13803	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	05/06/2019	Expiration Date:	09/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13731 and **3 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13798	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M13799	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	05/03/2019	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXXX	1000	5	XX/XXXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M13795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/03/2019	Expiration Date:	05/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP
Standard Log #:	M13796	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	05/03/2019	Expiration Date:	02/28/2020
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13797	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	09/30/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard Log #:	M13793	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13793 and brought up to volume.		

Standard Log #:	M13794	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard ID#:	M13790	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	04/29/2019	Lot #:	1833905
Expiration Date (if any):	10/31/2020	Catalog #:	HP10M67-1

Standard ID#:	M13791	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	04/29/2019	Lot #:	51-239CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13792	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/29/2019	Expiration Date:	04/29/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13785	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678822
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-SPK-1

Standard ID#:	M13786	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678821
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-GFCAL-1

		Instrument:	GFAA
Standard Log #:	M13787	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13788	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13789	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

Standard Log #:	M13782	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/18/2019	Expiration Date:	04/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard ID#:	M13783	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	GFAA 1% Nickel Nitrate Matrix Mod.
Date Received:	04/18/2019	Lot #:	9166009
Expiration Date (if any):	09/30/2020	Catalog #:	39043

Standard Log #:	M13784	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/18/2019	Expiration Date:	10/18/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13780	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	10/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13781	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	04/17/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13779	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/12/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13778	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	04/11/2019	Expiration Date:	04/11/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13777	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/09/2019	Expiration Date:	04/09/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

Standard Log #:	M13775	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/02/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13776	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/03/2019	Expiration Date:	04/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13771	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13772	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13773	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13774	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	03/26/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13770	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/25/2019	Expiration Date:	03/25/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13768	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	03/21/2019	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13769	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	03/21/2019	Expiration Date:	09/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13765	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/21/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13766	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13767	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13763	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13764	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13761	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	03/19/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13762	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	09/19/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13758	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	03/13/2019	Expiration Date:	01/2020
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13759	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	03/13/2019	Expiration Date:	10/2019
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13760	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	03/13/2019	Expiration Date:	09/2019
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13756	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	03/13/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13757	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	03/13/2019	Expiration Date:	01/20
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q H_2O.		

Standard ID#:	M13751	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	03/12/2019	Lot #:	998527-19
Expiration Date (if any):	09/2020	Catalog #:	4400-10M261

Standard ID#:	M13752	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	03/12/2019	Lot #:	982185-12
Expiration Date (if any):	09/2020	Catalog #:	4400-10M311

Standard ID#:	M13753	Vendor:	CPI
Analyst:	NAH	Chemical:	As 10000 mg/L
Date Received:	03/12/2019	Lot #:	166531-32
Expiration Date (if any):	09/2020	Catalog #:	S4400--10M31

Standard ID#:	M13754	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	03/12/2019	Lot #:	175213-60
Expiration Date (if any):	09/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13755	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	03/12/2019	Lot #:	172053-77
Expiration Date (if any):	09/2020	Catalog #:	4400-10M411

		Instrument:	CETAC
Standard Log #:	M13749	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/08/2019	Expiration Date:	03/08/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13750	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	03/08/2019	Expiration Date:	03/08/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard ID#:	M13748	Vendor:	Potters Ind. LLC (Gainger)
Analyst:	NAH	Chemical:	Glass beads Extra Fine
Date Received:	03/07/2019	Lot #:	
Expiration Date (if any):	XXXXXX	Catalog #:	6ZC13

		Instrument:	ICP
Standard Log #:	M13746	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13747	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard Log #:	M13743	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	02/26/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13458	1000	0.25
Al	10	M13611	**10000**	0.05
As	20	M13392	1000	1
Ba	2	M13457	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13692	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13609	**10000**	0.2
Mg	25	M13694	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13697	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13459	1000	1
Se	20	M13460	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13605	**10000**	2.5
K	500	M13733	**10000**	2.5
B	20	M13531	1000	1
Si	100	M13731	1000	5
S	200	M13604	**10000**	1
Li	20	M13537	1000	1
Sr	20	M13572	1000	1
Sn	20	M13580	1000	1
Ti	20	M13573	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	ICP 6000
Standard Log #:	M13740	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/26/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13741	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02-26-2019	Lot #:	3-153AB
Expiration Date (if any):	02/28/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13742	Vendor:	IKOHE Blasting Media
Analyst:	NAH	Chemical:	Glass Neads X-fine-20u
Date Received:	02/26/2019	Lot #:	52-144
Expiration Date (if any):	*********	Catalog #:	UL-49/52-1544

		Instrument:	CETAC
Standard Log #:	M13739	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/22/2019	Expiration Date:	02/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13734	Vendor:	SPEX CERTIPREP
Analyst:	LJF	Chemical:	HG 1000 ug/mL
Date Received:	02/21/2019	Lot #:	CL10-136HGY
Expiration Date (if any):	02/28/2020	Catalog #:	CLHG4-2Y

Standard Log #:	M13735	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13737	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	51-117CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13738	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	2-230SGX
Expiration Date (if any):	02/28/2020	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13730	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/14/2019	Expiration Date:	02/14/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13731	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	02/14/2019	Lot #:	175213-60
Expiration Date (if any):	08/20	Catalog #:	S4400-1000504F

Standard ID#:	M13732	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	139448-54
Expiration Date (if any):	08/20	Catalog #:	4400-10M671

Standard ID#:	M13733	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	172053-36
Expiration Date (if any):	08/20	Catalog #:	4400-10M411

Standard ID#:	M13727	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	02/08/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13728	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	02/08/2019	Lot #:	186819
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M13729	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/11/2019	Expiration Date:	08/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13724	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13725	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/07/2019	Expiration Date:	08/07/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13721	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	02/05/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13722	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13723	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13720	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/31/2019	Expiration Date:	01/31/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13716	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13717	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13718	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13719	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	01/30/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13713	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	01/29/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard ID#:	M13714	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	01/29/2019	Lot #:	A0391673
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13715	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	1/29/2019	Lot #:	51-013CR
Expiration Date (if any):	01/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	GFAA
Standard Log #:	M13711	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13712	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13710	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/22/2019	Expiration Date:	01/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13709	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13705	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13706	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13707	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13708	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13703	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13704	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13701	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	12/13/2018	Expiration Date:	06/13/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

Standard ID#:	M13696	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	12/11/2018	Lot #:	167967-42
Expiration Date (if any):	06/20	Catalog #:	4400-10M544

Standard ID#:	M13697	Vendor:	CPI
Analyst:	NAH	Chemical:	Moybdenum 1000 mg/L
Date Received:	12/11/2018	Lot #:	169424-59
Expiration Date (if any):	06/20	Catalog #:	4400-1000343

Standard ID#:	M13698	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/L
Date Received:	12/11/2018	Lot #:	175213-60
Expiration Date (if any):	06/20	Catalog #:	S4400-10005044F

Standard ID#:	M13699	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/11/2018	Lot #:	50-120CR
Expiration Date (if any):	12/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13700	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/12/2018	Expiration Date:	12/12/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13689	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13690	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13691	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	752887-32
Expiration Date (if any):	06/20	Catalog #:	4400-10M521

Standard ID#:	M13692	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	855297-1
Expiration Date (if any):	06/20	Catalog #:	4400-10M91

Standard ID#:	M13693	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

Standard ID#:	M13694	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	148250-72
Expiration Date (if any):	06/20	Catalog #:	4400-10M311

Standard ID#:	M13695	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13686	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13687	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13688	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13684	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/04/2018	Expiration Date:	06/04/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13683	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	10000 mg/L
Date Received:	11/30/2018	Lot #:	1805105
Expiration Date (if any):	5/31/2020	Catalog #:	HP10M67-1

Standard Log #:	M13681	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13531	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13682	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/29/2018	Expiration Date:	11/29/2018

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.

Standard Log #:	M13679	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M13517	1000	0.72
Sn	20	M13572	1000	1
Sr	3.2	M13586	1000	0.16
Ti	9.6	M13573	1000	0.48
W	24	xxxxxxxx	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13680	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13394	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13677	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13562	**10000**	0.048
As	32	M13392	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13324	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13463	**10000**	0.36
Mg	32	M13319	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13608	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13610	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13676	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13462	**10000**	0.18
As	24	M13392	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13324	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13463	**10000**	0.5
Mg	40	M13319	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13608	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13610	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13675	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/26/2018	Expiration Date:	11/26/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13671	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	11/21/2018	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13672	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13673	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13674	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13668	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/21/2018	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13669	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13670	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP
Standard Log #:	M13666	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	11/19/2018	Expiration Date:	07/2019
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13667	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/19/2018	Expiration Date:	11/19/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard Log #:	M13664	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13665	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13659	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/01/2018	Expiration Date:	11/01/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13660	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2018	Expiration Date:	09/19
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13661	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/06/2018	Expiration Date:	10/19
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M13657	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) XXX		

		Instrument:	ICP 6000
Standard Log #:	M13658	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/2/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13655	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M13656	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	GFAA
Standard Log #:	M13651	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13652	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13653	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance std
Date Received:	10/29/2018	Lot #:	2-036AB
Expiration Date (if any):	10/30/2019	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M13648	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13649	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/30/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13650	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/27/2018	Expiration Date:	02/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13645	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/24/2018	Expiration Date:	10/24/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13646	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	10/25/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

Standard ID#:	M13647	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/24/2018	Lot #:	H226-02
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M13643	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M13639	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13640	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13641	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	10/23/2018	Expiration Date:	07/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13634	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,0000 mg/L
Date Received:	10/18/2018	Lot #:	139448-54
Expiration Date (if any):	04/20	Catalog #:	4400-10m671

Standard ID#:	M13635	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	10/18/2018	Lot #:	2-230sgx
Expiration Date (if any):	09/30/2019	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13636	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/18/2018	Expiration Date:	10/18/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13637	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance standard
Date Received:	10/18/2018	Lot #:	50-0007CR
Expiration Date (if any):	10/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13633	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/2018	Expiration Date:	10/16/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13632	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/16/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13627	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13628	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

MRL BASE STD M13626

Analyst NAH

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/2019
Al	400	M13462	10000	2	10/2019
Ba	10	M13457	1000	0.5	10/2019
Be	4	M13579	1000	0.2	02/20
Cd	5	M13570	1000	0.25	01/20
Co	10	M13575	1000	0.5	01/20
Cr	10	M13617	10000	0.05	03/20
Cu	10	M13618	10000	0.05	03/20
Mg	500	M13319	10000	2.5	04/19
Mn	10	M13616	10000	0.05	03/20
Mo	10	M13608	1000	0.5	03/20
Ni	10	M13569	1000	0.5	03/20
Pb	10	M13610	10000	0.05	03/20
Sb	20	M13459	1000	1	03/20
V	10	M13578	1000	0.5	02/20
Zn	10	M13610	10000	0.05	02/20
K	1000	M13341	10000	5	05/19
Na	1000	M13402	10000	5	08/19
As	20	M13392	1000	1	07/19
Ca	500	M13324	10000	2.5	04/19
Fe	300	M13463	10000	1.5	10/19
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	02/20
Si	100	M13394	1000	5	07/19
B	20	M13531	1000	1	07/19
Li	20	M13517	1000	1	02/20
W	50	xxxxxxx	1000	2.5	xxxxxxx
Ti	10	M13573	1000	0.5	02/20
Sr	10	M13586	1000	0.5	02/20
Sn	50	M13572	1000	2.5	02/20
S	300	M13391	10000	1.5	07/19

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M13625	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/03/2018	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume.		

Standard ID#:	M13618	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	09/20/2018	Lot #:	148796-39
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M141

		Instrument:	CETAC
Standard Log #:	M13619	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/19/2018	Expiration Date:	09/19/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13620	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/04/2018	Lot #:	177409
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13611	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	09/20/2018	Lot #:	169484-18
Expiration Date (if any):	03/2020	Catalog #:	4400-10M11

Standard ID#:	M13612	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	09/20/2018	Lot #:	172053-36
Expiration Date (if any):	03/2020	Catalog #:	440010M411

Standard ID#:	M13613	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	09/20/2018	Lot #:	855297-1
Expiration Date (if any):	03/2020	Catalog #:	4400-10M91

Standard ID#:	M13614	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	09/20/2018	Lot #:	148250-72
Expiration Date (if any):	03/2020	Catalog #:	4400-10M311

Standard ID#:	M13615	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000 mg/L
Date Received:	09/20/2018	Lot #:	168223-17
Expiration Date (if any):	03/2020	Catalog #:	4400-10M281

Standard ID#:	M13616	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	09/20/2018	Lot #:	167540-6
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M321

Standard ID#:	M13617	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	09/20/2018	Lot #:	158236-7
Expiration Date (if any):	03/2020	Catalog #:	s4400-10M121

Standard ID#:	M13604	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 mg/L
Date Received:	09/20/2018	Lot #:	167967-37
Expiration Date (if any):	03/2020	Catalog #:	4400-10M544

Standard ID#:	M13605	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 mg/L
Date Received:	09/20/2018	Lot #:	752887-3
Expiration Date (if any):	03/2020	Catalog #:	4400-10M521

Standard ID#:	M13606	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	09/20/2018	Lot #:	144467-179
Expiration Date (if any):	03/2020	Catalog #:	4400-1000411-500

Standard ID#:	M13607	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	09/20/2018	Lot #:	158237-113
Expiration Date (if any):	03/2020	Catalog #:	4400-1000521-500

Standard ID#:	M13608	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	09/20/2018	Lot #:	169424-37
Expiration Date (if any):	03/2020	Catalog #:	S4400-1000343

Standard ID#:	M13609	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	09/20/2018	Lot #:	156651-53
Expiration Date (if any):	03/2020	Catalog #:	4400-10M261

Standard ID#:	M13610	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	09/20/2018	Lot #:	979871-2
Expiration Date (if any):	03/2020	Catalog #:	4400-10M681

Standard Log #:	M13601	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/12/2018	Expiration Date:	09/12/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13602	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09-12-2018	Lot #:	1-124AB
Expiration Date (if any):	09-30-2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13600	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/11/2018	Lot #:	1808015
Expiration Date (if any):	09/30/2019	Catalog #:	HP1900-100

Standard Log #:	M13599	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/08/2018	Expiration Date:	09/08/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13595	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	08/29/2018	Lot #:	49-151CR
Expiration Date (if any):	08/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13596	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/30/2018	Expiration Date:	08/30/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13597	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13598	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13588	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13589	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13590	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity std 2.0 ntu
Date Received:	08/21/2018	Lot #:	18272791
Expiration Date (if any):	08/2019	Catalog #:	8008

		Instrument:	ICP 6000
Standard Log #:	M13586	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXX		

		Instrument:	ICP 6000
Standard Log #:	M13587	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	08/20/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13584	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	08/20/2018	Expiration Date:	07/30/2019
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M13585	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M13577	Vendor:	CPI
Analyst:	NAH	Chemical:	Li 1000 mg/L
Date Received:	08/17/2018	Lot #:	751942-25
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000291

Standard ID#:	M13578	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	08/17/2018	Lot #:	152207-68
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000651

Standard ID#:	M13579	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	08/17/2018	Lot #:	660981-5
Expiration Date (if any):	02/2020	Catalog #:	S4400-100051

Standard ID#:	M13580	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	08/17/2018	Lot #:	168227-29
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000531

Standard ID#:	M13581	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	08/17/2018	Lot #:	172053-36
Expiration Date (if any):	02/2020	Catalog #:	4400-10411

Standard ID#:	M13582	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	08/17/2018	Lot #:	1805105
Expiration Date (if any):	02/2020	Catalog #:	HP10M67-1

Standard ID#:	M13583	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	08/17/2018	Lot #:	148983-70
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000581

Standard ID#:	M13576	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/04/2018	Lot #:	49-045CR
Expiration Date (if any):	07/30/2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13569	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	07/27/2018	Lot #:	166665-86
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000361

Standard ID#:	M13570	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	07/27/2018	Lot #:	160499-32
Expiration Date (if any):	01/2020	Catalog #:	s4400-100081

Standard ID#:	M13571	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	07/27/2018	Lot #:	175213-28
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000504F

Standard ID#:	M13572	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	07/27/2018	Lot #:	144466-74
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000613

Standard ID#:	M13573	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	07/27/2018	Lot #:	152616-55
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000623

Standard ID#:	M13574	Vendor:	CPI
Analyst:	NAH	Chemical:	Hg 1000 mg/L
Date Received:	07/27/2018	Lot #:	175191-22
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000331

Standard ID#:	M13575	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	07/27/2018	Lot #:	161693-10
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000131

Standard Log #:	M13563	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/19/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13466	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13557	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	07/17/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

		Instrument:	ICP 6000
Standard Log #:	M13558	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/17/2018	Expiration Date:	05/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q H_2O.		

Standard Log #:	M13559	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/17/2018	Expiration Date:	01/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13559 and brought up to volume.		

Standard Log #:	M13554	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	05/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13390	1000	0.8
Si	200	M13338	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13555	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13466	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M13553	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	07/12/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13547	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	07/09/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13548	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/10/2018	Expiration Date:	01/10/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13549	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/10/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

Standard Log #:	M13534	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	07/02/2018	Expiration Date:	09/16/2018

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13169	10,000
Tl	1	1000	M13124	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13535	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/02/2018	Lot #:	48-179CR
Expiration Date (if any):	06/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13526	Vendor:	CPI
Analyst:	NAH	Chemical:	YTTRIUM 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	138448-54
Expiration Date (if any):	12/2019	Catalog #:	4400-10M671

Standard ID#:	M13527	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10,000
Date Received:	06/22/2018	Lot #:	172053-32
Expiration Date (if any):	12/2019	Catalog #:	4400-104411

Standard ID#:	M13528	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	06/22/2018	Lot #:	142610-115
Expiration Date (if any):	12/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13529	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	156651-42
Expiration Date (if any):	12/2019	Catalog #:	4400-10M261

Standard ID#:	M13530	Vendor:	CPI
Analyst:	NAH	Chemical:	SULFUR 10,000ug/mL
Date Received:	06/22/2018	Lot #:	129880-46
Expiration Date (if any):	12/2019	Catalog #:	4400-10M544

Standard ID#:	M13531	Vendor:	CPI
Analyst:	NAH	Chemical:	BORON 1000 ug/mL
Date Received:	06/22/2018	Lot #:	158372-91
Expiration Date (if any):	12/2019	Catalog #:	S4400-100074

Standard ID#:	M13532	Vendor:	CPI
Analyst:	NAH	Chemical:	CUSTOM ASSURANCE STANDARD
Date Received:	06/22/2018	Lot #:	48-146CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-1-500

Standard ID#:	M13520	Vendor:	FRISCOLYT
Analyst:	NAH	Chemical:	Electrolyte Solution
Date Received:	06/13/2018	Lot #:	1DO71H
Expiration Date (if any):	12/03/2021	Catalog #:	51 340 053

		Instrument:	ICP
Standard Log #:	M13521	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	06/13/2018	Expiration Date:	10/20/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard ID#:	M13518	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2018	Lot #:	48-060CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6500
Standard Log #:	M13519	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/11/2018	Expiration Date:	06/30/2019

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M13166, **10 mL** of Mn (10,000 mg/L) M13167, **10 mL** of Cr (10,000 mg/L) M13165, **10 mL** Pb (10,000 mg/L) M13169, **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M13319, **10 mL** of Fe (10,000 mg/L) M13463, **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

		Instrument:	CETAC
Standard Log #:	M13510	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/01/2018	Expiration Date:	06/01/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13511	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/04/2018	Lot #:	176877
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13506	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-042CR
Expiration Date (if any):	05/30/2019	Catalog #:	XCTWI-4-500

Standard ID#:	M13507	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-041CR
Expiration Date (if any):	05/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13508	Vendor:	RESTEK
Analyst:	NAH	Chemical:	Diatomaceous earth (Celite 566)
Date Received:	05/22/2018	Lot #:	811030-BG
Expiration Date (if any):	N/A	Catalog #:	26033

Standard ID#:	M13495	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/15/2018	Lot #:	H052-17
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M13485	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13486	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13487	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13488	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13484	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	05/03/2018	Lot #:	1805105
Expiration Date (if any):	10/31/2019	Catalog #:	HP10M67-1

		Instrument:	ICP 6000
Standard Log #:	M13471	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13472	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/02/2018
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13473	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	04/26/2018	Expiration Date:	10/30/2018
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13467	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	04/20/2018	Lot #:	147497-47
Expiration Date (if any):	10/2019	Catalog #:	4400-10M91

Standard ID#:	M13468	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/24/2018	Lot #:	174236
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13469	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/24/2018	Expiration Date:	04/24/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13462	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	04/20/2018	Lot #:	158058-23
Expiration Date (if any):	10/2019	Catalog #:	4400-10M11

Standard ID#:	M13463	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	04/20/2018	Lot #:	156651-18
Expiration Date (if any):	10/2019	Catalog #:	4400-10M261

Standard ID#:	M13464	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	04/20/2018	Lot #:	148250-67
Expiration Date (if any):	10/2019	Catalog #:	4400-10M311

Standard ID#:	M13465	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	04/20/2018	Lot #:	172053-2
Expiration Date (if any):	10/2019	Catalog #:	4400-10M411

Standard ID#:	M13466	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	04/20/2018	Lot #:	129880-37
Expiration Date (if any):	10/2019	Catalog #:	4400-10M544

Standard ID#:	M13457	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	04/20/2018	Lot #:	158364-3
Expiration Date (if any):	10/2019	Catalog #:	S4400-100041

Standard ID#:	M13458	Vendor:	CPI
Analyst:	NAH	Chemical:	Ag 1000 mg/L
Date Received:	04/20/2018	Lot #:	162712-9
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000511

Standard ID#:	M13459	Vendor:	CPI
Analyst:	NAH	Chemical:	Sb 1000 mg/L
Date Received:	04/20/2018	Lot #:	153992-1
Expiration Date (if any):	10/2019	Catalog #:	S4400-100023

Standard ID#:	M13460	Vendor:	CPI
Analyst:	NAH	Chemical:	Se 1000 mg/L
Date Received:	04/20/2018	Lot #:	154366-16
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000491

Standard ID#:	M13461	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	04/20/2018	Lot #:	107139-108
Expiration Date (if any):	10/2019	Catalog #:	4400-10M521

Standard Log #:	M13445	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/19/2018	Expiration Date:	10/19/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12652 and brought up to volume.		

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M13446	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	04/19/2018	Expiration Date:	12/2019
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20.		

LPMT1-04
Metals Reagents and Standards
Prep Logbook
Created: 12/19/17

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

		Instrument:	ICP 6000
Standard Log #:	M13438	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	07/2019
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13439	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	01/19/2019
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M13437	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/10/2018	Expiration Date:	07/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13390	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

Standard ID#:	M13436a	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal 200 NTU
Date Received:	04/10/2018	Lot #:	A7354
Expiration Date (if any):	12/2019	Catalog #:	2660449

Standard ID#:	M13400	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	106958-116
Expiration Date (if any):	08/2019	Catalog #:	4400-10M411

Standard ID#:	M13401	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	139448-54
Expiration Date (if any):	08/2019	Catalog #:	4400-10M671

Standard ID#:	M13402	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	107139-126
Expiration Date (if any):	08/2019	Catalog #:	4400-10M521

Standard Log #:	M13388	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard Log #:	M13389	Reagent:	SPLP EXTRACTION FLUID WEST #
Analyst:	BMM	pH:	5.00 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard ID#:	M13390	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 ug/mL
Date Received:	01/23/2018	Lot #:	158372-29
Expiration Date (if any):	07/2019	Catalog #:	S4400-100074

Standard ID#:	M13391	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/23/2018	Lot #:	129880-28
Expiration Date (if any):	07/2019	Catalog #:	4400-10M544

Standard ID#:	M13392	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 ug/mL
Date Received:	01/23/2018	Lot #:	143356-61
Expiration Date (if any):	07/2019	Catalog #:	S4400-100031

Standard ID#:	M13393	Vendor:	CPI
Analyst:	NAH	Chemical:	Molybdenum 1000 ug/mL
Date Received:	01/23/2018	Lot #:	134169R-102
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000343

Standard ID#:	M13394	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	01/23/2018	Lot #:	142610-58
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13350	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	12/12/2017	Lot #:	1729606
Expiration Date (if any):	06//2019	Catalog #:	10M67-1

Standard ID#:	M13226	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	07/21/2017	Lot #:	170229
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13199	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana I soil
Date Received:	05/15/2017	Lot #:	2710a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13200	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana II soil
Date Received:	05/15/2017	Lot #:	2711a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13186	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	05/22/2017	Lot #:	166161
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13187	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	05/22/2017	Lot #:	1705408
Expiration Date (if any):	11/16/2018	Catalog #:	HP10M67-1

Standard ID#:	M13080	Vendor:	FISHER
Analyst:	LJF	Chemical:	POTASSIUM PERMANGANATE
Date Received:	01/30/2017	Lot #:	164080
Expiration Date (if any):		Catalog #:	P279-212

Standard ID#:	M13059	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	12/19/2016	Lot #:	A0375670
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

INORGANIC
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343848
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 11:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343848
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		Y	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	J	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	46		M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343852
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/21/2019 09:38
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	99		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343852
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343852
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6	H	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343856
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343856
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6			1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.15	J	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	63			0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343854
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/21/2019 09:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	99		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343854
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343854
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6	H	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343846
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/21/2019 09:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	140		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343846
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 11:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	3.2		0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343846
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 19:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	10		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.8	H	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343866
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343866
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 23:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.3	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	45	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343872
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 17:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.1	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.78		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	6.2		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343872
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.93	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343860
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 16:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343860
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.4	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.8	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	27		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343862
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 16:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343862
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.8	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	27		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343858
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343858
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	1.0	U		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.12	U	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	0.80	U		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343878
Analytical Method:	EPA 410.4	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165740	Analysis Date/Time	10/23/2019 13:01
Analytical Prep Batch #:	74074	Prep. Date/Time:	10/22/2019 08:35
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	250		15	35	75	75

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343878
Analytical Method:	EPA 9040C	Date Received:	10/18/2019
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165767	Analysis Date/Time	10/22/2019 14:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH			0.1	0.1	0.1	

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343868
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 16:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.7		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.34	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	0.99	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343868
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.60	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343864
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 16:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343864
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	1.9	J		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.26	J	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	32			0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343850
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 12:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343850
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.3		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.65	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	51		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343870
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 16:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.9		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	61		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343870
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.50	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343848
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 11:51
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343848
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		Y	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	J	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	46		M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343852
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/21/2019 09:38
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	99		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343852
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343852
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6	H	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343856
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343856
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.15	J H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	63		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343854
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/21/2019 09:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	99		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343854
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343854
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6	H	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343846
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/21/2019 09:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	140		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343846
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 11:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	3.2		0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343846
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 19:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	10		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.8	H	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343866
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343866
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 23:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.3	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	45	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343872
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 17:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.1	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.78		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	6.2		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343872
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:46
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.93	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343860
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 16:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343860
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.4	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.8	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	27		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343862
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 16:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343862
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.8	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	27		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343858
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 13:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343858
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 21:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	1.5	U		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	U	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343878
Analytical Method:	EPA 410.4	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165740	Analysis Date/Time	10/23/2019 13:01
Analytical Prep Batch #:	74074	Prep. Date/Time:	10/22/2019 08:35
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	250		15	35	75	75

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343878
Analytical Method:	EPA 9040C	Date Received:	10/18/2019
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165767	Analysis Date/Time	10/22/2019 14:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH			0.1	0.1	0.1	

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343868
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 16:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.7		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.34	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	0.99	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343868
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.60	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343864
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 16:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343864
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 22:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
16887-00-6	Chloride	1.9	J		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.26	J	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	32			0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343850
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/24/2019 12:49
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343850
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 20:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.3		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.65	H	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	51		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343870
Analytical Method:	EPA 9056A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165651	Analysis Date/Time	10/18/2019 16:56
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.9		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	61		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	148990
% Solids:		Lab Sample ID:	343870
Analytical Method:	EPA 9060A	Date Received:	10/18/2019
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	165875	Analysis Date/Time	10/25/2019 17:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0352 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 352168

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/10/19	11:16	15.00	13.93	93	90	110
Nitrate Nitrogen	10/10/19	11:16	3.500	3.311	95	90	110
Sulfate	10/10/19	11:16	25.00	24.31	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875 Lab Sample ID: 353168

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	9/9/19	12:35	50.00	48.38	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345888

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/18/19	19:16	15.00	14.62	97	90	110
Nitrate Nitrogen	10/18/19	19:16	3.500	3.520	101	90	110
Sulfate	10/18/19	19:16	25.00	24.72	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345893

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/18/19	14:56	15.00	14.41	96	90	110
Nitrate Nitrogen	10/18/19	14:56	3.500	3.551	101	90	110
Sulfate	10/18/19	14:56	25.00	24.60	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345895

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/21/19	11:38	15.00	14.82	99	90	110
Nitrate Nitrogen	10/21/19	11:38	3.500	3.567	102	90	110
Sulfate	10/21/19	11:38	25.00	24.95	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345897

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/21/19	08:18	15.00	14.85	99	90	110
Nitrate Nitrogen	10/21/19	08:18	3.500	3.579	102	90	110
Sulfate	10/21/19	08:18	25.00	25.16	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345939

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/18/19	23:17	15.00	14.49	97	90	110
Nitrate Nitrogen	10/18/19	23:17	3.500	3.493	100	90	110
Sulfate	10/18/19	23:17	25.00	24.50	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875

Lab Sample ID: 348907

ICAL Calibration #: ICAL0352 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/24/19	10:50	50.00	48.95	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875 Lab Sample ID: 348912

ICAL Calibration #: ICAL0352 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/24/19 14:10	50.00	50.65	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875 Lab Sample ID: 348915

ICAL Calibration #: ICAL0352 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/25/19 15:37	50.00	53.22	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875 Lab Sample ID: 348917

ICAL Calibration #: ICAL0352 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	10/25/19 18:43	50.00	54.66	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165740

Lab Sample ID: 350943

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/23/19 13:01	400.0	409.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165740

Lab Sample ID: 350945

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	10/23/19 13:01	400.0	409.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 352176

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	10/19/19	03:18	15.00	14.49	97	90	110
Nitrate Nitrogen	10/19/19	03:18	3.500	3.497	100	90	110
Sulfate	10/19/19	03:18	25.00	24.54	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875

Lab Sample ID: 353167

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	09/09/2019 12:50	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651 Lab Sample ID: 352169

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/10/2019 11:36	0	U	1.0	1.5
Nitrate Nitrogen	10/10/2019 11:36	0	U	0.12	0.20
Sulfate	10/10/2019 11:36	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651 Lab Sample ID: 345887

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/18/2019 19:36	0	U	1.0	1.5
Nitrate Nitrogen	10/18/2019 19:36	0	U	0.12	0.20
Sulfate	10/18/2019 19:36	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345894

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/21/2019 11:58	0	U	1.0	1.5
Nitrate Nitrogen	10/21/2019 11:58	0	U	0.12	0.20
Sulfate	10/21/2019 11:58	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345896

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/21/2019 08:38	0	U	1.0	1.5
Nitrate Nitrogen	10/21/2019 08:38	0	U	0.12	0.20
Sulfate	10/21/2019 08:38	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 345938

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/18/2019 23:37	0	U	1.0	1.5
Nitrate Nitrogen	10/18/2019 23:37	0	U	0.12	0.20
Sulfate	10/18/2019 23:37	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875 Lab Sample ID: 348916

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL0352 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/25/2019 16:05	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875

Lab Sample ID: 348918

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL0352 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/25/2019 18:58	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165740

Lab Sample ID: 350944

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	10/23/2019 13:01	13.00			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165740

Lab Sample ID: 350946

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	10/23/2019 13:01	13.00			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875

Lab Sample ID: 353166

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/24/2019 14:38	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651

Lab Sample ID: 352177

Analytical Prep Batch #

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/19/2019 03:38	0	U	1.0	1.5
Nitrate Nitrogen	10/19/2019 03:38	0	U	0.12	0.20
Sulfate	10/19/2019 03:38	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165740 Lab Sample ID: 345136

Analytical Prep Batch # 74074 Preparation Date/Time: 10/22/2019 08:35

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	10/23/2019 13:01	8.200	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165651 Lab Sample ID: 345889

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	10/18/2019 15:36	0.5047	U	1.0	1.5
Nitrate Nitrogen	10/18/2019 15:36	0	U	0.12	0.20
Sulfate	10/18/2019 15:36	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 148990

Analytical Run #: 165875 Lab Sample ID: 348909

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL0352 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	10/24/2019 11:19	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	148990
% Solids for Sample:		Concentration Units:	mg/L
Sample No	348911	Parent Sample No.:	343848
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	165875	ICAL Calibration #:	ICAL0352 I

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/24/2019	Analysis Time: --------	12:22

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	45.2		BDL	U	50.0	90		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 148990
% Solids for Sample:
Concentration Units: mg/L
Sample No 352171
Parent Sample No.: 343848
Analytical Prep Batch #
Analytical Preparation Date/Time:
Analytical Run #: 165651
ICAL Calibration #:

Analysis Type *Initial Analysis* Analysis Date: ----- 10/19/2019 Analysis Time: -------- 02:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	10.9		3.6		8.00	91		IC	
Nitrate Nitrogen	88-111	2.16		0.20	J	2.00	98		IC	
Sulfate	87-112	51.5		46		8.00	69		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	148990
% Solids for Sample:		Concentration Units:	mg/L
Sample No	353165	Parent Sample No.:	348911
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	165875	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/24/2019	Analysis Time: --------	12:35

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	44.8		BDL	U	50.0	90		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	148990
% Solids for Sample:		Concentration Units:	mg/L
Sample No	352172	Parent Sample No.:	352171
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	165651	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	10/19/2019	Analysis Time: --------	02:58

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.1		3.6		8.00	94		IC	
Nitrate Nitrogen	88-111	2.20		0.20	J	2.00	100		IC	
Sulfate	87-112	51.7		46		8.00	71		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 148990

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 165875

ICAL Calibration #: ICAL0352 I

Sample #: 348910

Parent Sample #: 343848

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	10/24/2019	12:06	20	0.50	U	0.50	U	0		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 148990

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 165651

ICAL Calibration #:

Sample #: 352170

Parent Sample #: 343848

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Chloride	10/19/2019	02:17	10	3.6		4.03		11		IC	*FAIL*
Nitrate Nitrogen	10/19/2019	02:17	10	0.20	J	0.198	J	1		IC	
Sulfate	10/19/2019	02:17	10	46		45.8		0		IC	

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 148990
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 165875
ICAL Calibration #:
Sample #: 353165
Parent Sample #: 348911

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	10/24/2019	12:35	20	45.2		44.8		1		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 148990
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 165651
ICAL Calibration #:
Sample #: 352172
Parent Sample #: 352171

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	10/19/2019	02:58	15	10.9		11.1		1		IC
Nitrate Nitrogen	10/19/2019	02:58	15	2.16		2.20		1		IC
Sulfate	10/19/2019	02:58	15	51.5		51.7		0		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 148990

Concentration Units: mg/L

Analytical Run #: 165740 Sample No.:#: 345137

Analytical Prep Batch #: 74074 Preparation Date/Time: 10/22/2019 08:35

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	10/23/2019 13:01	90-110	411.4		400.0	103		SP

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 148990

Concentration Units: mg/L

Analytical Run #: 165651

Sample No.:#: 345890

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	10/18/2019 15:16	87-111	14.40		15.00	96		
Nitrate Nitrogen	10/18/2019 15:16	88-111	3.400		3.500	97		
Sulfate	10/18/2019 15:16	87-112	24.83		25.00	99		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 148990

Concentration Units: mg/L

Analytical Run #: 165875 Sample No.:#: 348908

Analytical Prep Batch #: 0 Preparation Date/Time:

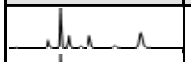
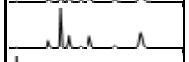
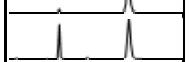
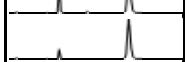
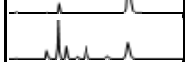
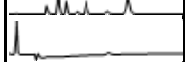
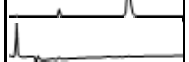
ICAL Calibration #: ICAL0352 I

Analysis Type ---------- Initial Analysis

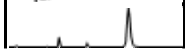
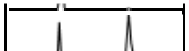
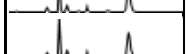
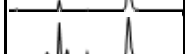
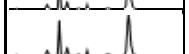
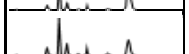
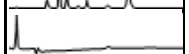
Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	10/24/2019 11:04	85-111	47.53		50.00	95		TOC

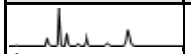
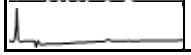
INORGANICS
RAW DATA
DOCUMENTS

Sequence: 101819 - 165637 165651
Last Update Operator: aquion

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		2	5000	Anions	IC2647A	Finished
	LCSW	1.0000	Unknown		3	5000	Anions	IC2647A	Finished
	MBW	1.0000	Unknown		4	5000	Anions	IC2647A	Finished
	343868	1.0000	Unknown		7	5000	Anions	IC2647A	Finished
	343870	1.0000	Unknown		8	5000	Anions	IC2647A	Finished
	343872	1.0000	Unknown		9	5000	Anions	IC2647A	Finished
	343788	1.0000	Unknown		10	5000	Anions	IC2647A	Finished
	343836	1.0000	Unknown		11	5000	Anions	IC2647A	Finished
	343838	1.0000	Unknown		12	5000	Anions	IC2647A	Finished
	343840	1.0000	Unknown		13	5000	Anions	IC2647A	Finished
	343842	1.0000	Unknown		14	5000	Anions	IC2647A	Finished
	CCV	1.0000	Unknown		15	5000	Anions	IC2647A	Finished
	CCB	1.0000	Unknown		16	5000	Anions	IC2647A	Finished
	343846	1.0000	Unknown		17	5000	Anions	IC2647A	Finished
	343848	1.0000	Unknown		18	5000	Anions	IC2647A	Finished
	343850	1.0000	Unknown		19	5000	Anions	IC2647A	Finished
	343852	1.0000	Unknown		20	5000	Anions	IC2647A	Finished
	343854	1.0000	Unknown		21	5000	Anions	IC2647A	Finished
	343856	1.0000	Unknown		22	5000	Anions	IC2647A	Finished
	343858	1.0000	Unknown		23	5000	Anions	IC2647A	Finished
	343860	1.0000	Unknown		24	5000	Anions	IC2647A	Finished
	343862	1.0000	Unknown		25	5000	Anions	IC2647A	Finished
	343864	1.0000	Unknown		26	5000	Anions	IC2647A	Finished

Sequence: 101819 - 165637 165651
Last Update Operator: aquion

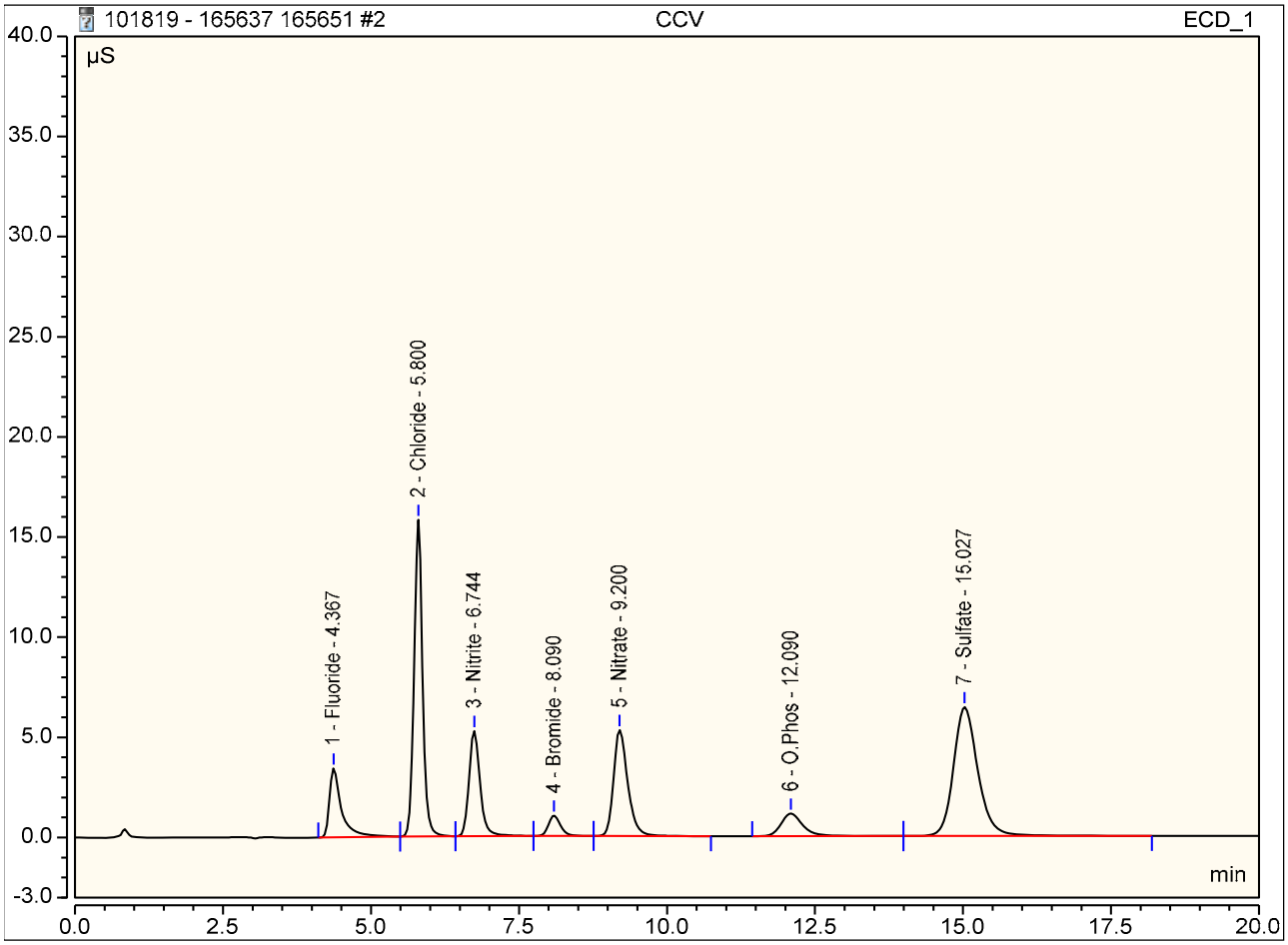
ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		27	5000	Anions	IC2647A	Finished
	CCB	1.0000	Unknown		28	5000	Anions	IC2647A	Finished
	343866	1.0000	Unknown		29	5000	Anions	IC2647A	Finished
	DUP343840	1.0000	Unknown		33	5000	Anions	IC2647A	Finished
	MSW343840	1.0000	Unknown		34	5000	Anions	IC2647A	Finished
	MSDW343840	1.0000	Unknown		35	5000	Anions	IC2647A	Finished
	DUP343848	1.0000	Unknown		36	5000	Anions	IC2647A	Finished
	MSW343848	1.0000	Unknown		37	5000	Anions	IC2647A	Finished
	MSDW343848	1.0000	Unknown		38	5000	Anions	IC2647A	Finished
	CCV	1.0000	Unknown		39	5000	Anions	IC2647A	Finished
	CCB	1.0000	Unknown		40	5000	Anions	IC2647A	Finished
	IB	1.0000	Unknown		41	5000	WEEKEND OFF	IC2647A	Interrupted
	IB	1.0000	Unknown		1	5000	Anions	IC2647A	Finished
	CCV	1.0000	Unknown		2	5000	Anions	IC2647A	Finished
	CCB	1.0000	Unknown		3	5000	Anions	IC2647A	Finished
	343838X5	1.0000	Unknown		4	5000	Anions	IC2647A	Finished
	343846X5	1.0000	Unknown		5	5000	Anions	IC2647A	Finished
	343852X5	1.0000	Unknown		6	5000	Anions	IC2647A	Finished
	343854X5	1.0000	Unknown		7	5000	Anions	IC2647A	Finished
	343367X50	1.0000	Unknown		8	5000	Anions	IC2647A	Finished

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		12	5000	Anions	IC2647A	Finished
	CCB	1.0000	Unknown		13	5000	Anions	IC2647A	Finished

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**AQUION**
Inj. Date / Time:	**18-Oct-2019 / 14:56**	*Run Time:*	**20.00**

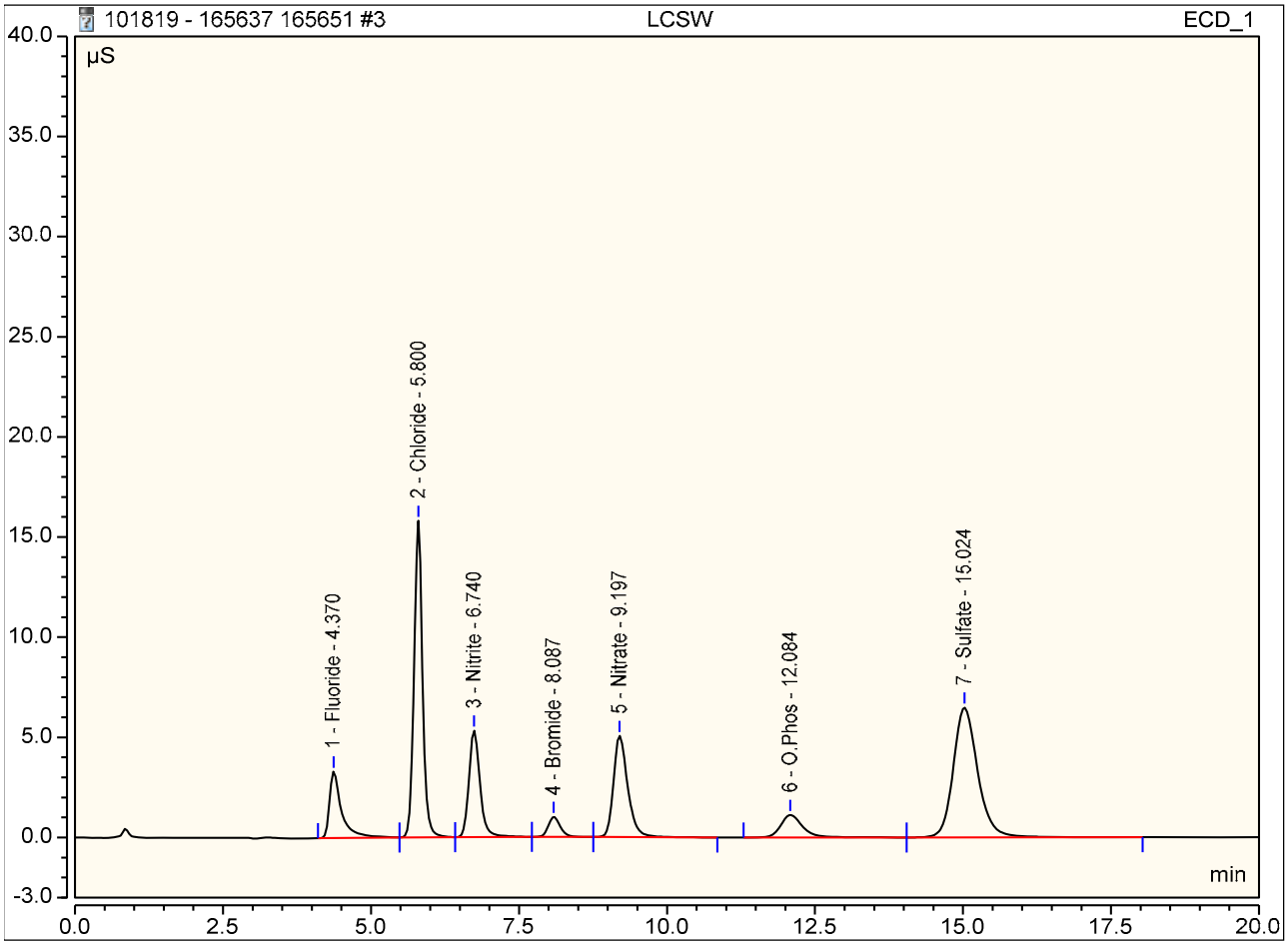
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.37	Fluoride	0.822	3.450	3.6499
2	5.80	Chloride	2.614	15.814	14.4093
3	6.74	Nitrite	1.145	5.260	3.6577
4	8.09	Bromide	0.241	1.020	3.5984
5	9.20	Nitrate	1.479	5.299	3.5508
6	12.09	O.Phos	0.487	1.131	3.6840
7	15.03	Sulfate	3.080	6.433	24.6049



Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**AQUION**
Inj. Date / Time:	**18-Oct-2019 / 15:16**	*Run Time:*	**20.00**

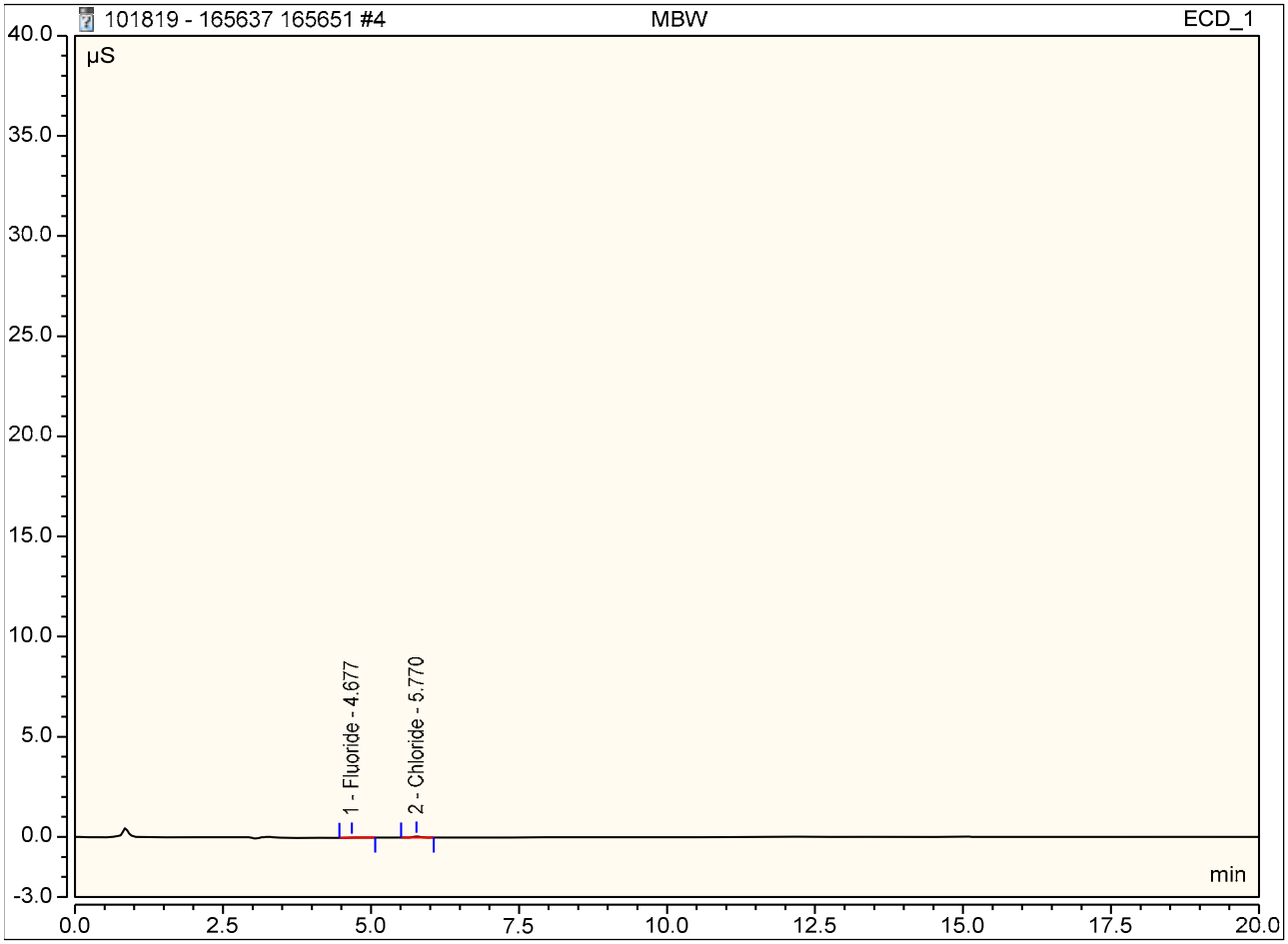
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.37	Fluoride	0.789	3.329	3.5038
2	5.80	Chloride	2.613	15.804	14.4037
3	6.74	Nitrite	1.155	5.322	3.6915
4	8.09	Bromide	0.237	1.003	3.5377
5	9.20	Nitrate	1.415	5.055	3.3997
6	12.08	O.Phos	0.484	1.128	3.6649
7	15.02	Sulfate	3.109	6.489	24.8309



Peak Integration Report

Sample Name:	**MBW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 15:36**	*Run Time:*	**20.00**

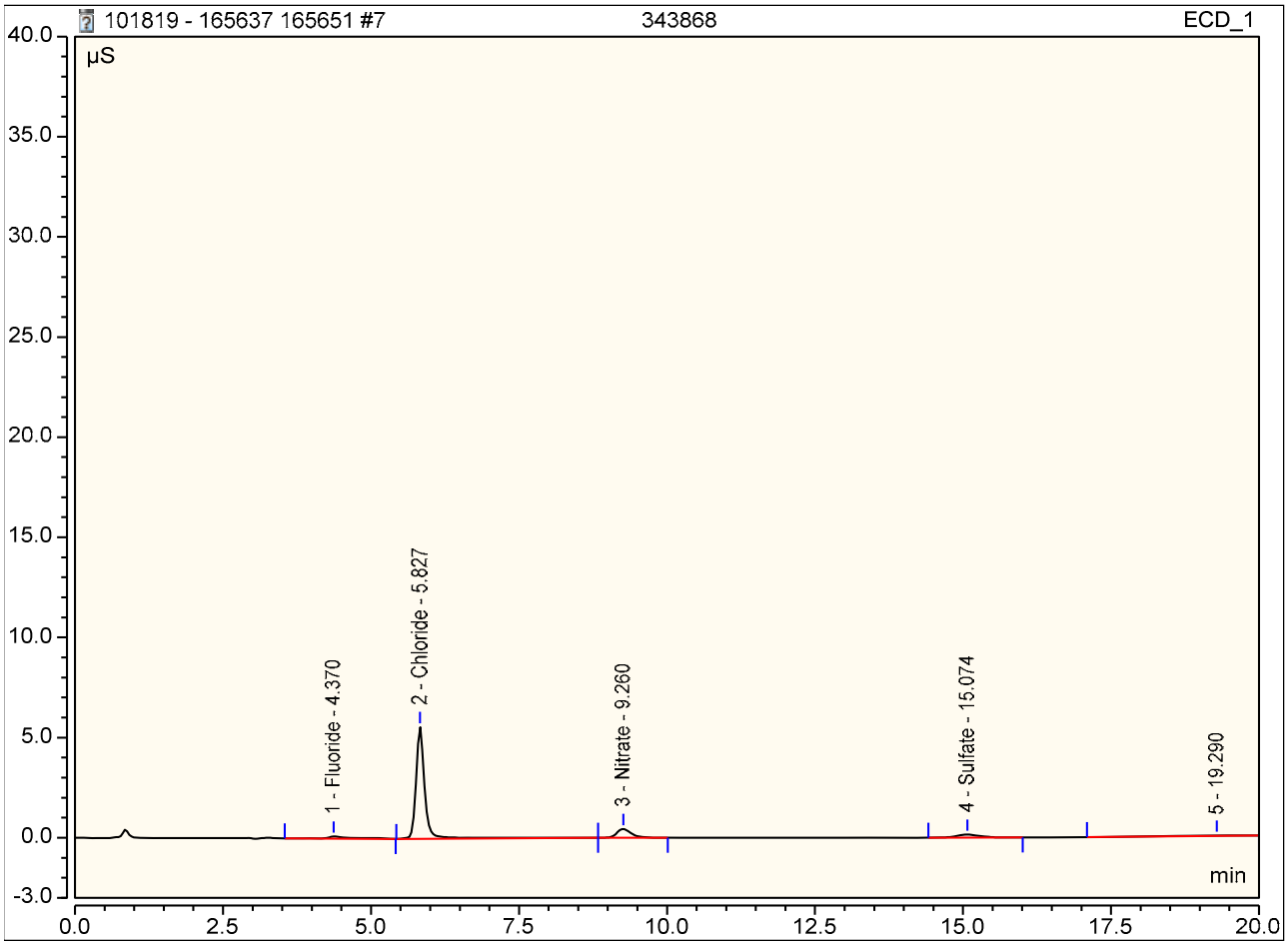
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.68	Fluoride	0.003	0.009	0.0319
2	5.77	Chloride	0.008	0.051	0.5047



Peak Integration Report

Sample Name:	**343868**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**AQUION**
Inj. Date / Time:	**18-Oct-2019 / 16:36**	*Run Time:*	**20.00**

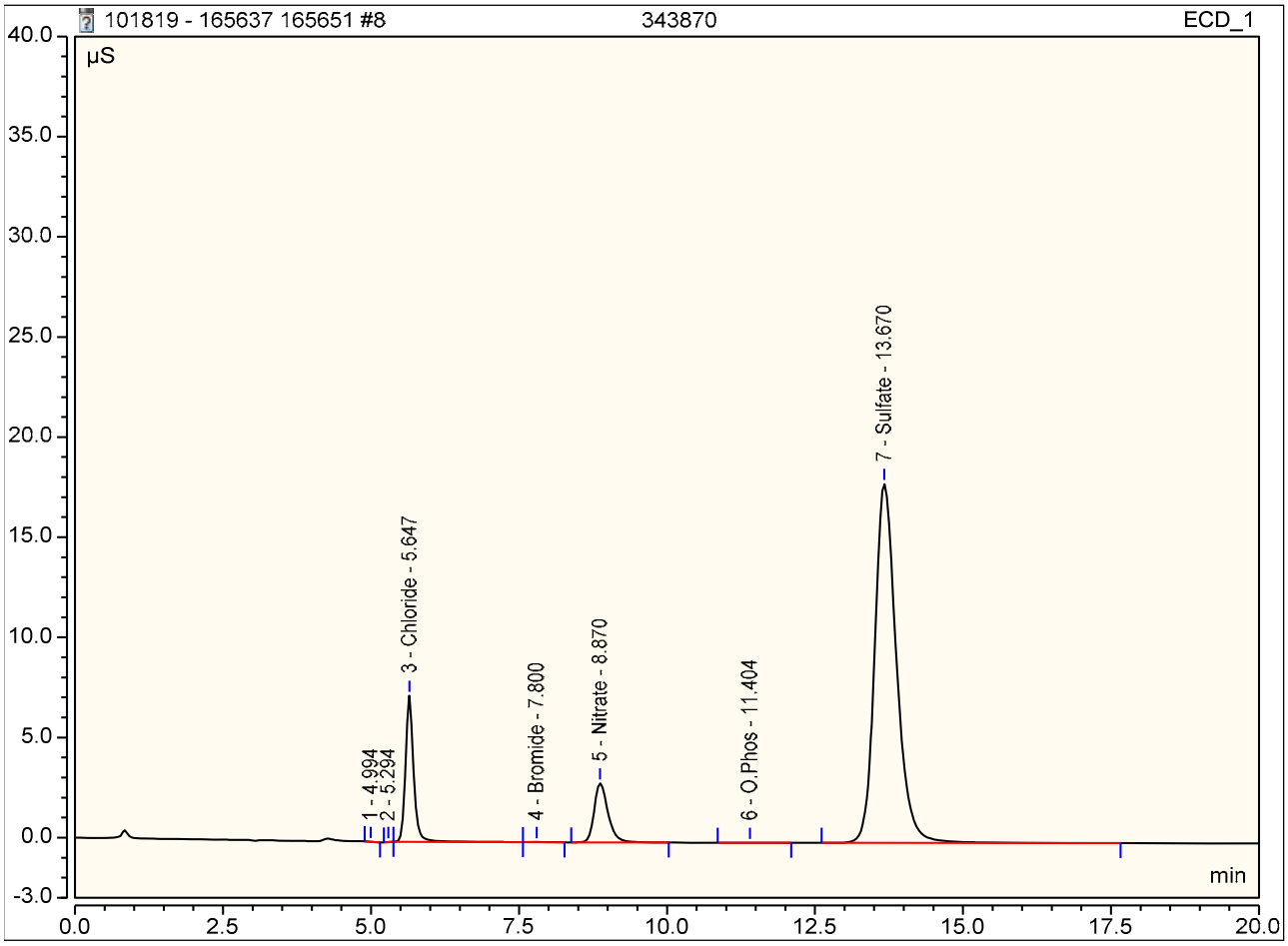
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.37	Fluoride	0.056	0.111	0.2667
2	5.83	Chloride	0.977	5.586	5.6734
3	9.26	Nitrate	0.125	0.439	0.3433
4	15.07	Sulfate	0.072	0.152	0.9910



Peak Integration Report

Sample Name:	**343870**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 16:56**	*Run Time:*	**20.00**

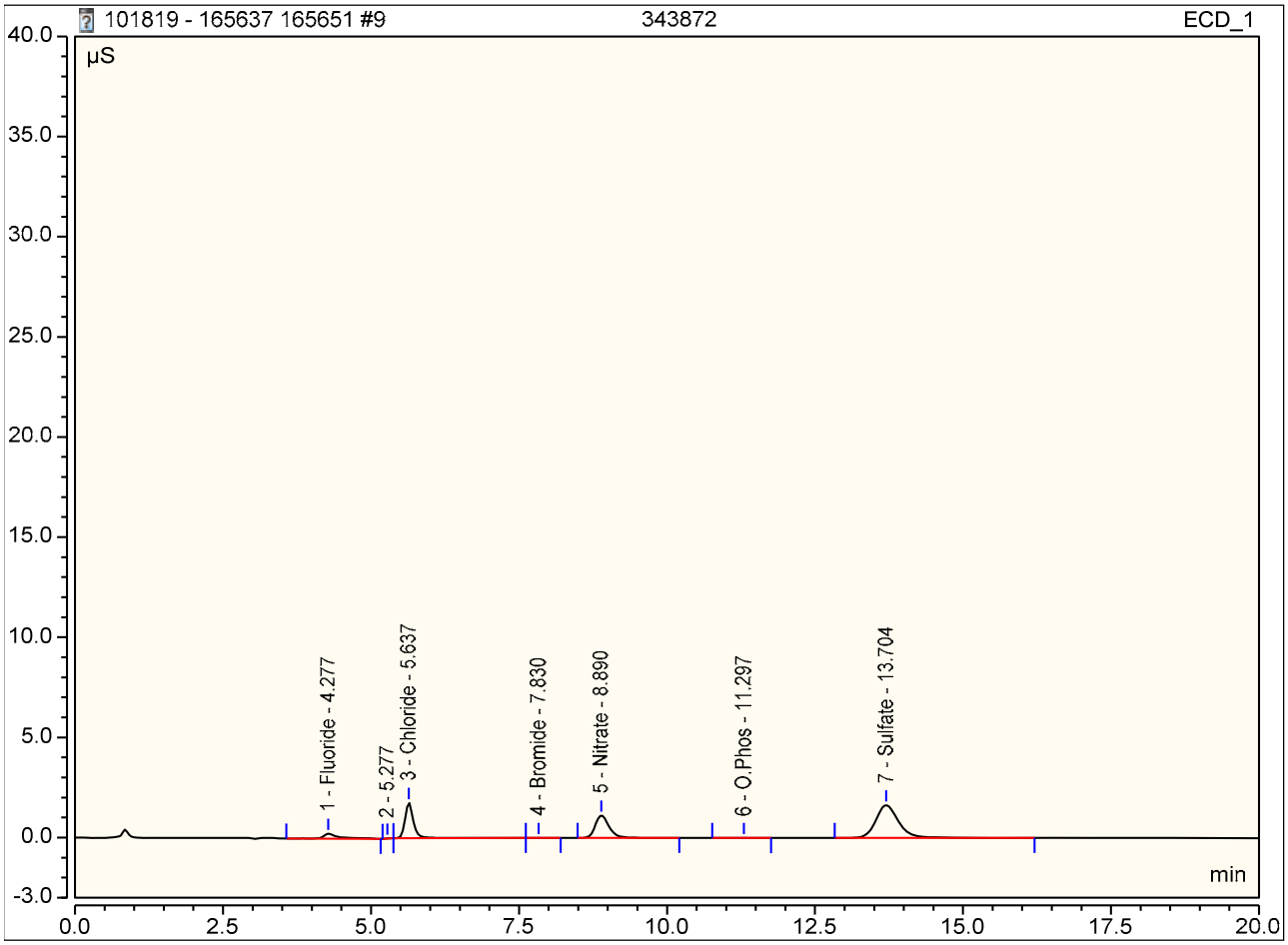
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
3	5.65	Chloride	1.159	7.290	6.6430
4	7.80	Bromide	0.003	0.013	0.0454
5	8.87	Nitrate	0.802	2.954	1.9480
6	11.40	O.Phos	0.006	0.010	0.0442
7	13.67	Sulfate	7.669	17.931	60.6289



Peak Integration Report

Sample Name:	**343872**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 17:16**	*Run Time:*	**20.00**

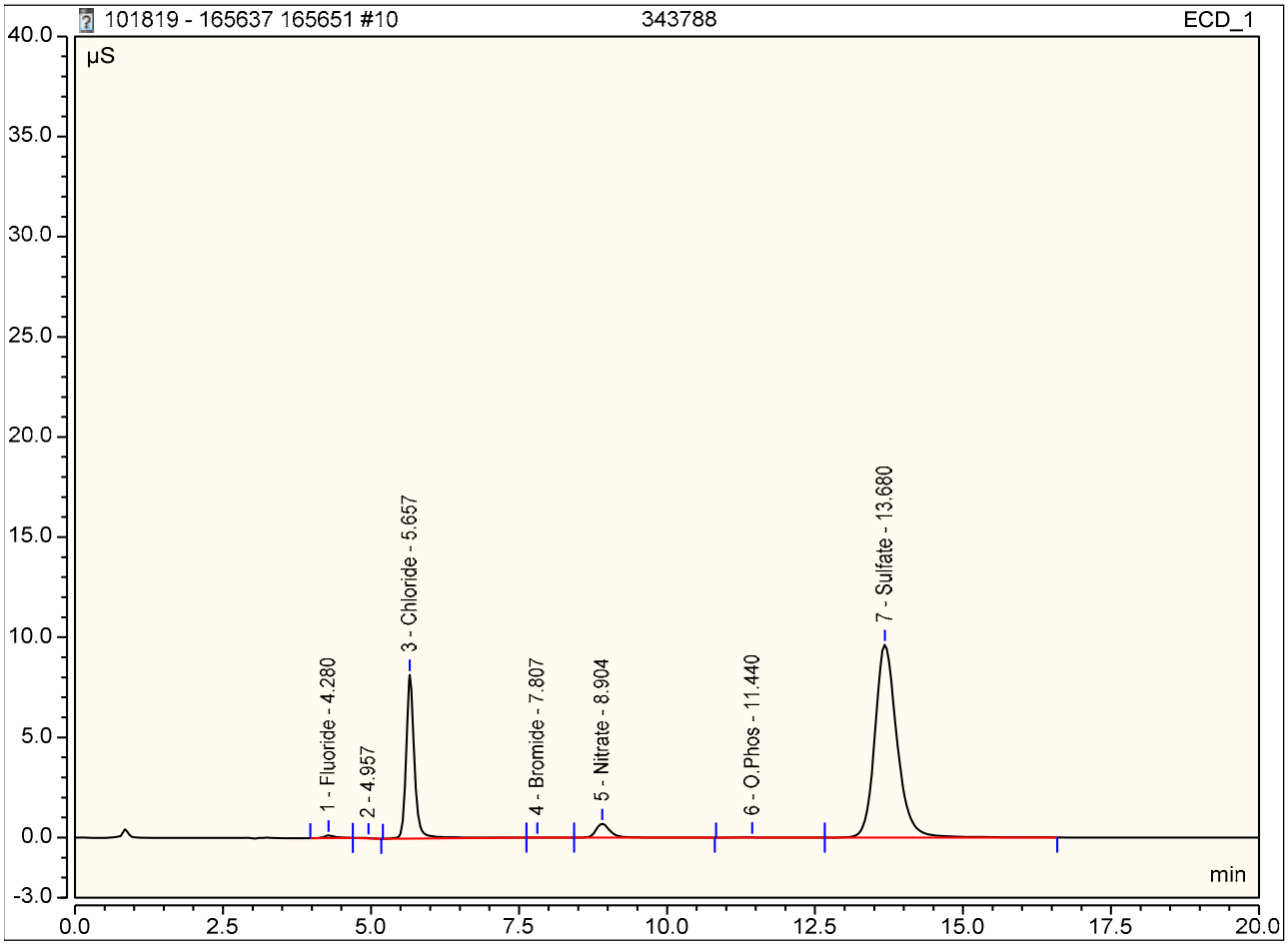
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.081	0.244	0.3767
3	5.64	Chloride	0.299	1.766	2.0548
4	7.83	Bromide	0.001	0.006	0.0222
5	8.89	Nitrate	0.309	1.125	0.7798
6	11.30	O.Phos	0.003	0.007	0.0212
7	13.70	Sulfate	0.737	1.635	6.2138



Peak Integration Report

Sample Name:	**343788**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 17:36**	*Run Time:*	**20.00**

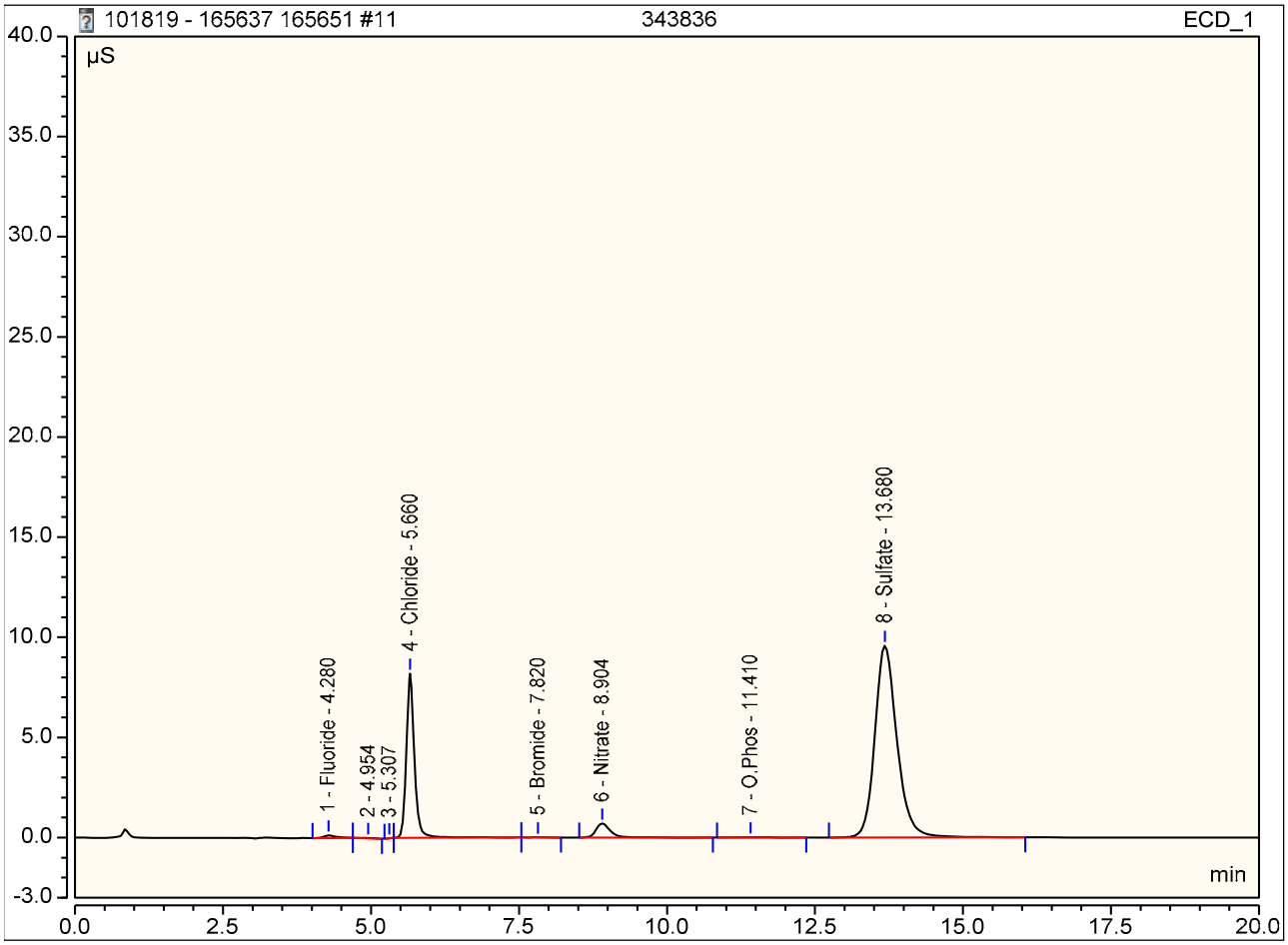
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.027	0.127	0.1418
3	5.66	Chloride	1.340	8.184	7.6105
4	7.81	Bromide	0.002	0.007	0.0264
5	8.90	Nitrate	0.199	0.694	0.5192
6	11.44	O.Phos	0.009	0.013	0.0669
7	13.68	Sulfate	4.180	9.625	33.2374



Peak Integration Report

Sample Name:	**343836**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 17:56**	*Run Time:*	**20.00**

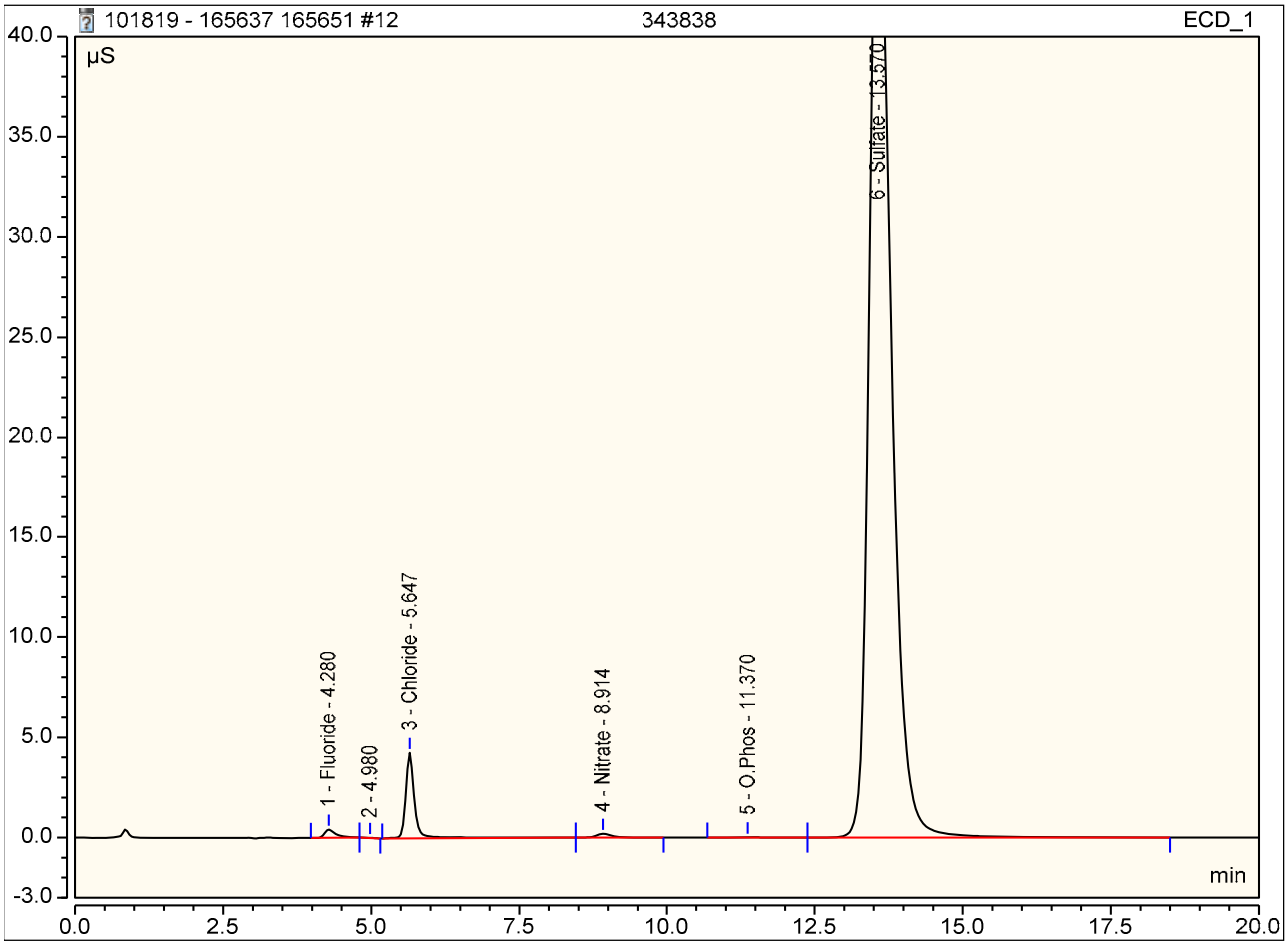
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.027	0.126	0.1406
4	5.66	Chloride	1.295	8.199	7.3695
5	7.82	Bromide	0.001	0.004	0.0109
6	8.90	Nitrate	0.199	0.700	0.5186
7	11.41	O.Phos	0.007	0.014	0.0578
8	13.68	Sulfate	4.150	9.572	33.0038



Peak Integration Report

Sample Name:	**343838**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 18:16**	*Run Time:*	**20.00**

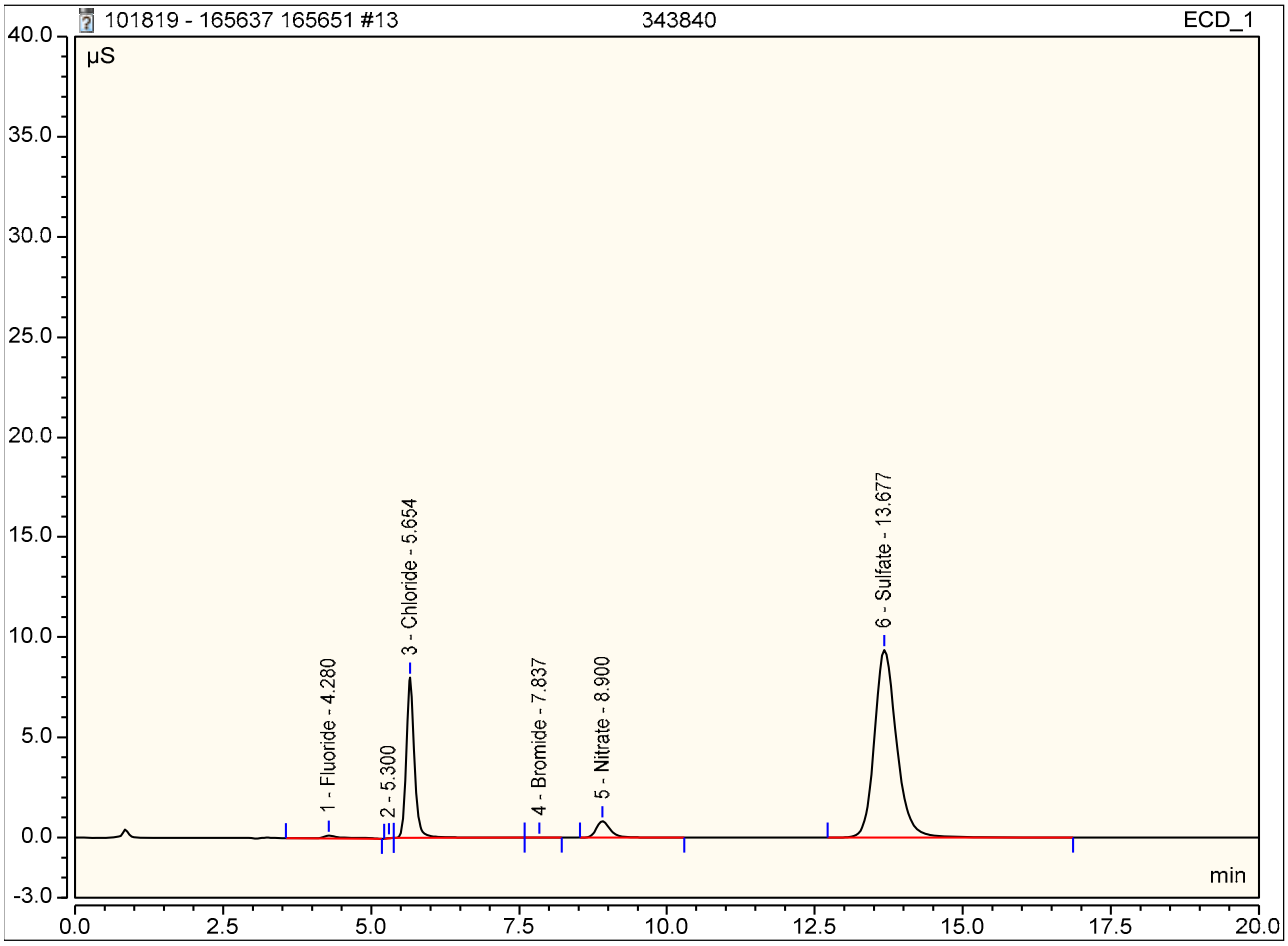
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.093	0.415	0.4311
3	5.65	Chloride	0.762	4.278	4.5271
4	8.91	Nitrate	0.056	0.192	0.1799
5	11.37	O.Phos	0.004	0.007	0.0358
6	13.57	Sulfate	21.319	49.886	167.7857



Peak Integration Report

Sample Name:	**343840**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 18:36**	*Run Time:*	**20.00**

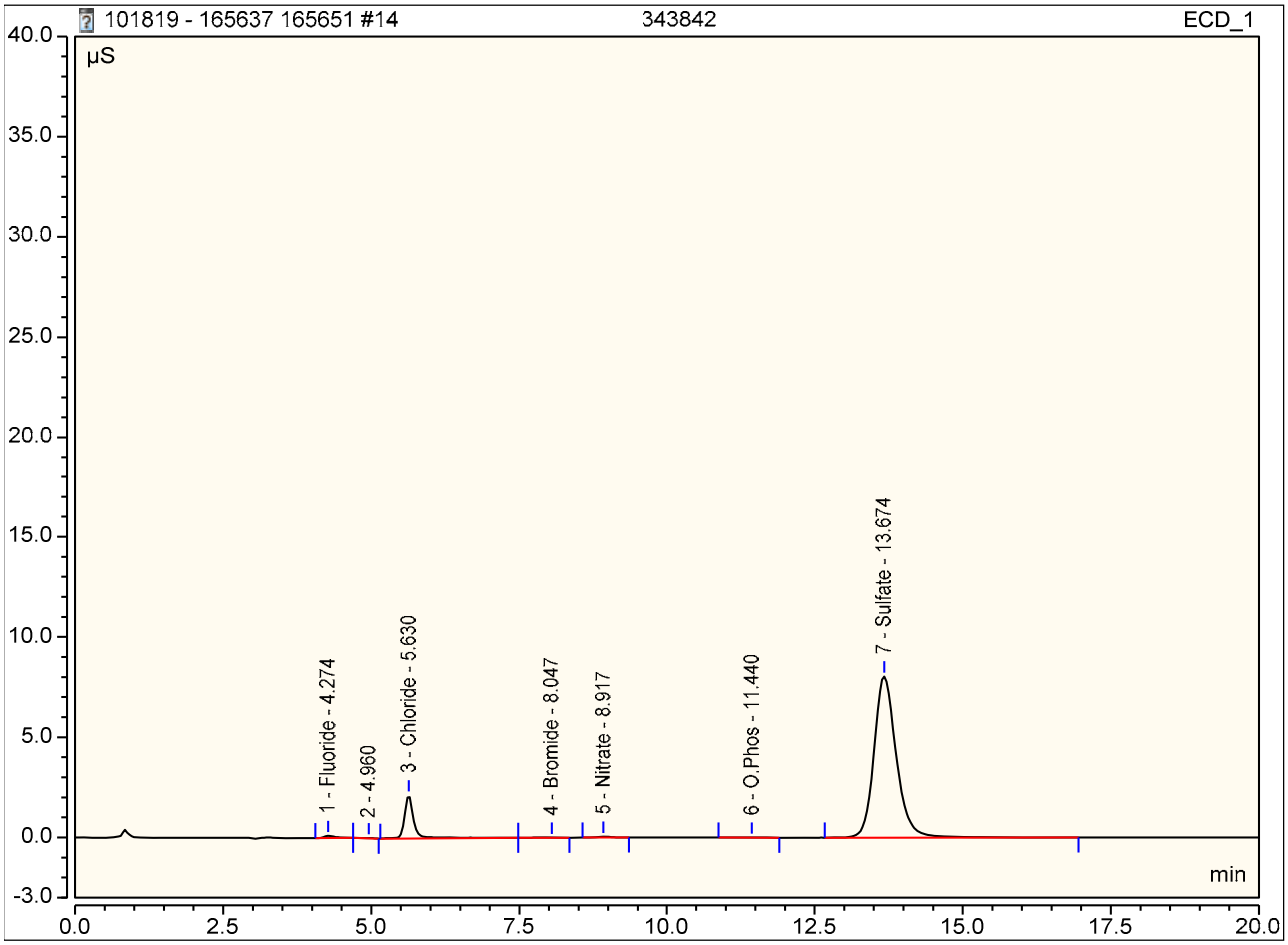
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.060	0.148	0.2877
3	5.65	Chloride	1.273	7.998	7.2515
4	7.84	Bromide	0.002	0.007	0.0292
5	8.90	Nitrate	0.226	0.817	0.5825
6	13.68	Sulfate	4.072	9.357	32.3941



Peak Integration Report

Sample Name:	**343842**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 18:56**	*Run Time:*	**20.00**

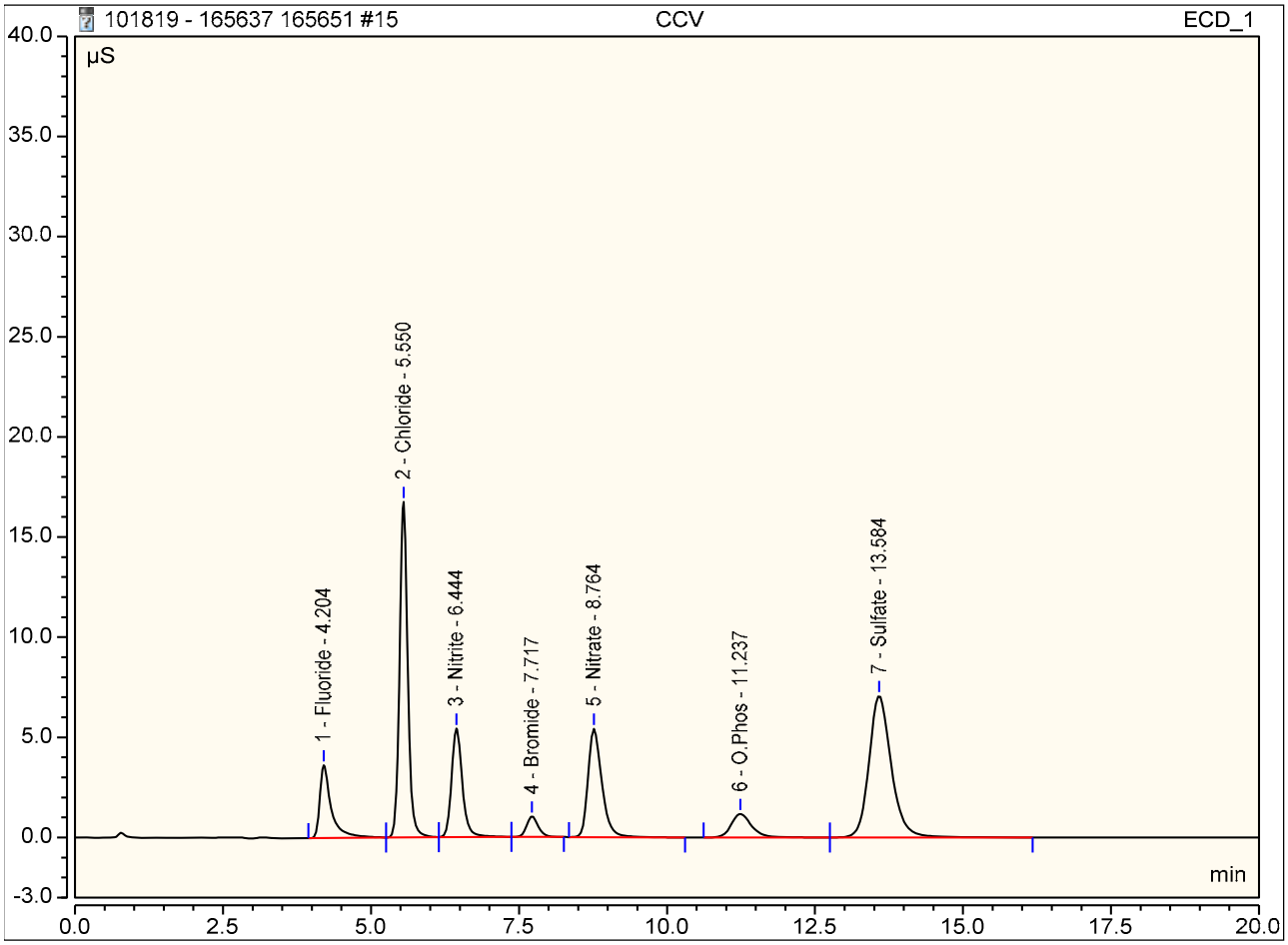
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.27	Fluoride	0.024	0.113	0.1264
3	5.63	Chloride	0.391	2.152	2.5482
4	8.05	Bromide	0.002	0.004	0.0259
5	8.92	Nitrate	0.013	0.048	0.0794
6	11.44	O.Phos	0.005	0.011	0.0367
7	13.67	Sulfate	3.519	8.044	28.0525



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 19:16**	*Run Time:*	**20.00**

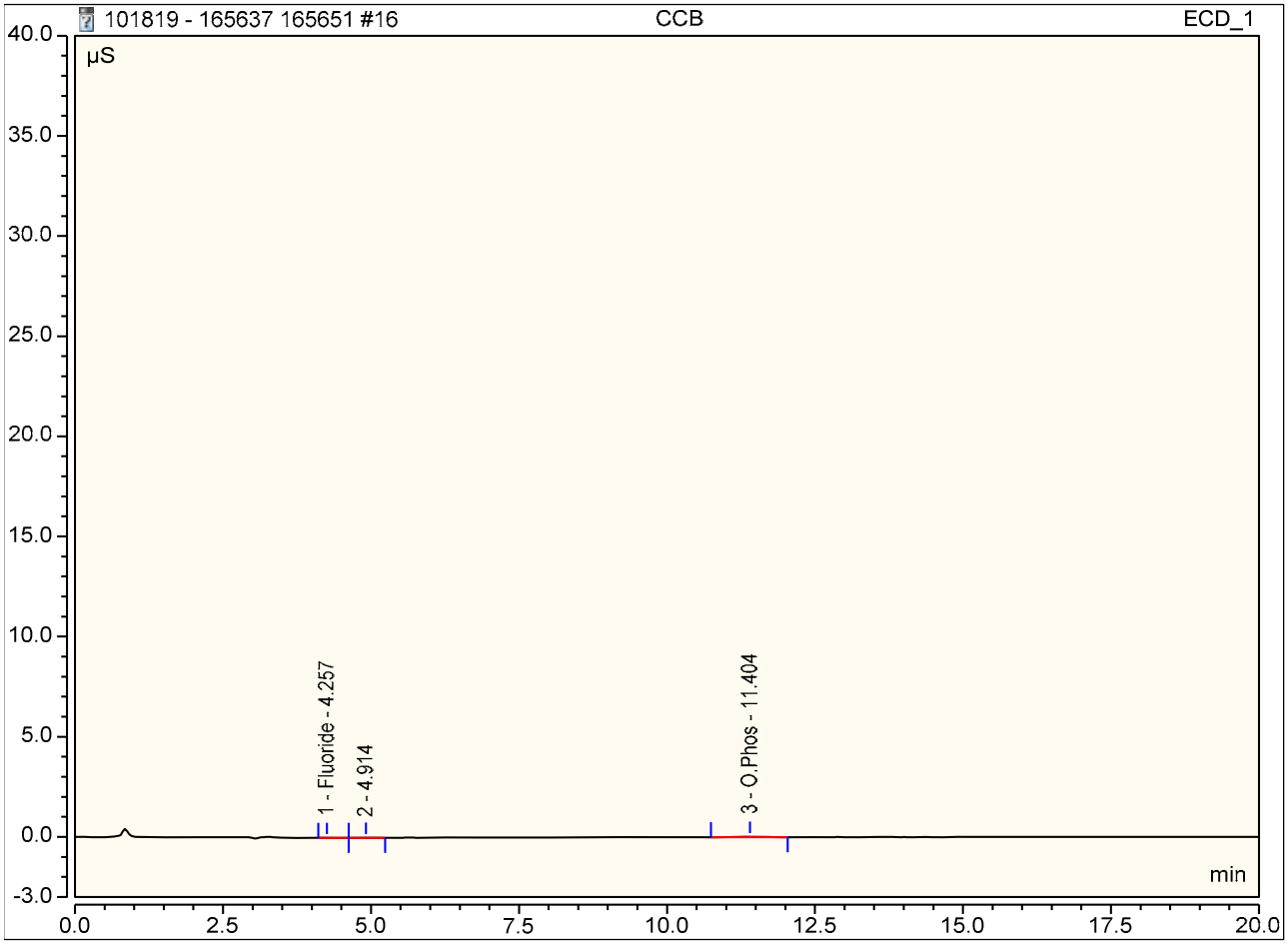
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.20	Fluoride	0.818	3.642	3.6328
2	5.55	Chloride	2.653	16.750	14.6187
3	6.44	Nitrite	1.144	5.412	3.6550
4	7.72	Bromide	0.234	1.025	3.4833
5	8.76	Nitrate	1.466	5.416	3.5196
6	11.24	O.Phos	0.474	1.181	3.5842
7	13.58	Sulfate	3.094	7.070	24.7168



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 19:36**	*Run Time:*	**20.00**

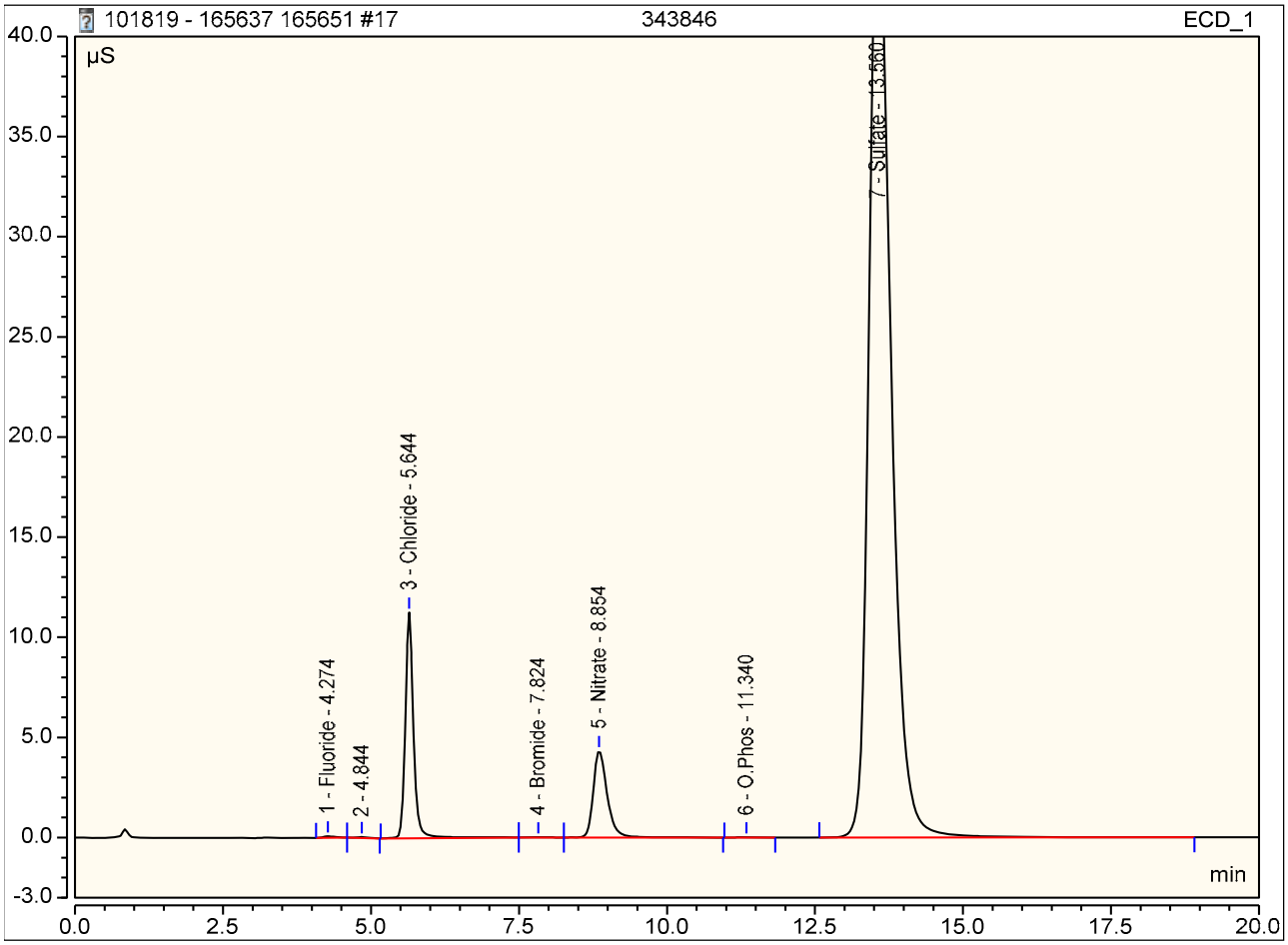
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.26	Fluoride	0.001	0.006	0.0255
3	11.40	O.Phos	0.011	0.025	0.0826



Peak Integration Report

Sample Name:	**343846**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 19:56**	*Run Time:*	**20.00**

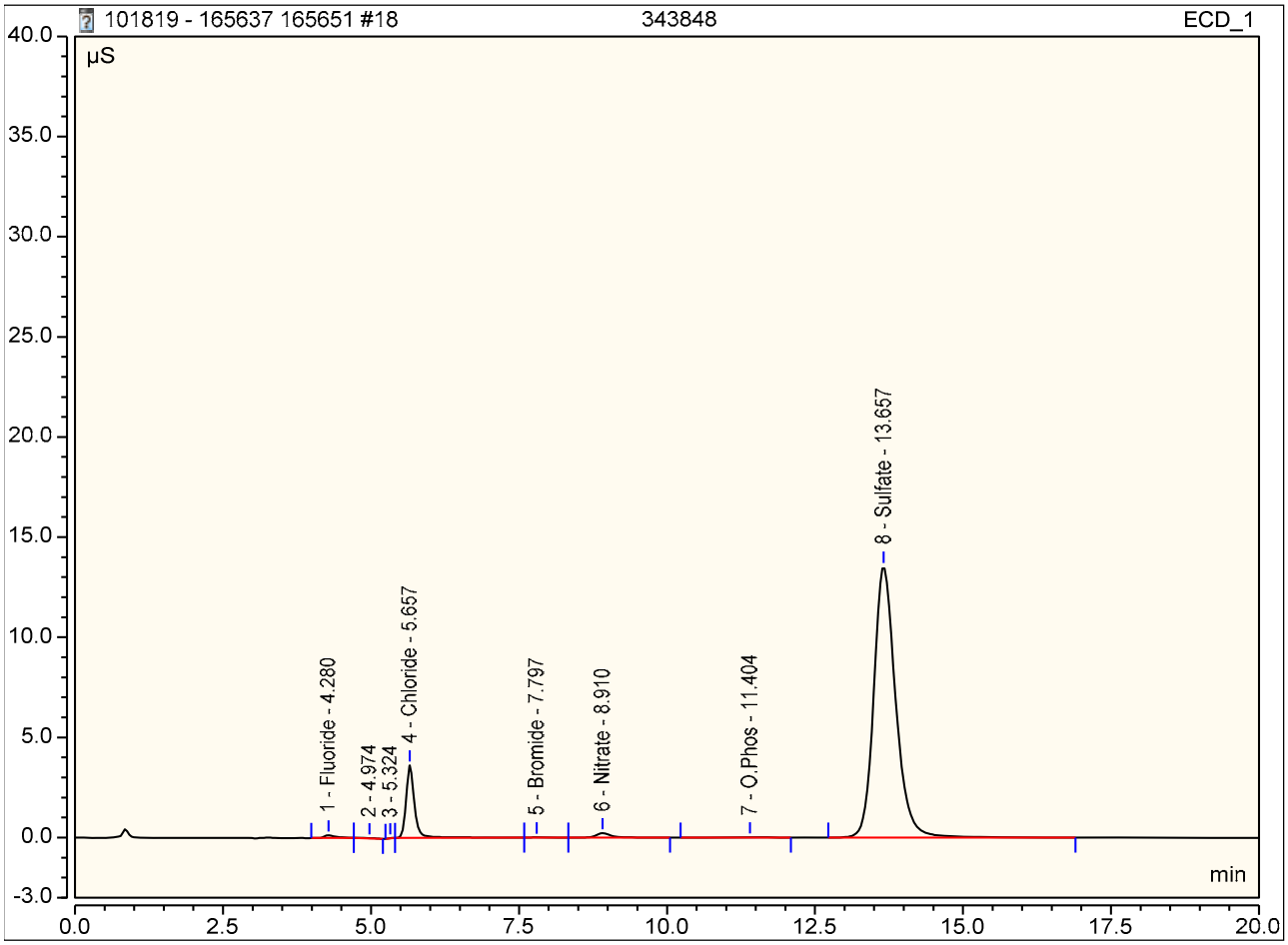
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.27	Fluoride	0.015	0.073	0.0864
3	5.64	Chloride	1.803	11.272	10.0823
4	7.82	Bromide	0.003	0.014	0.0521
5	8.85	Nitrate	1.180	4.319	2.8421
6	11.34	O.Phos	0.005	0.014	0.0402
7	13.56	Sulfate	20.333	47.659	160.0427



Peak Integration Report

Sample Name:	**343848**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 20:16**	*Run Time:*	**20.00**

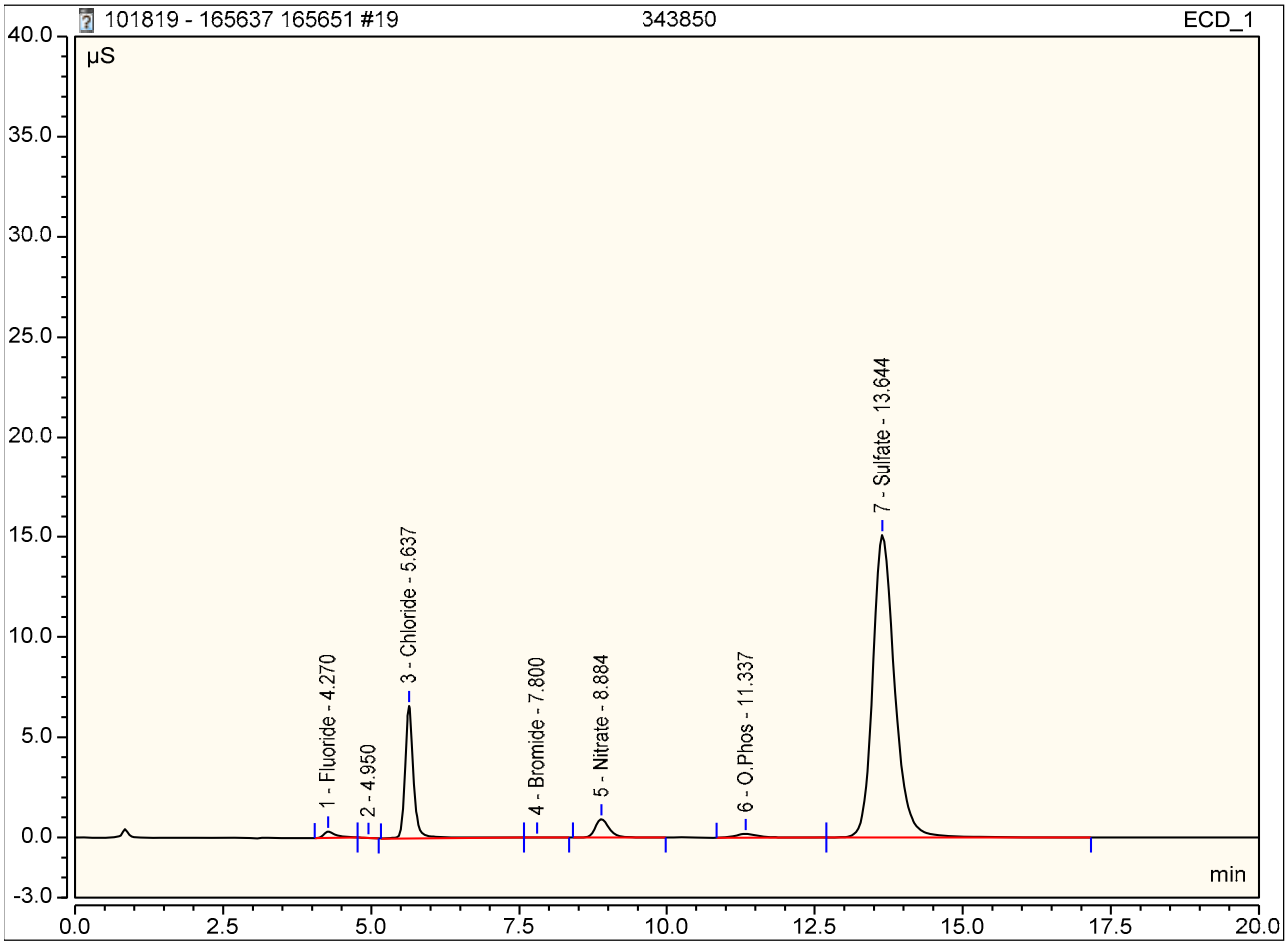
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.029	0.133	0.1473
4	5.66	Chloride	0.596	3.625	3.6392
5	7.80	Bromide	0.002	0.006	0.0253
6	8.91	Nitrate	0.064	0.219	0.1993
7	11.40	O.Phos	0.008	0.012	0.0614
8	13.66	Sulfate	5.823	13.524	46.1413



Peak Integration Report

Sample Name:	**343850**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 20:37**	*Run Time:*	**20.00**

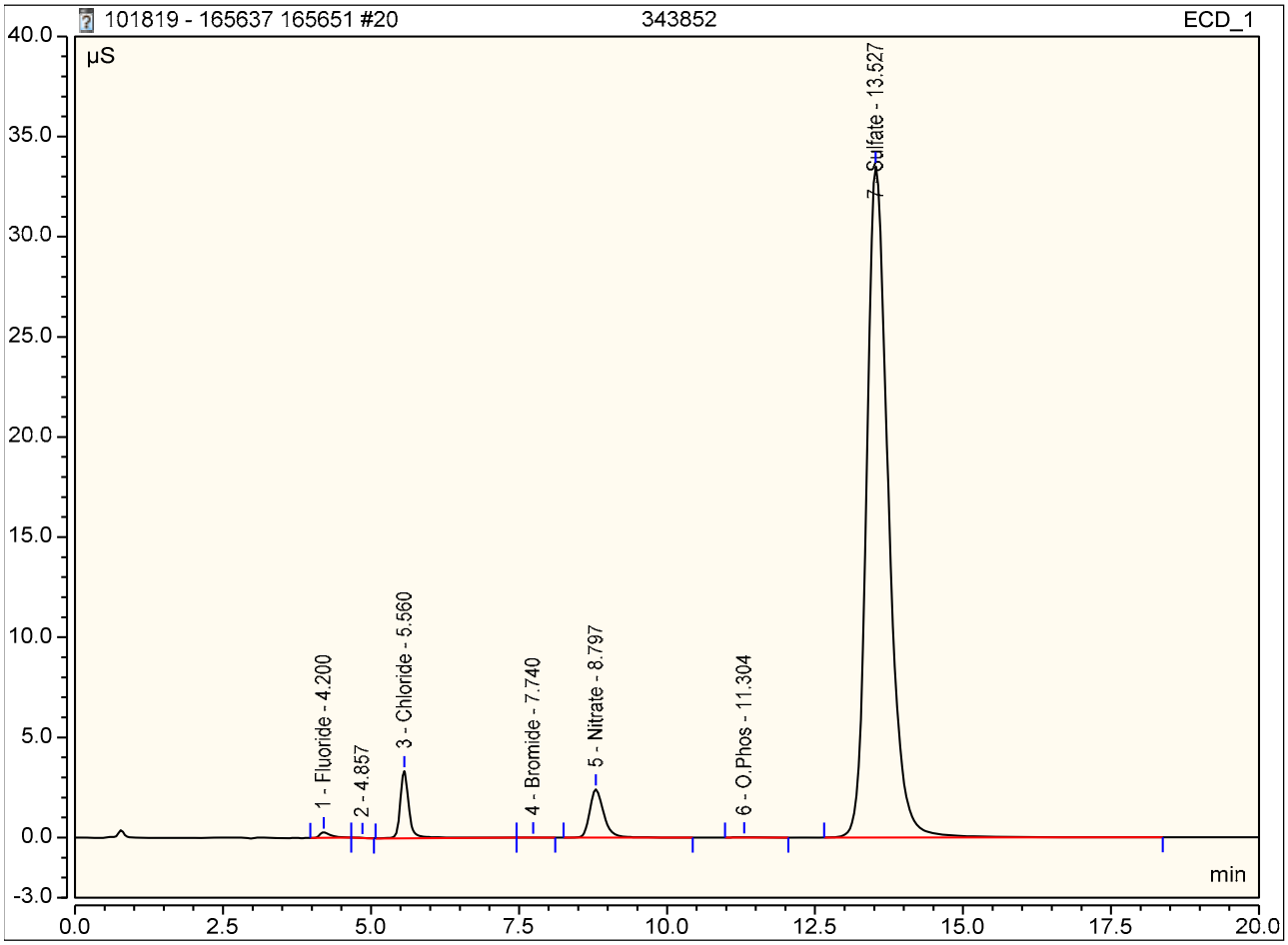
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.27	Fluoride	0.075	0.319	0.3509
3	5.64	Chloride	1.096	6.608	6.3071
4	7.80	Bromide	0.003	0.010	0.0449
5	8.88	Nitrate	0.253	0.920	0.6483
6	11.34	O.Phos	0.082	0.186	0.6217
7	13.64	Sulfate	6.480	15.090	51.2995



Peak Integration Report

Sample Name:	**343852**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 20:57**	*Run Time:*	**20.00**

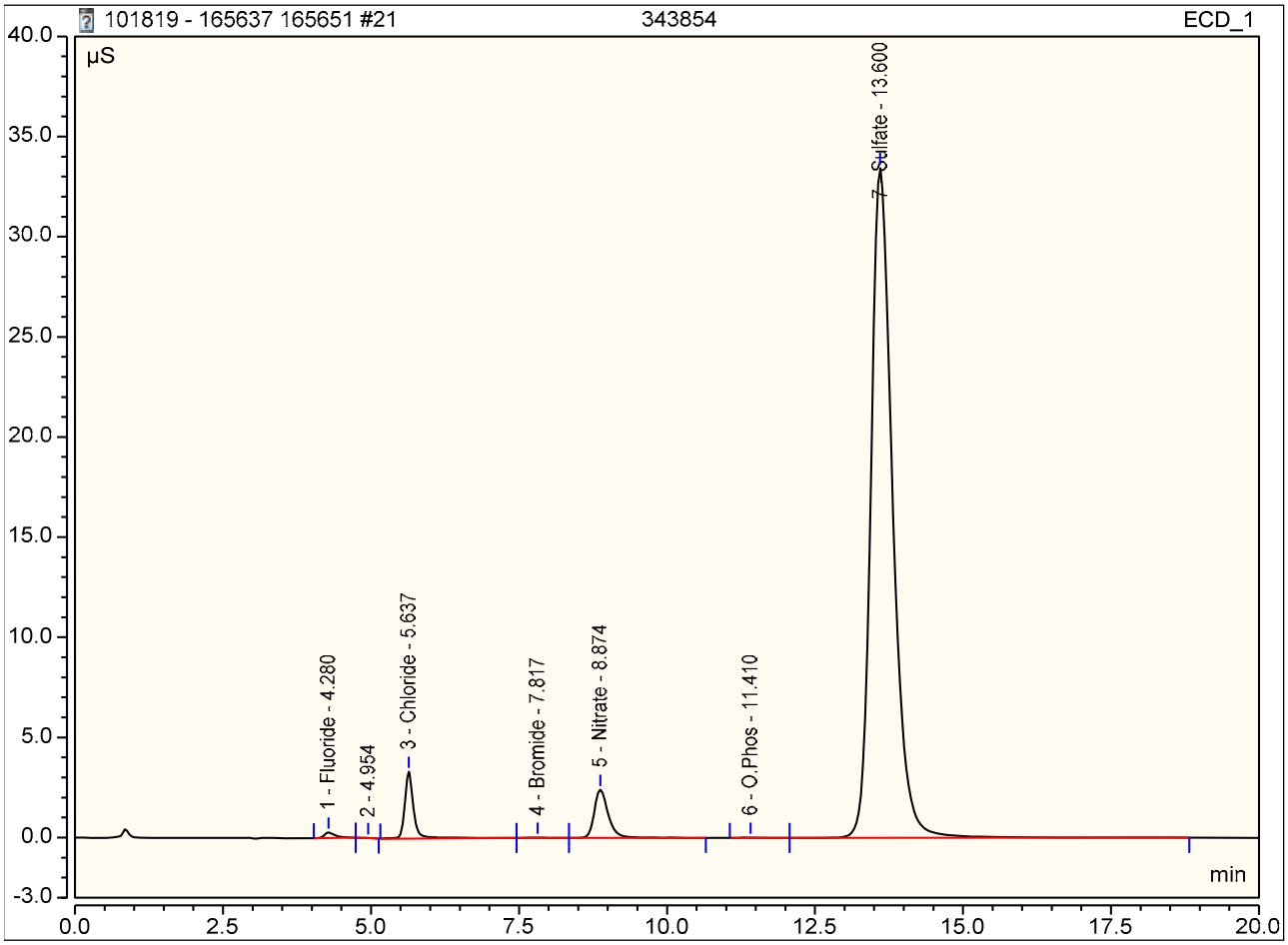
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.20	Fluoride	0.061	0.281	0.2879
3	5.56	Chloride	0.585	3.353	3.5817
4	7.74	Bromide	0.002	0.009	0.0327
5	8.80	Nitrate	0.661	2.411	1.6138
6	11.30	O.Phos	0.008	0.018	0.0637
7	13.53	Sulfate	14.248	33.498	112.2718



Peak Integration Report

Sample Name:	**343854**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 21:17**	*Run Time:*	**20.00**

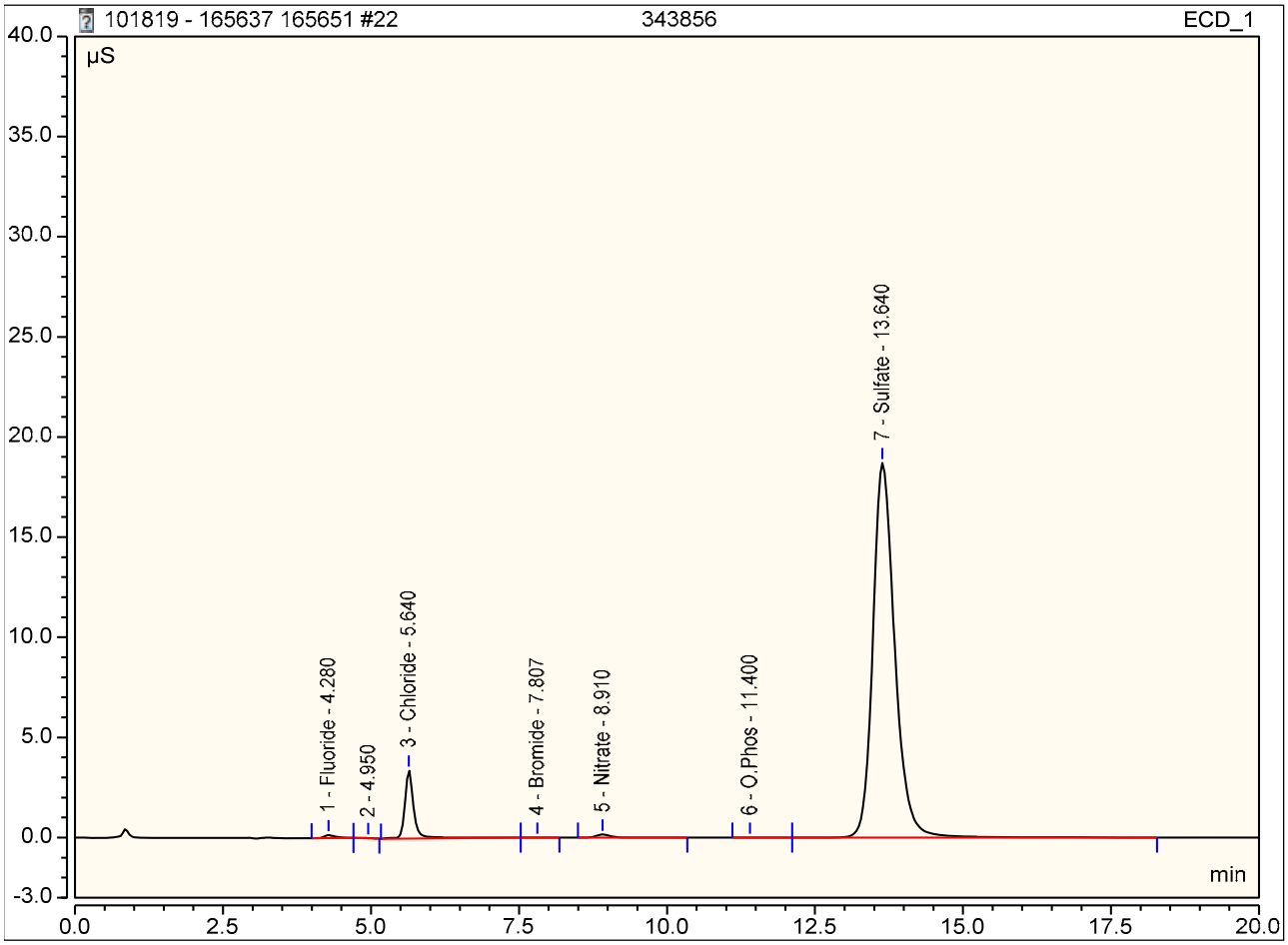
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.060	0.280	0.2844
3	5.64	Chloride	0.580	3.338	3.5567
4	7.82	Bromide	0.002	0.009	0.0354
5	8.87	Nitrate	0.656	2.399	1.6024
6	11.41	O.Phos	0.004	0.009	0.0321
7	13.60	Sulfate	14.205	33.440	111.9372



Peak Integration Report

Sample Name:	**343856**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 21:37**	*Run Time:*	**20.00**

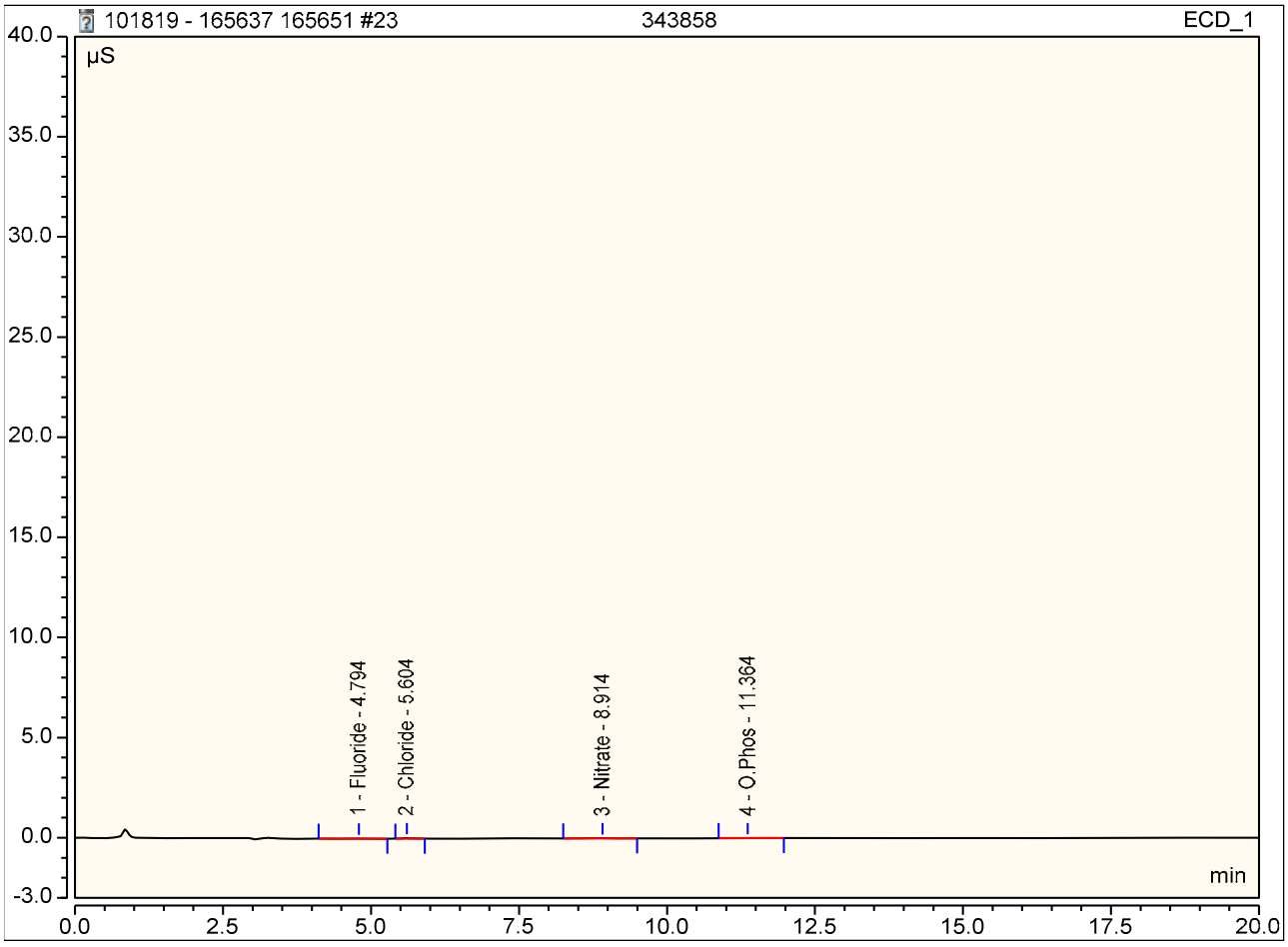
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.032	0.150	0.1620
3	5.64	Chloride	0.596	3.404	3.6414
4	7.81	Bromide	0.001	0.007	0.0229
5	8.91	Nitrate	0.045	0.156	0.1545
6	11.40	O.Phos	0.003	0.006	0.0234
7	13.64	Sulfate	8.030	18.702	63.4606



Peak Integration Report

Sample Name:	**343858**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 21:57**	*Run Time:*	**20.00**

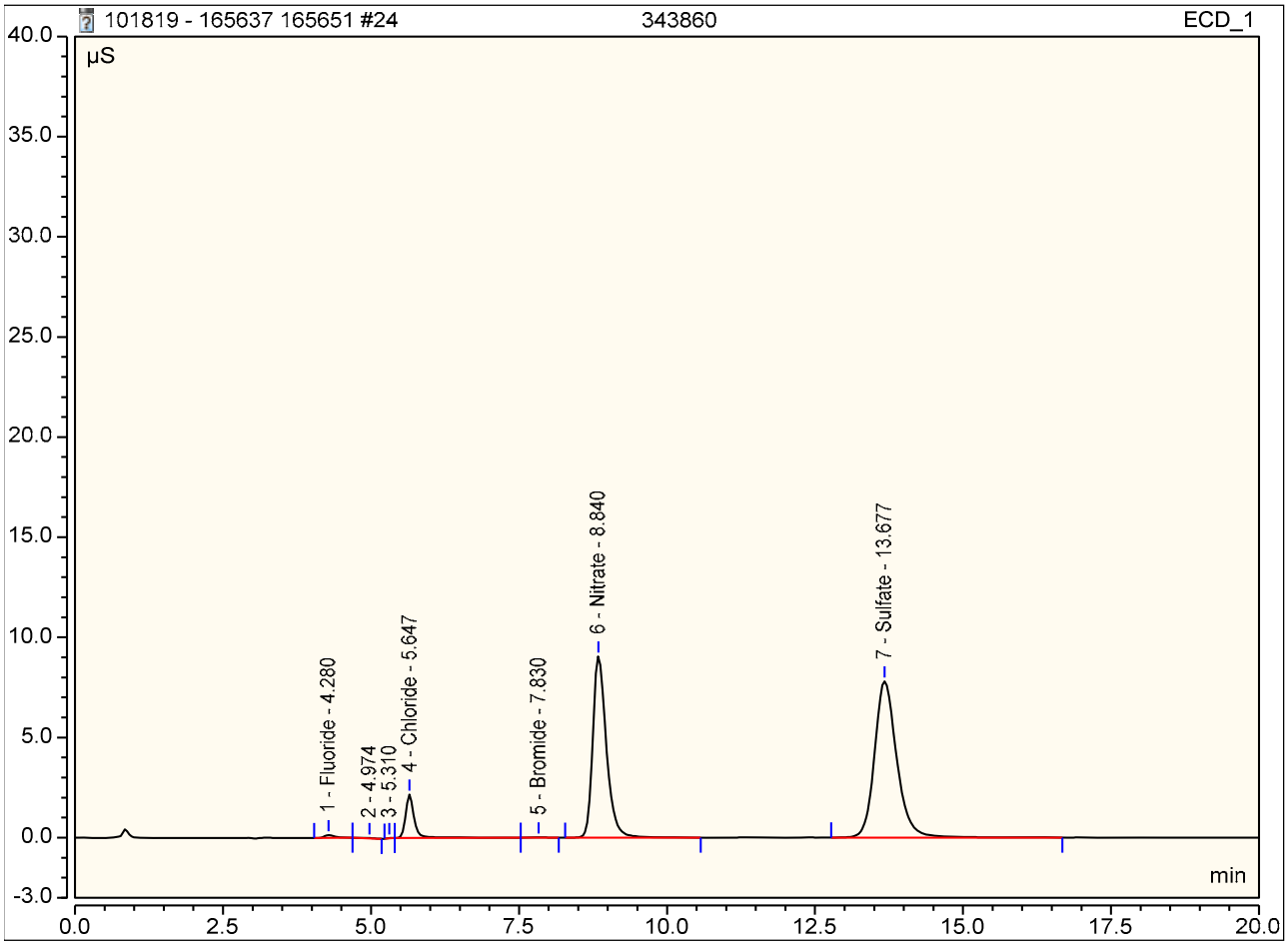
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.79	Fluoride	0.004	0.011	0.0375
2	5.60	Chloride	0.004	0.027	0.4830
3	8.91	Nitrate	0.003	0.009	0.0562
4	11.36	O.Phos	0.005	0.010	0.0384



Peak Integration Report

Sample Name:	**343860**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 22:17**	*Run Time:*	**20.00**

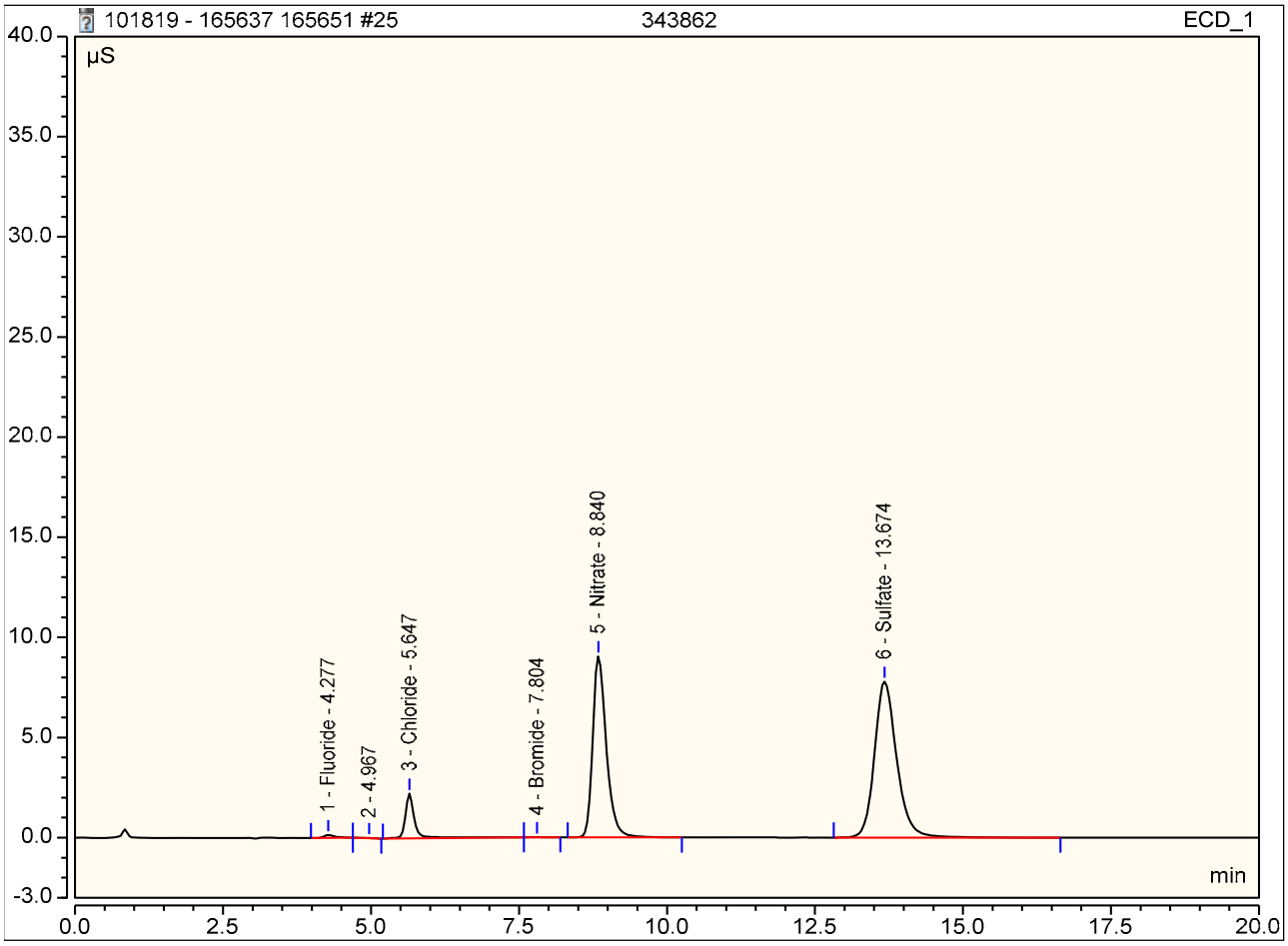
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.029	0.139	0.1507
4	5.65	Chloride	0.366	2.166	2.4102
5	7.83	Bromide	0.004	0.017	0.0538
6	8.84	Nitrate	2.426	9.051	5.7945
7	13.68	Sulfate	3.403	7.801	27.1446



Peak Integration Report

Sample Name:	**343862**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 22:37**	*Run Time:*	**20.00**

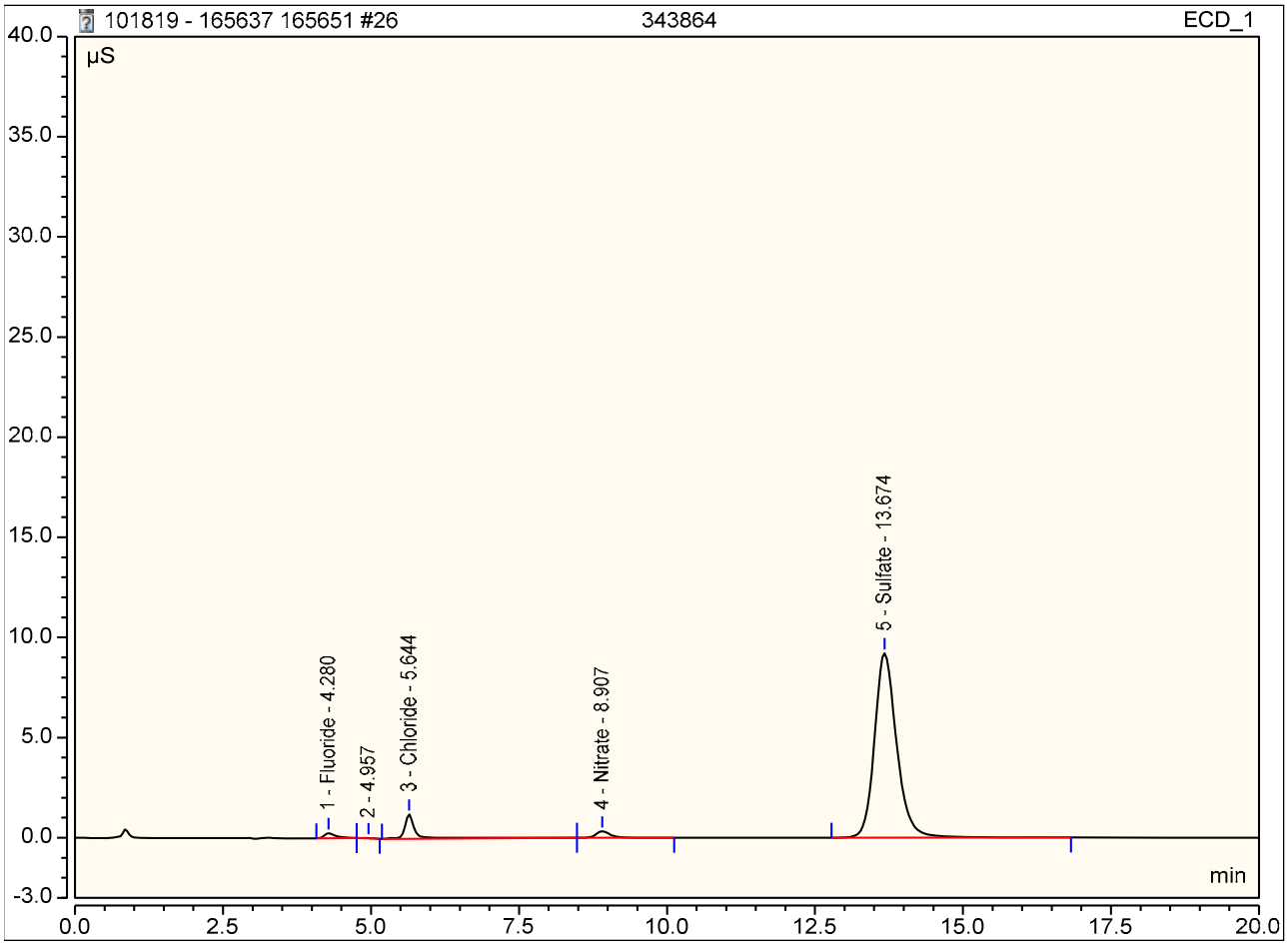
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.030	0.140	0.1547
3	5.65	Chloride	0.423	2.238	2.7192
4	7.80	Bromide	0.003	0.015	0.0512
5	8.84	Nitrate	2.419	9.048	5.7772
6	13.67	Sulfate	3.397	7.783	27.0963



Peak Integration Report

Sample Name:	**343864**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 22:57**	*Run Time:*	**20.00**

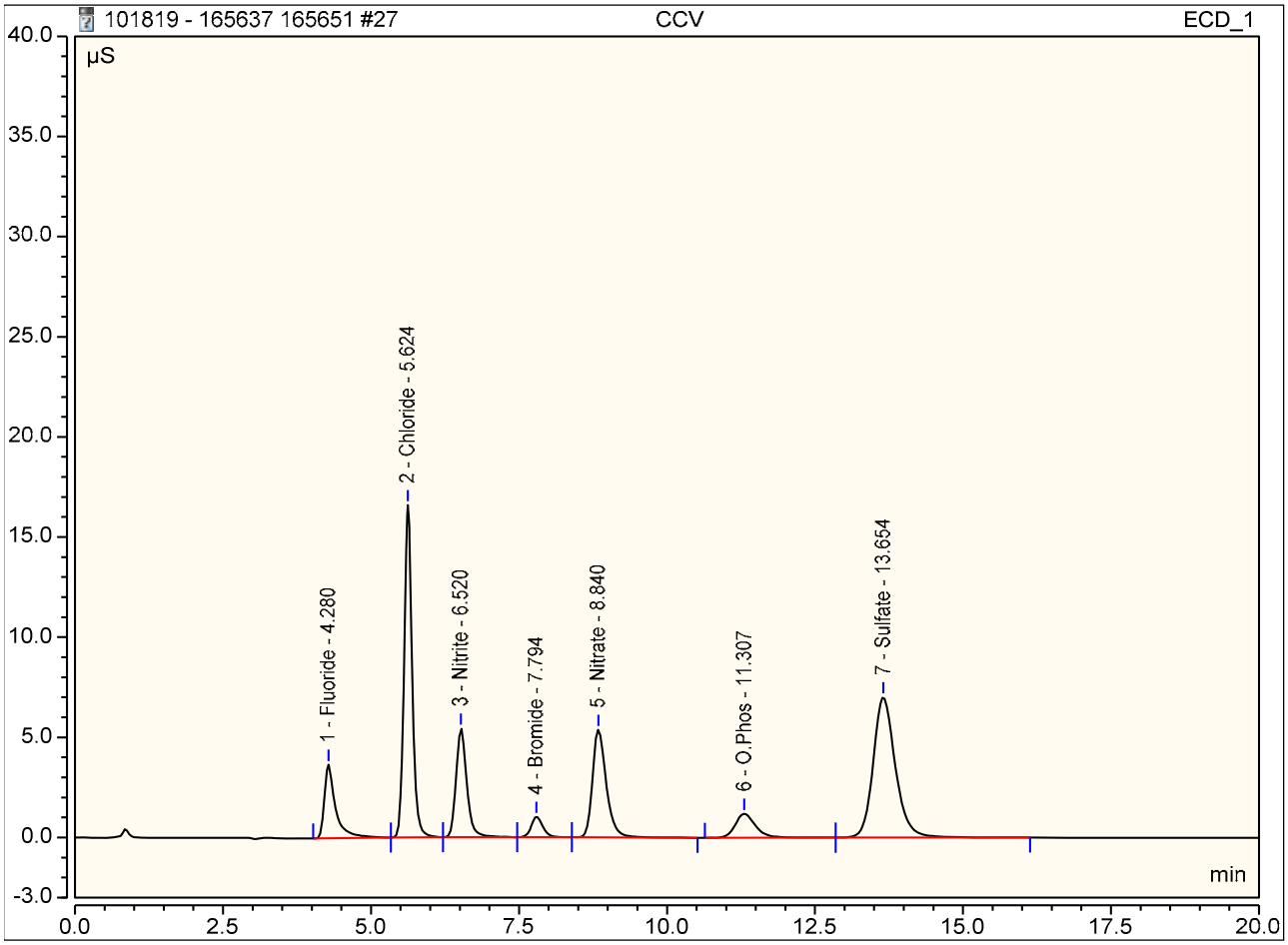
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.055	0.254	0.2619
3	5.64	Chloride	0.273	1.214	1.9188
4	8.91	Nitrate	0.090	0.323	0.2611
5	13.67	Sulfate	4.018	9.212	31.9657



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 23:17**	*Run Time:*	**20.00**

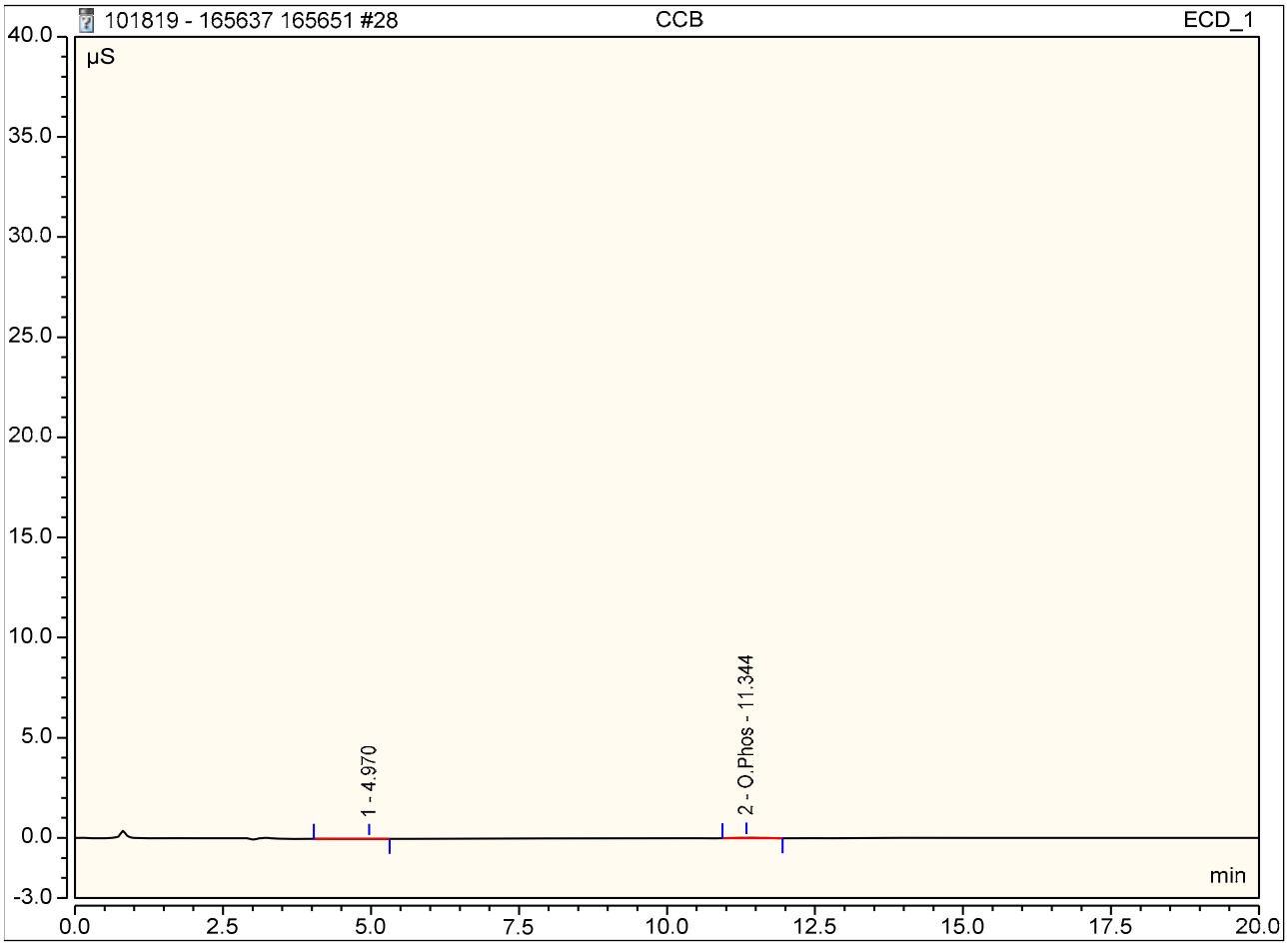
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.811	3.672	3.5994
2	5.62	Chloride	2.630	16.600	14.4922
3	6.52	Nitrite	1.145	5.424	3.6590
4	7.79	Bromide	0.234	1.021	3.4839
5	8.84	Nitrate	1.454	5.372	3.4926
6	11.31	O.Phos	0.478	1.200	3.6143
7	13.65	Sulfate	3.067	7.011	24.5000



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 23:37**	*Run Time:*	**20.00**

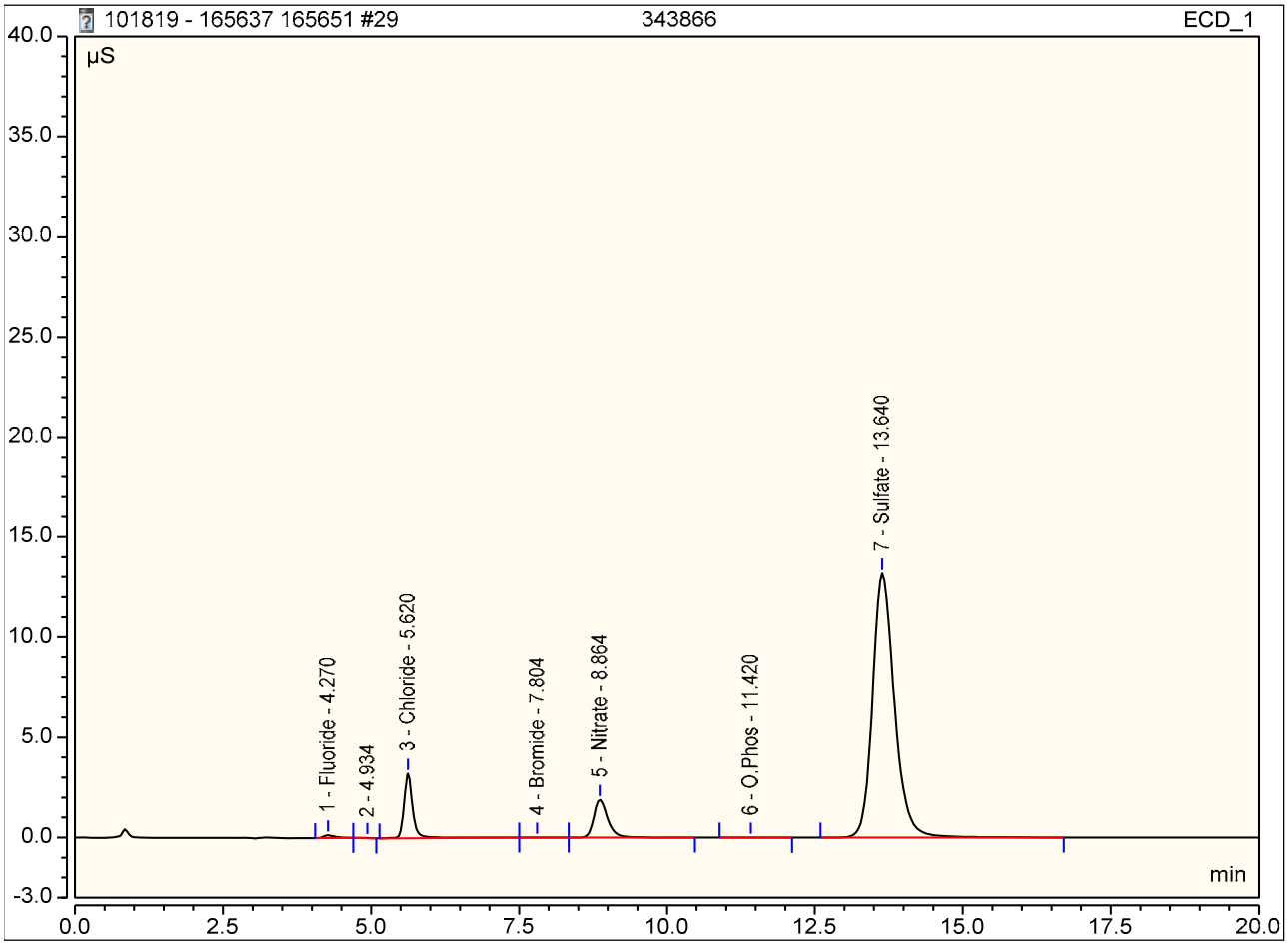
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	11.34	O.Phos	0.010	0.023	0.0807



Peak Integration Report

Sample Name:	**343866**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**18-Oct-2019 / 23:57**	*Run Time:*	**20.00**

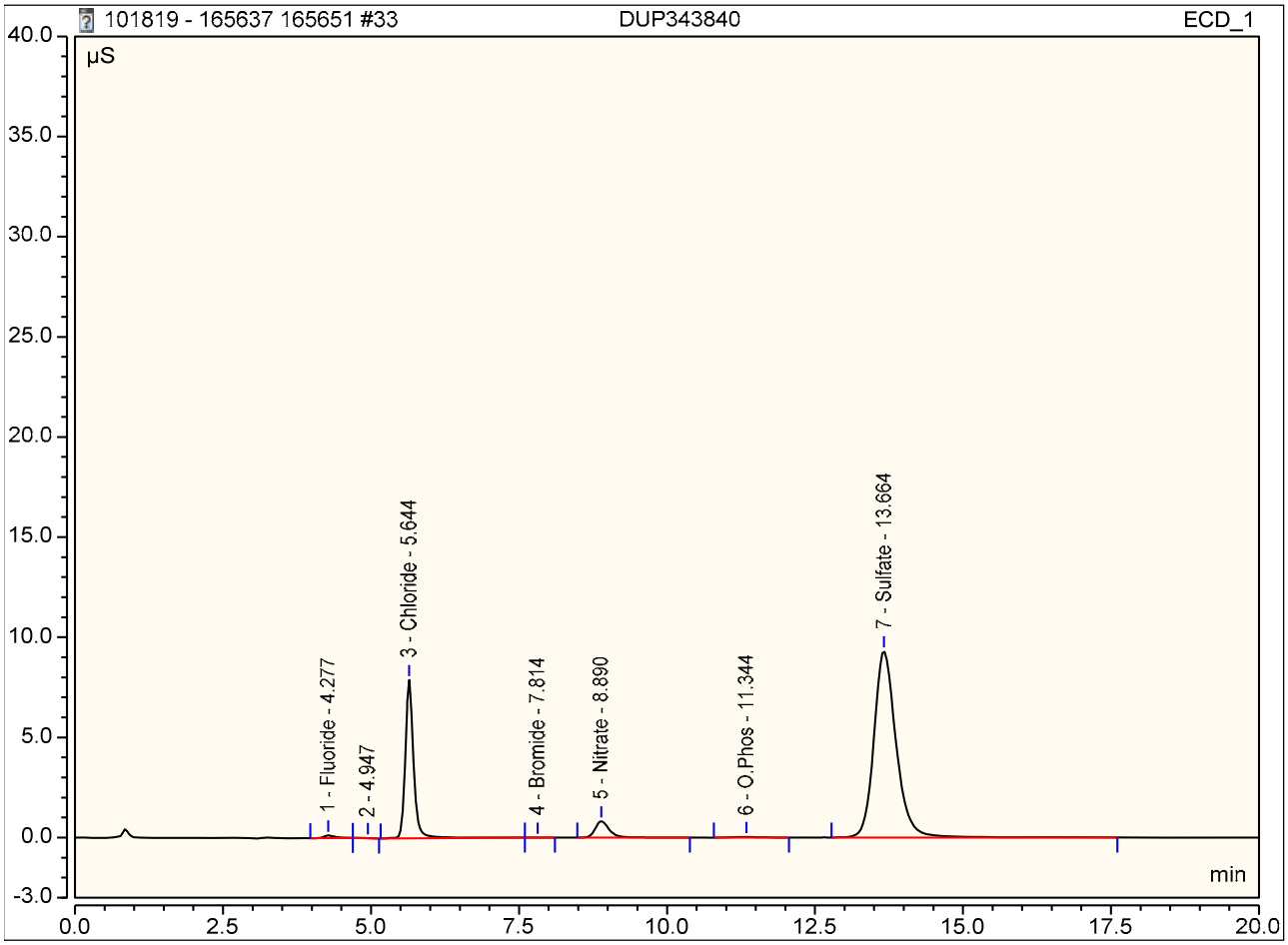
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.27	Fluoride	0.029	0.140	0.1494
3	5.62	Chloride	0.562	3.235	3.4599
4	7.80	Bromide	0.003	0.012	0.0439
5	8.86	Nitrate	0.520	1.892	1.2807
6	11.42	O.Phos	0.005	0.011	0.0424
7	13.64	Sulfate	5.687	13.181	45.0734



Peak Integration Report

Sample Name:	**DUP343840**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 01:17**	*Run Time:*	**20.00**

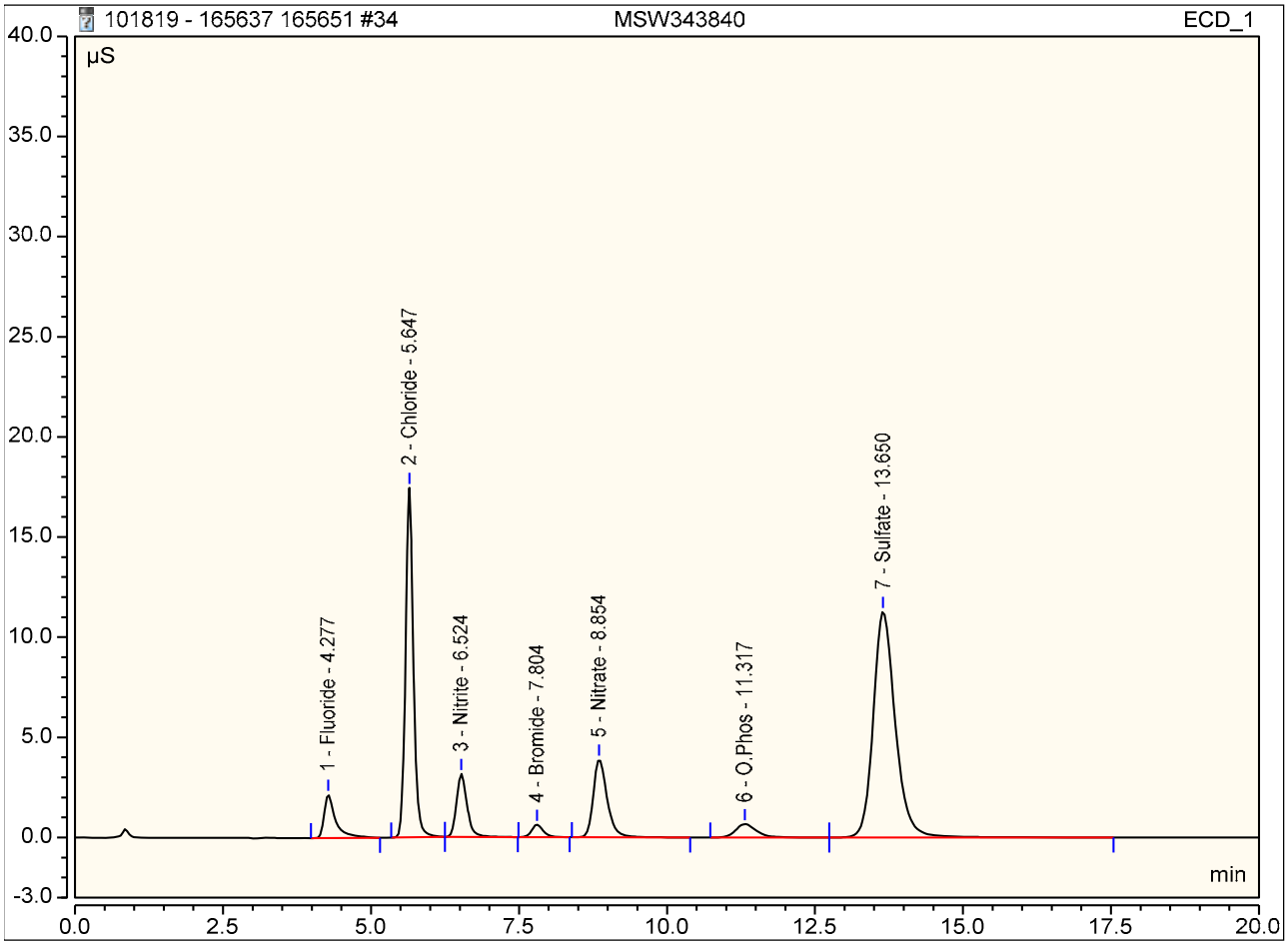
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.027	0.129	0.1384
3	5.64	Chloride	1.298	7.918	7.3876
4	7.81	Bromide	0.001	0.007	0.0215
5	8.89	Nitrate	0.226	0.812	0.5831
6	11.34	O.Phos	0.013	0.030	0.1022
7	13.66	Sulfate	4.061	9.300	32.3096



Peak Integration Report

Sample Name:	**MSW343840**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 01:37**	*Run Time:*	**20.00**

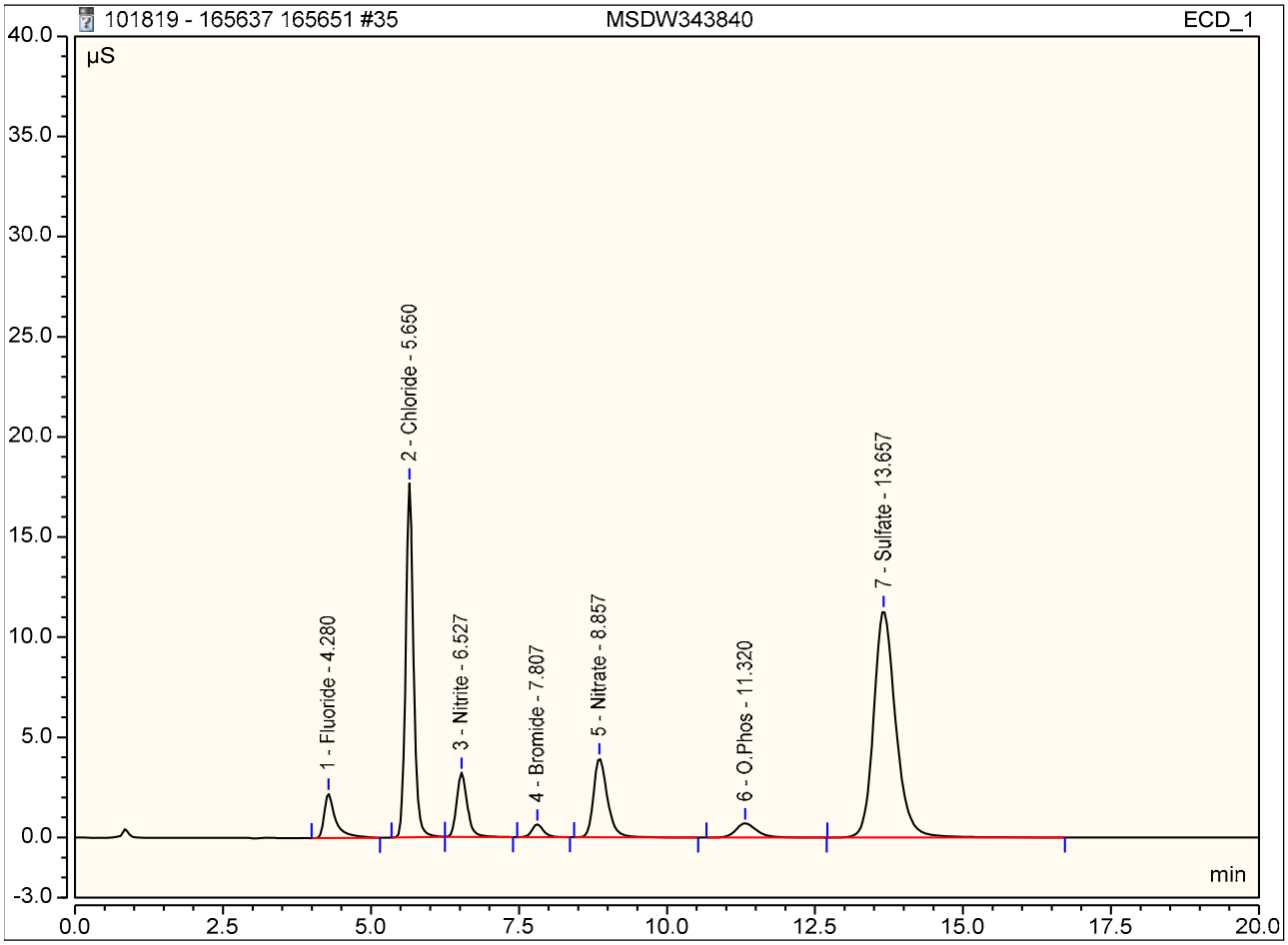
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.496	2.175	2.2116
2	5.65	Chloride	2.671	17.457	14.7151
3	6.52	Nitrite	0.651	3.141	2.0912
4	7.80	Bromide	0.142	0.620	2.1115
5	8.85	Nitrate	1.055	3.884	2.5480
6	11.32	O.Phos	0.274	0.668	2.0744
7	13.65	Sulfate	4.886	11.272	38.7842



Peak Integration Report

Sample Name:	**MSDW343840**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 01:57**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.507	2.227	2.2580
2	5.65	Chloride	2.706	17.675	14.8977
3	6.53	Nitrite	0.664	3.206	2.1334
4	7.81	Bromide	0.144	0.633	2.1537
5	8.86	Nitrate	1.074	3.946	2.5921
6	11.32	O.Phos	0.293	0.712	2.2148
7	13.66	Sulfate	4.901	11.320	38.8988

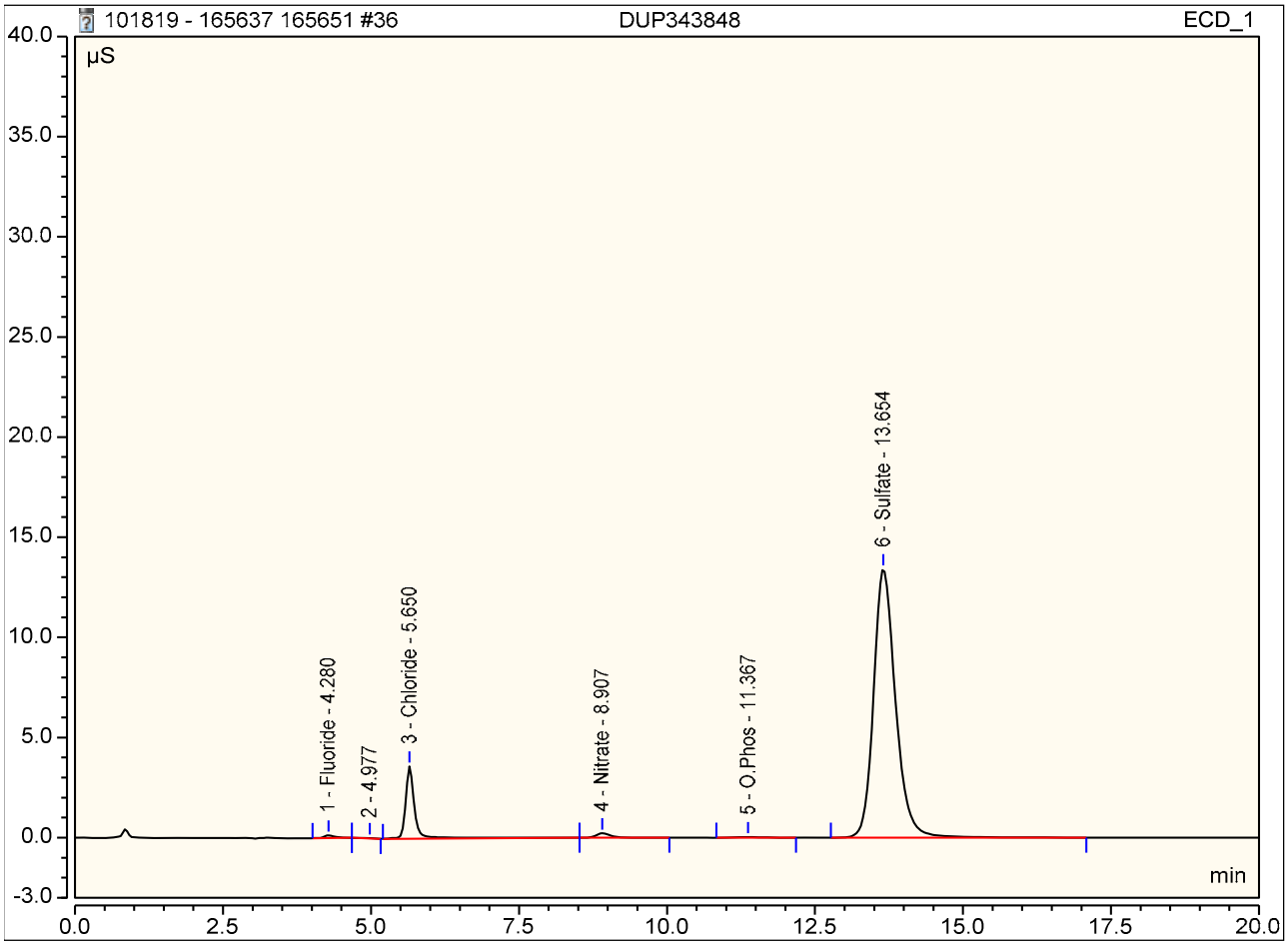


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**DUP343848**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 02:17**	*Run Time:*	**20.00**

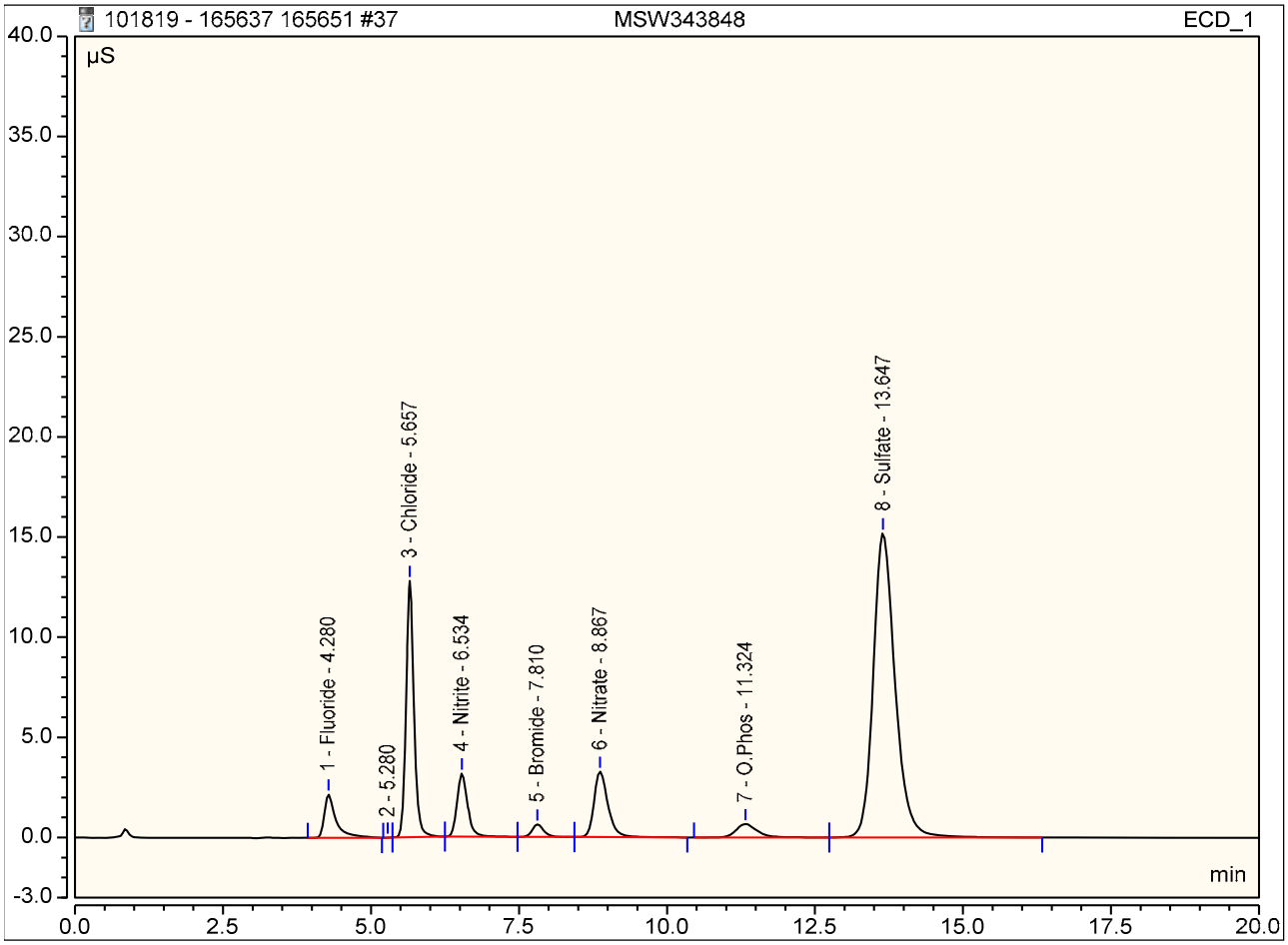
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.028	0.136	0.1459
3	5.65	Chloride	0.669	3.617	4.0319
4	8.91	Nitrate	0.063	0.219	0.1981
5	11.37	O.Phos	0.016	0.035	0.1215
6	13.65	Sulfate	5.783	13.409	45.8234



Peak Integration Report

Sample Name:	**MSW343848**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 02:37**	*Run Time:*	**20.00**

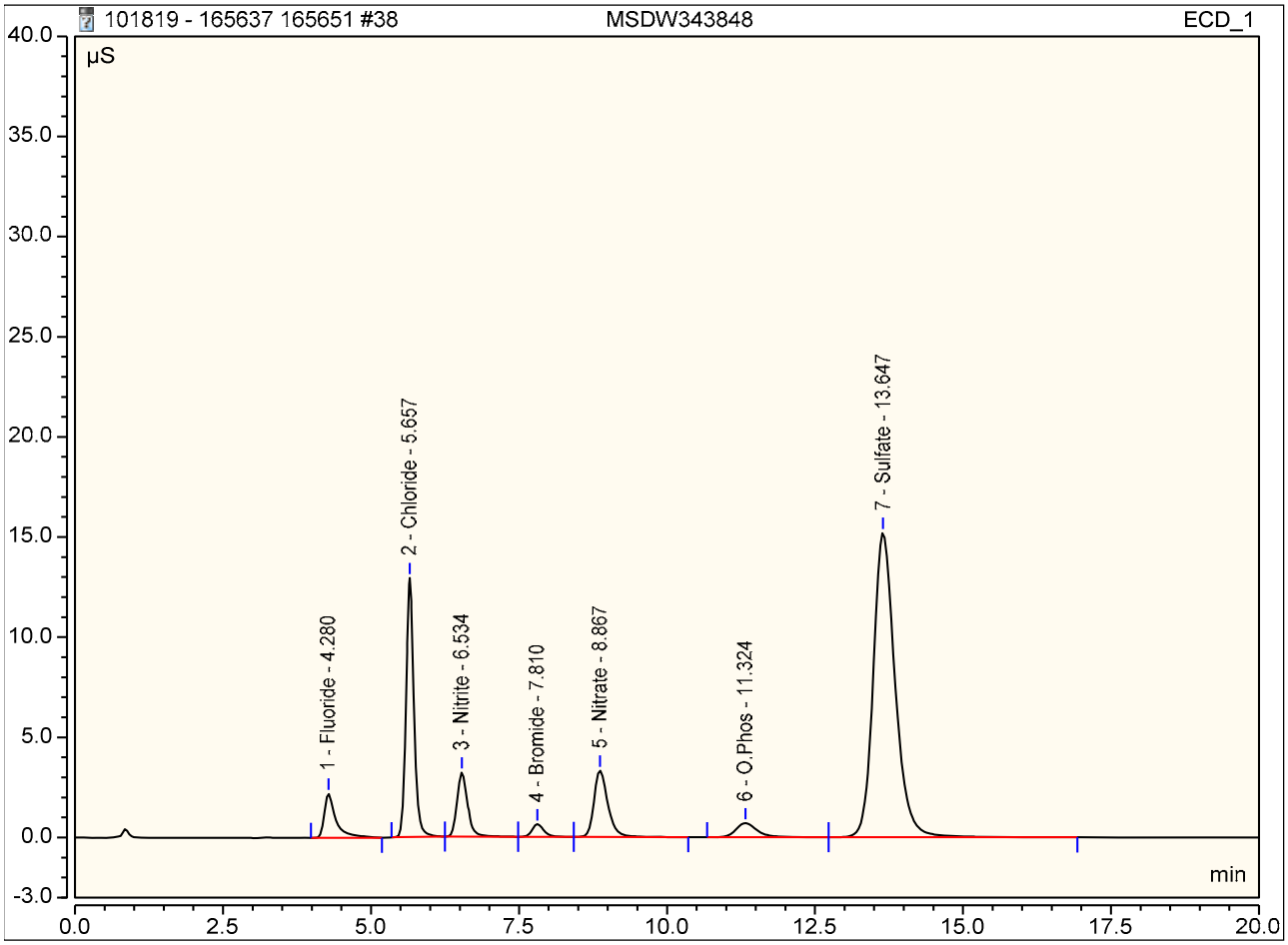
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.506	2.176	2.2545
3	5.66	Chloride	1.963	12.797	10.9331
4	6.53	Nitrite	0.656	3.160	2.1066
5	7.81	Bromide	0.142	0.620	2.1173
6	8.87	Nitrate	0.894	3.271	2.1649
7	11.32	O.Phos	0.280	0.670	2.1164
8	13.65	Sulfate	6.508	15.185	51.5143



Peak Integration Report

Sample Name:	**MSDW343848**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 02:58**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.513	2.213	2.2863
2	5.66	Chloride	1.986	12.943	11.0584
3	6.53	Nitrite	0.666	3.210	2.1413
4	7.81	Bromide	0.144	0.629	2.1472
5	8.87	Nitrate	0.907	3.318	2.1956
6	11.32	O.Phos	0.295	0.707	2.2316
7	13.65	Sulfate	6.528	15.204	51.6698

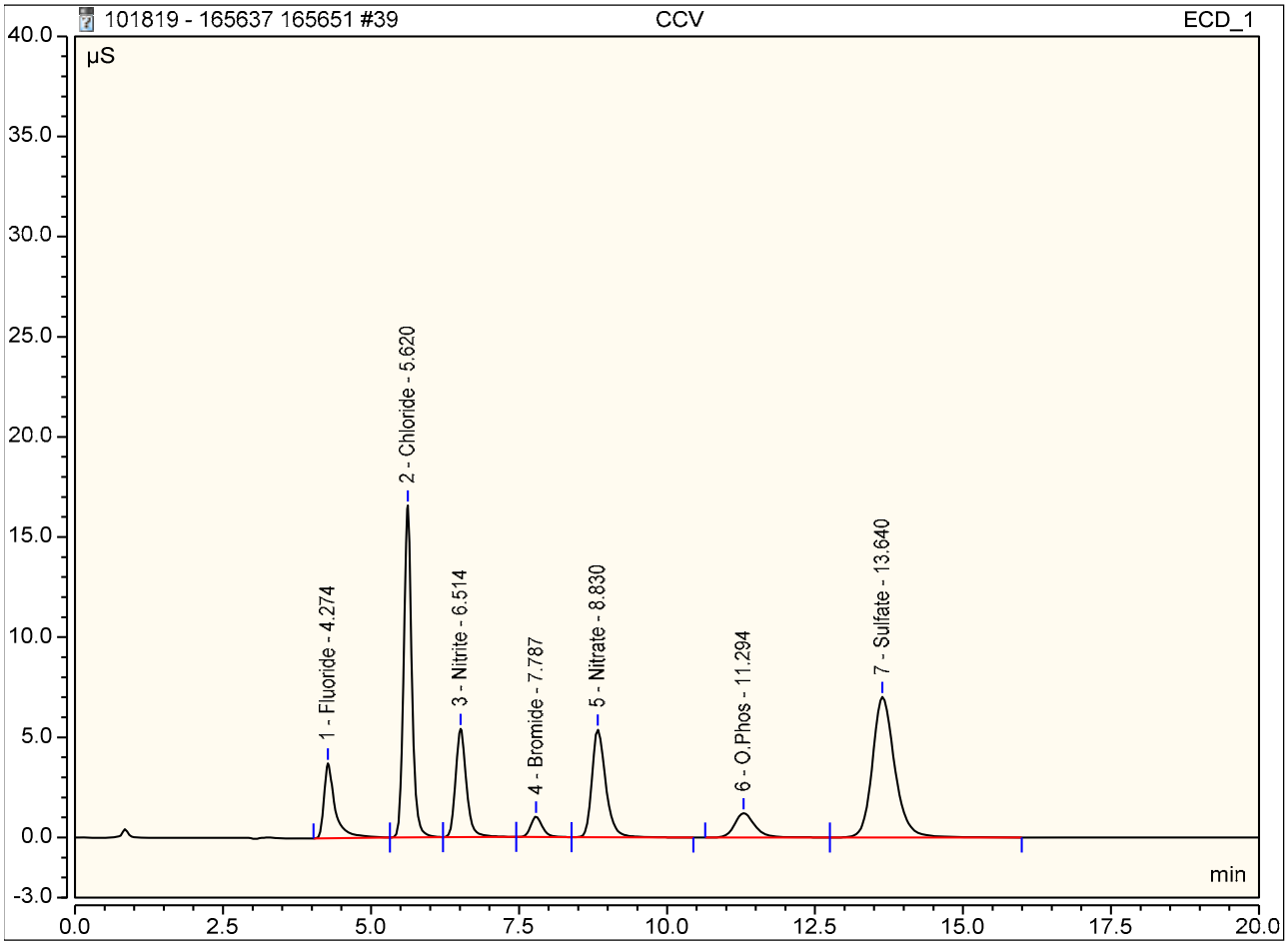


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 03:18**	*Run Time:*	**20.00**

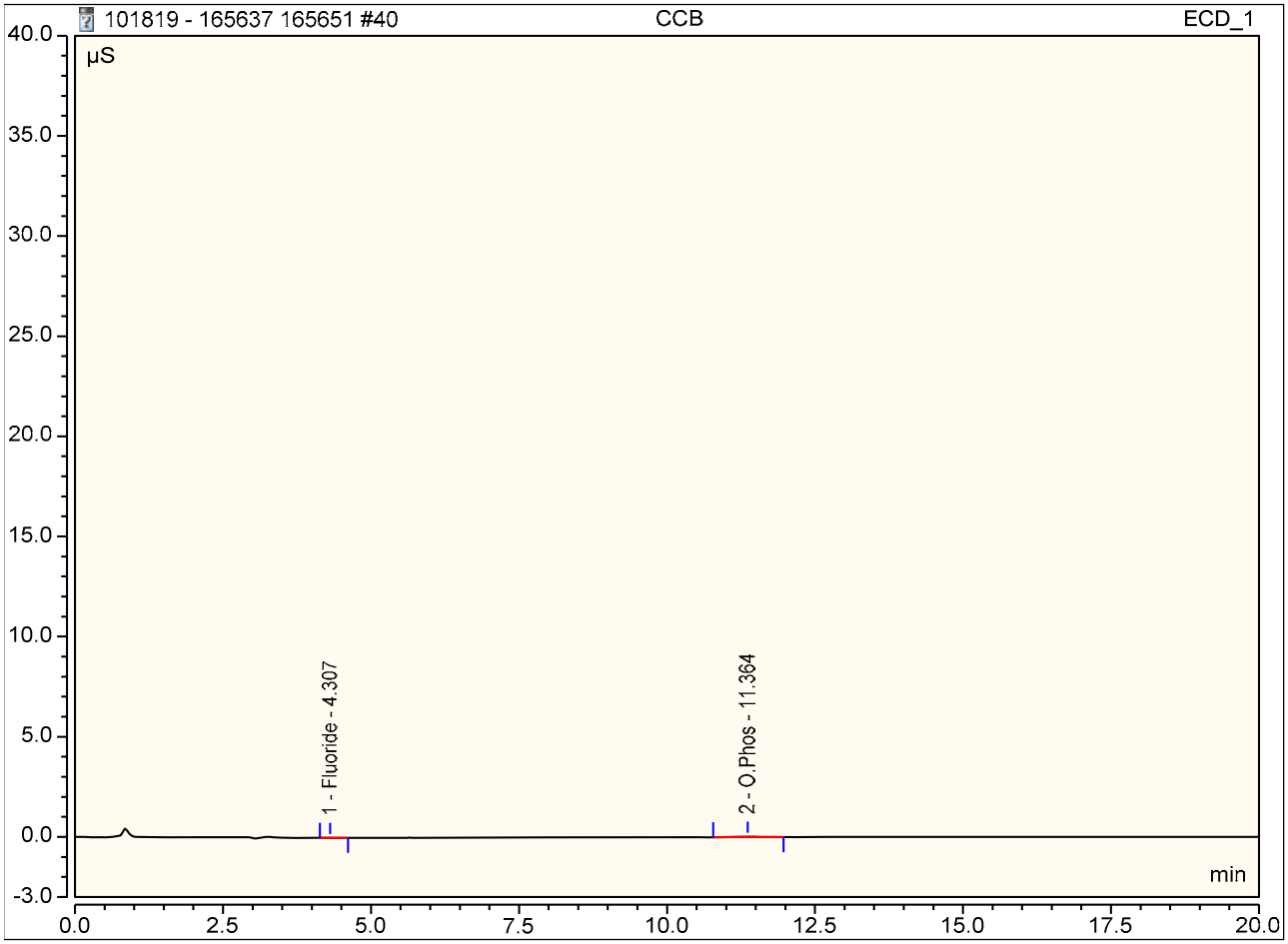
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.27	Fluoride	0.813	3.730	3.6091
2	5.62	Chloride	2.629	16.580	14.4903
3	6.51	Nitrite	1.142	5.409	3.6509
4	7.79	Bromide	0.234	1.021	3.4887
5	8.83	Nitrate	1.456	5.376	3.4971
6	11.29	O.Phos	0.483	1.212	3.6573
7	13.64	Sulfate	3.071	7.021	24.5381



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 03:38**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.31	Fluoride	0.001	0.006	0.0263
2	11.36	O.Phos	0.012	0.027	0.0931



Peak Integration Report

Sample Name:	**IB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**19-Oct-2019 / 03:58**	*Run Time:*	**0.02**

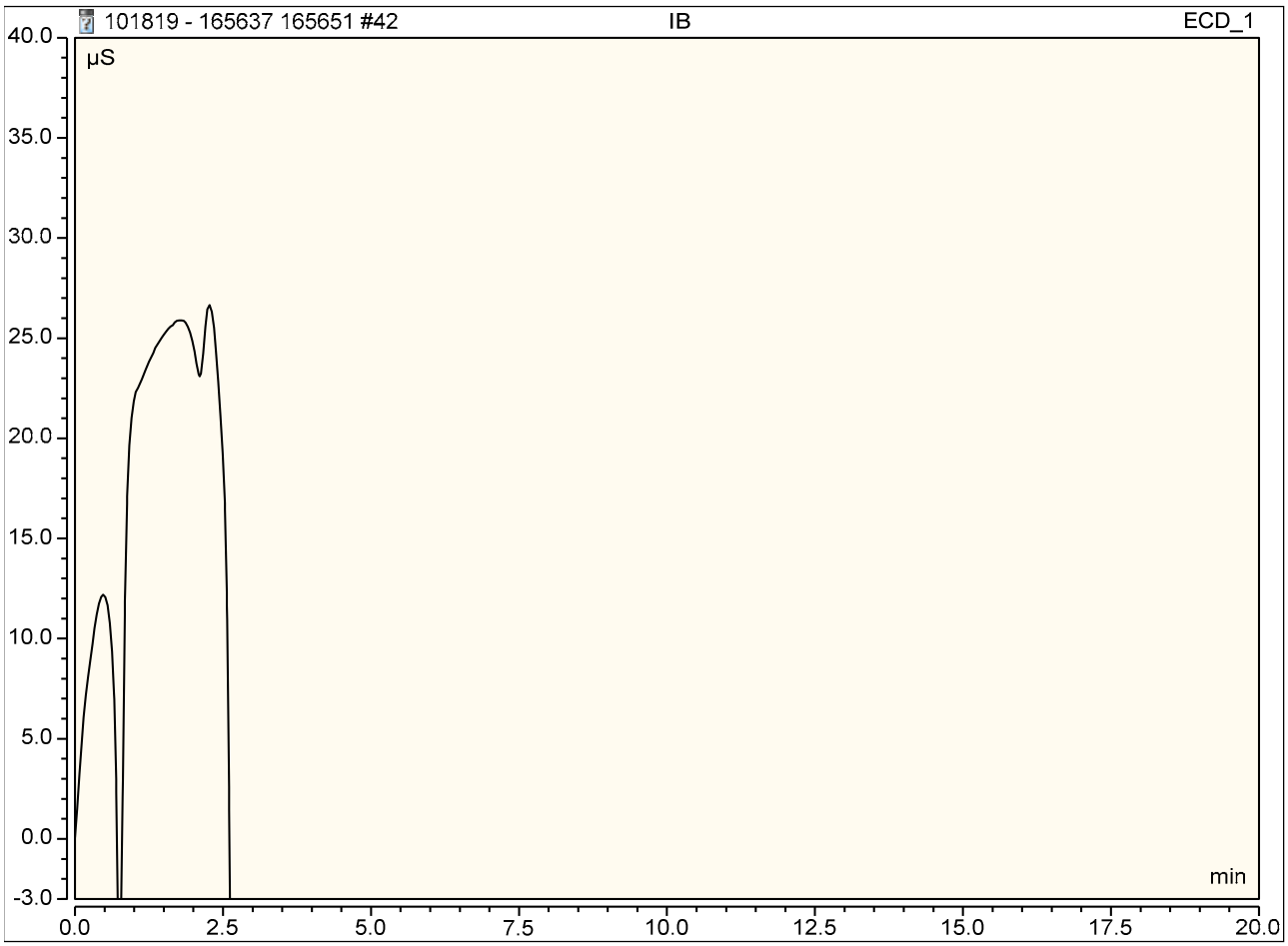
No.	Time min	Peak Name	Area µS*min	Height µS	Amount n.a.

NOT USED

Peak Integration Report

Sample Name:	**IB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 07:55**	*Run Time:*	**20.00**

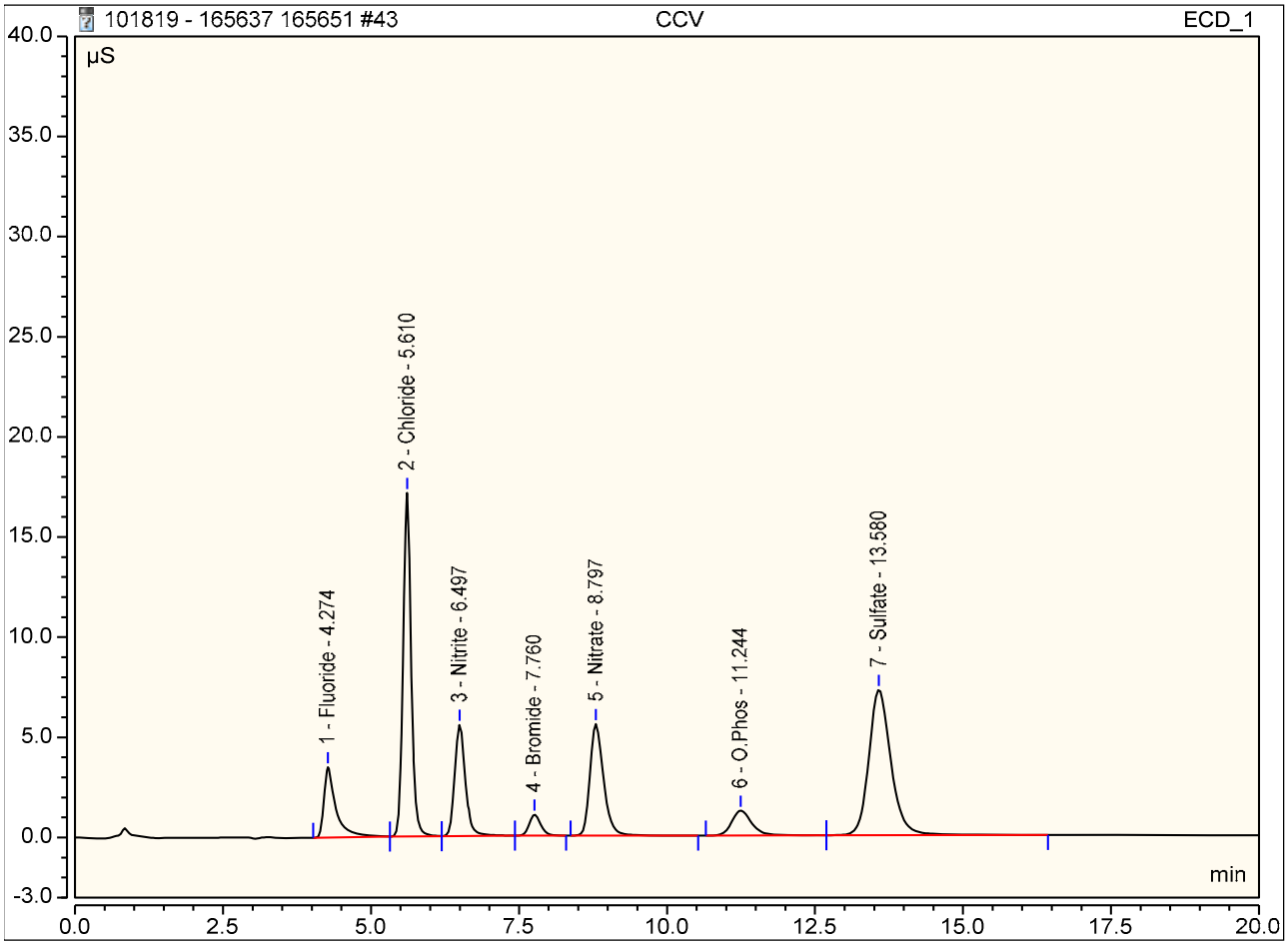
No.	Time min	Peak Name	Area µS*min	Height µS	Amount n.a.



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 08:18**	*Run Time:*	**20.00**

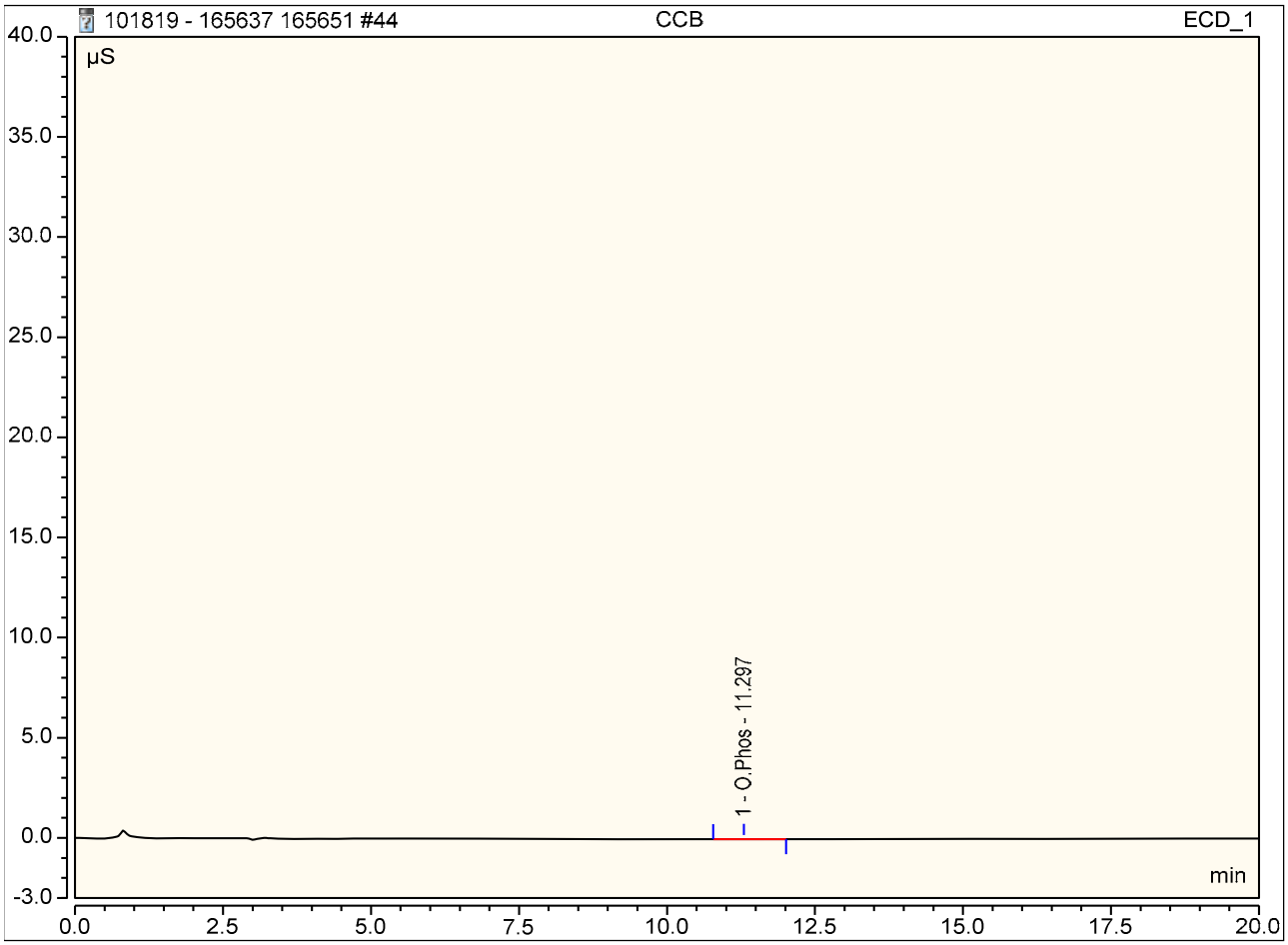
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.27	Fluoride	0.832	3.517	3.6935
2	5.61	Chloride	2.698	17.148	14.8546
3	6.50	Nitrite	1.169	5.556	3.7363
4	7.76	Bromide	0.238	1.054	3.5540
5	8.80	Nitrate	1.491	5.576	3.5790
6	11.24	O.Phos	0.490	1.247	3.7102
7	13.58	Sulfate	3.150	7.261	25.1584



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 08:38**	*Run Time:*	**20.00**

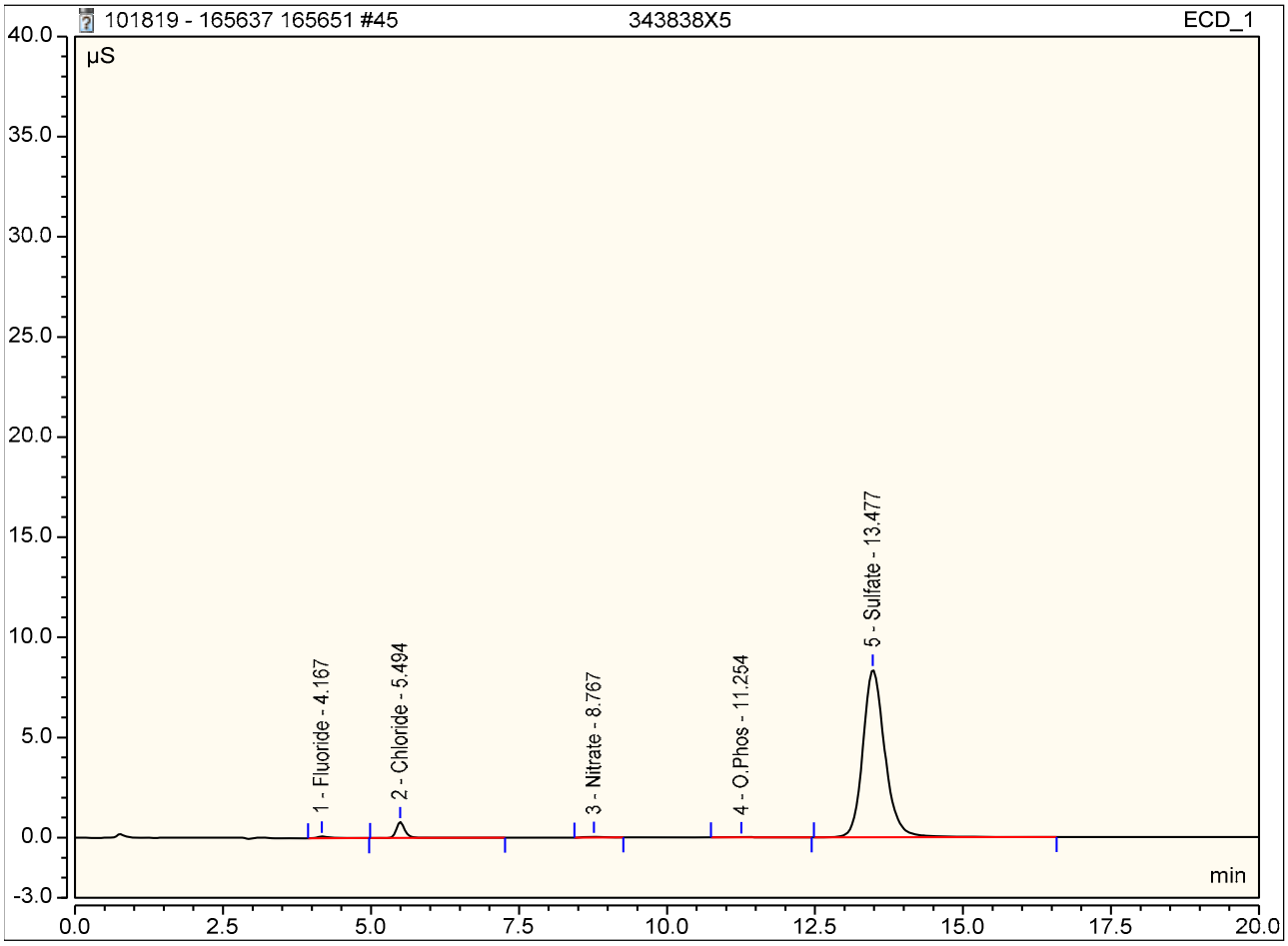
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	11.30	O.Phos	0.010	0.021	0.0743



Peak Integration Report

Sample Name:	**343838X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 08:58**	*Run Time:*	**20.00**

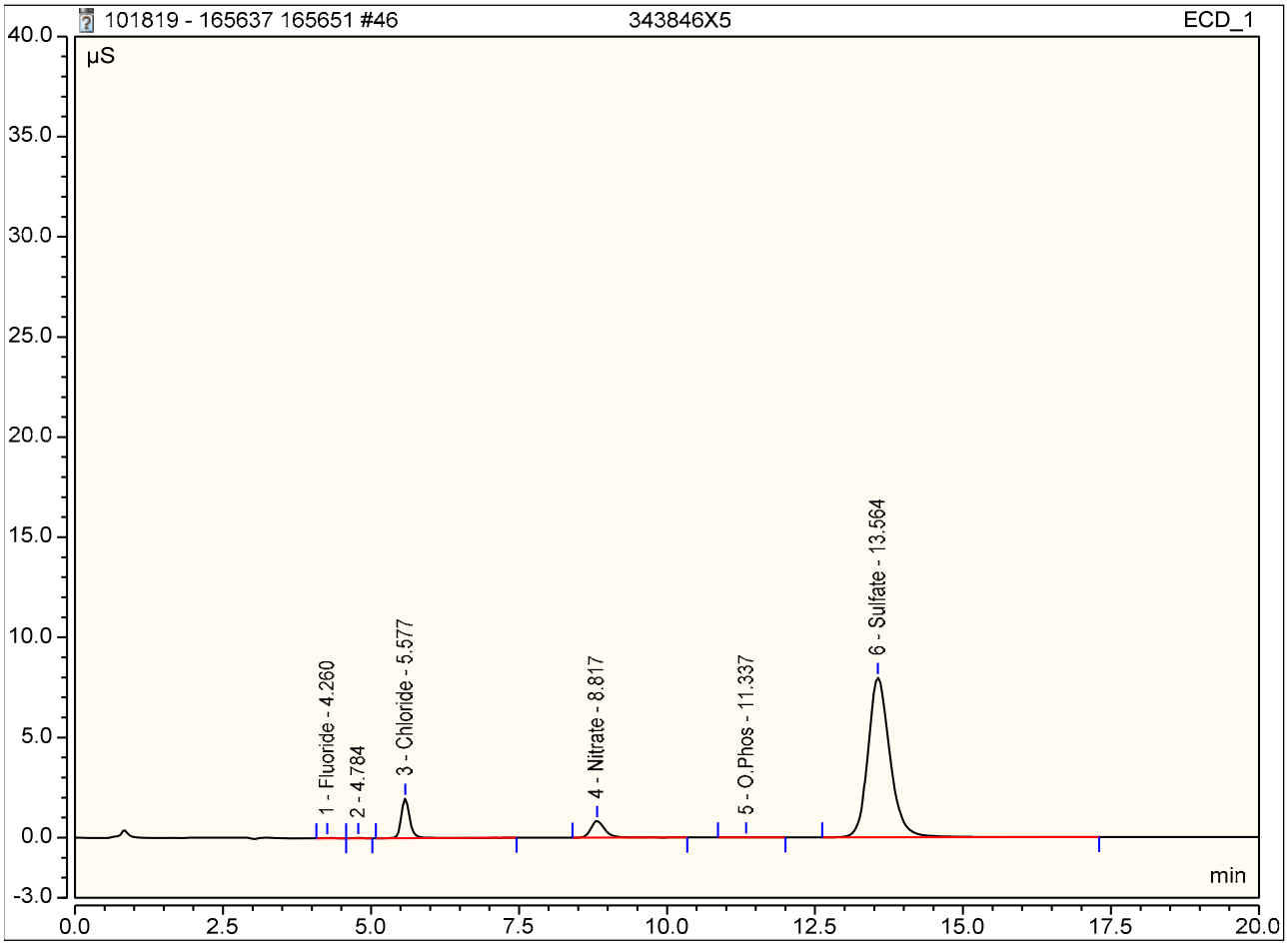
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.17	Fluoride	0.024	0.086	0.1287
2	5.49	Chloride	0.142	0.803	1.2190
3	8.77	Nitrate	0.011	0.038	0.0733
4	11.25	O.Phos	0.006	0.010	0.0440
5	13.48	Sulfate	3.611	8.365	28.7744



Peak Integration Report

Sample Name:	**343846X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 09:18**	*Run Time:*	**20.00**

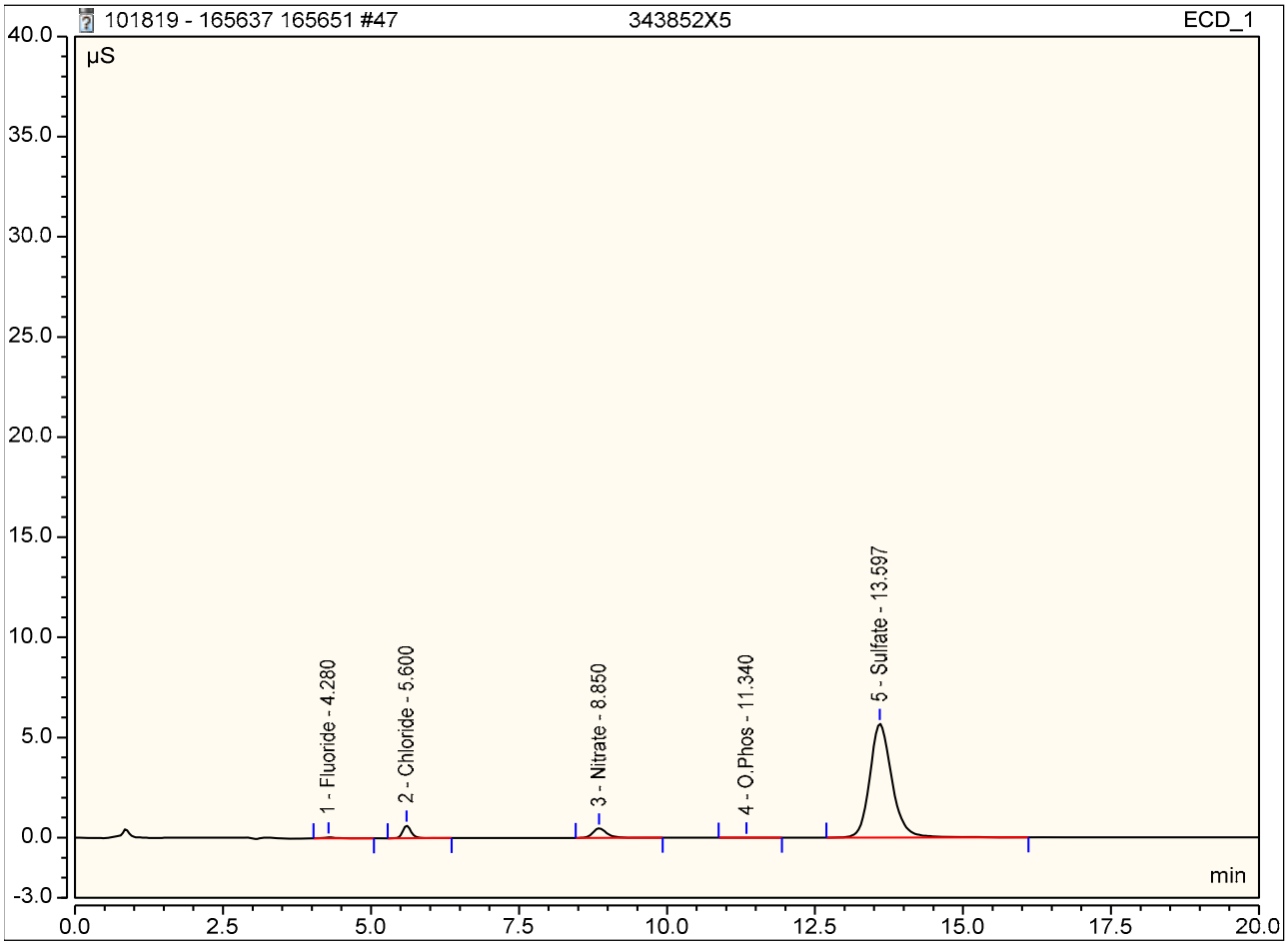
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.26	Fluoride	0.003	0.014	0.0331
3	5.58	Chloride	0.335	1.976	2.2469
4	8.82	Nitrate	0.228	0.834	0.5885
5	11.34	O.Phos	0.004	0.008	0.0302
6	13.56	Sulfate	3.447	7.960	27.4832



Peak Integration Report

Sample Name:	**343852X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 09:38**	*Run Time:*	**20.00**

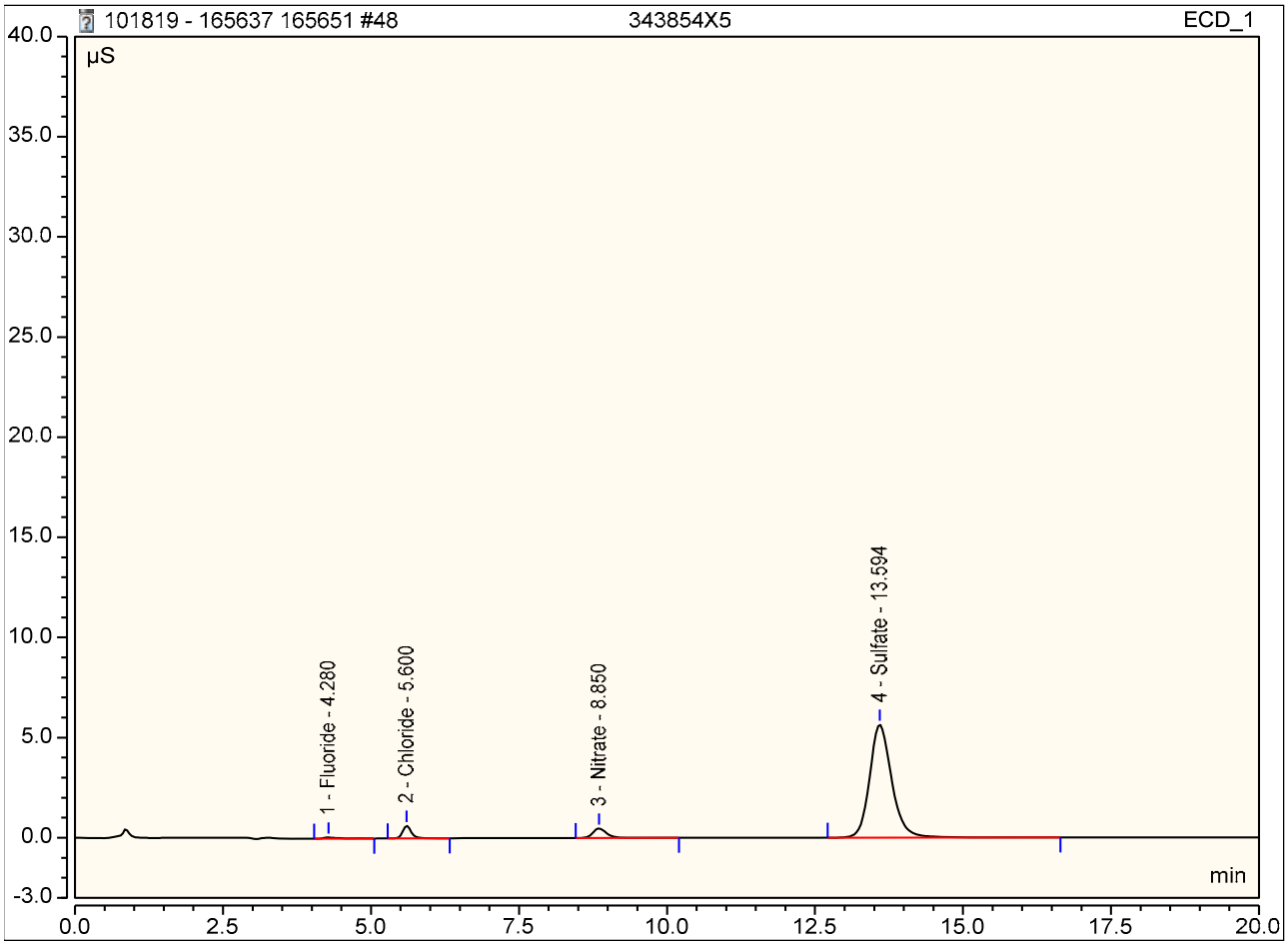
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.017	0.058	0.0953
2	5.60	Chloride	0.106	0.631	1.0240
3	8.85	Nitrate	0.130	0.473	0.3561
4	11.34	O.Phos	0.003	0.006	0.0238
5	13.60	Sulfate	2.467	5.671	19.7967



Peak Integration Report

Sample Name:	**343854X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 09:58**	*Run Time:*	**20.00**

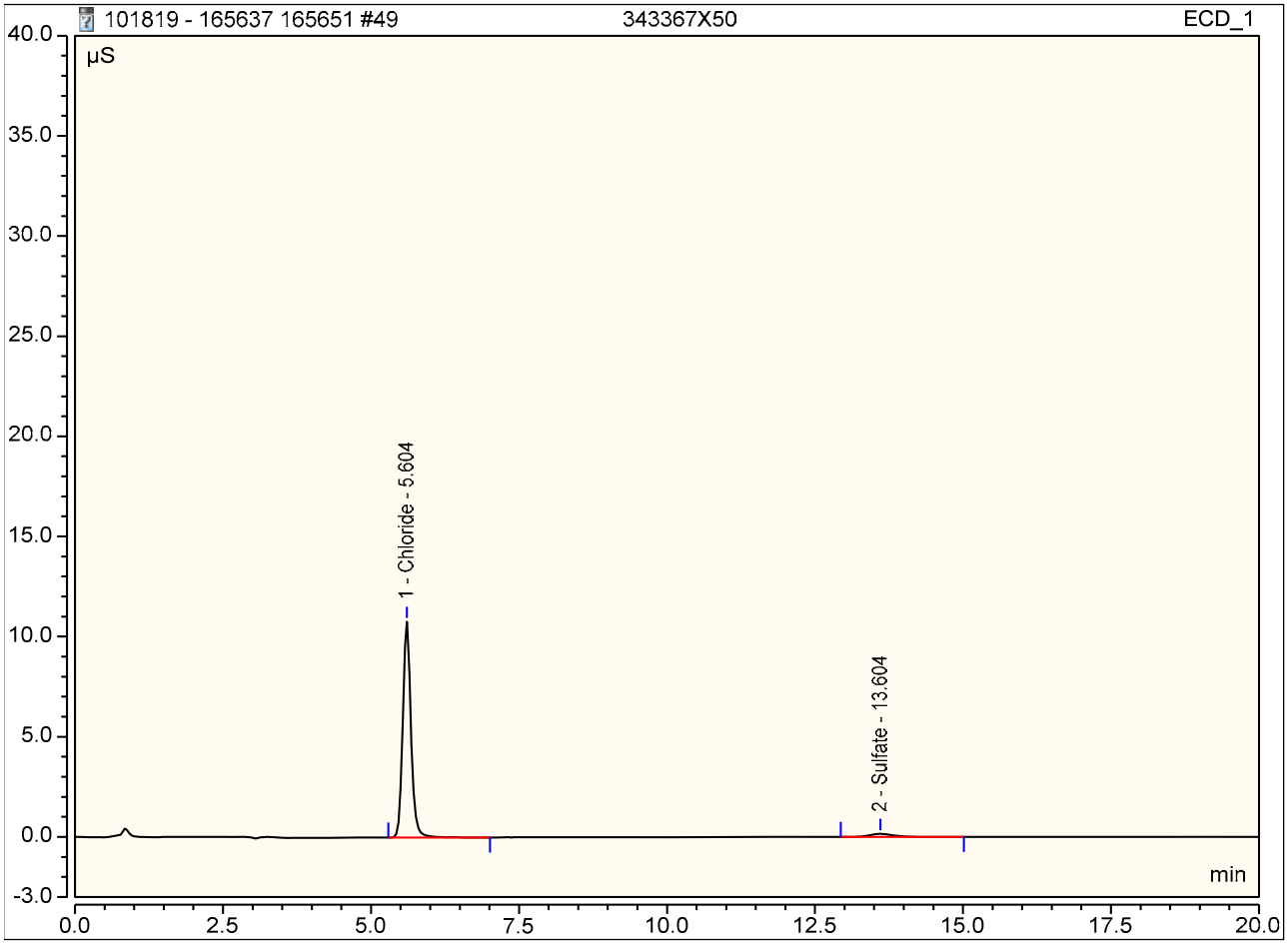
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.017	0.056	0.0950
2	5.60	Chloride	0.105	0.629	1.0207
3	8.85	Nitrate	0.130	0.472	0.3560
4	13.59	Sulfate	2.460	5.643	19.7405



Peak Integration Report

Sample Name:	**343367X50**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 10:18**	*Run Time:*	**20.00**

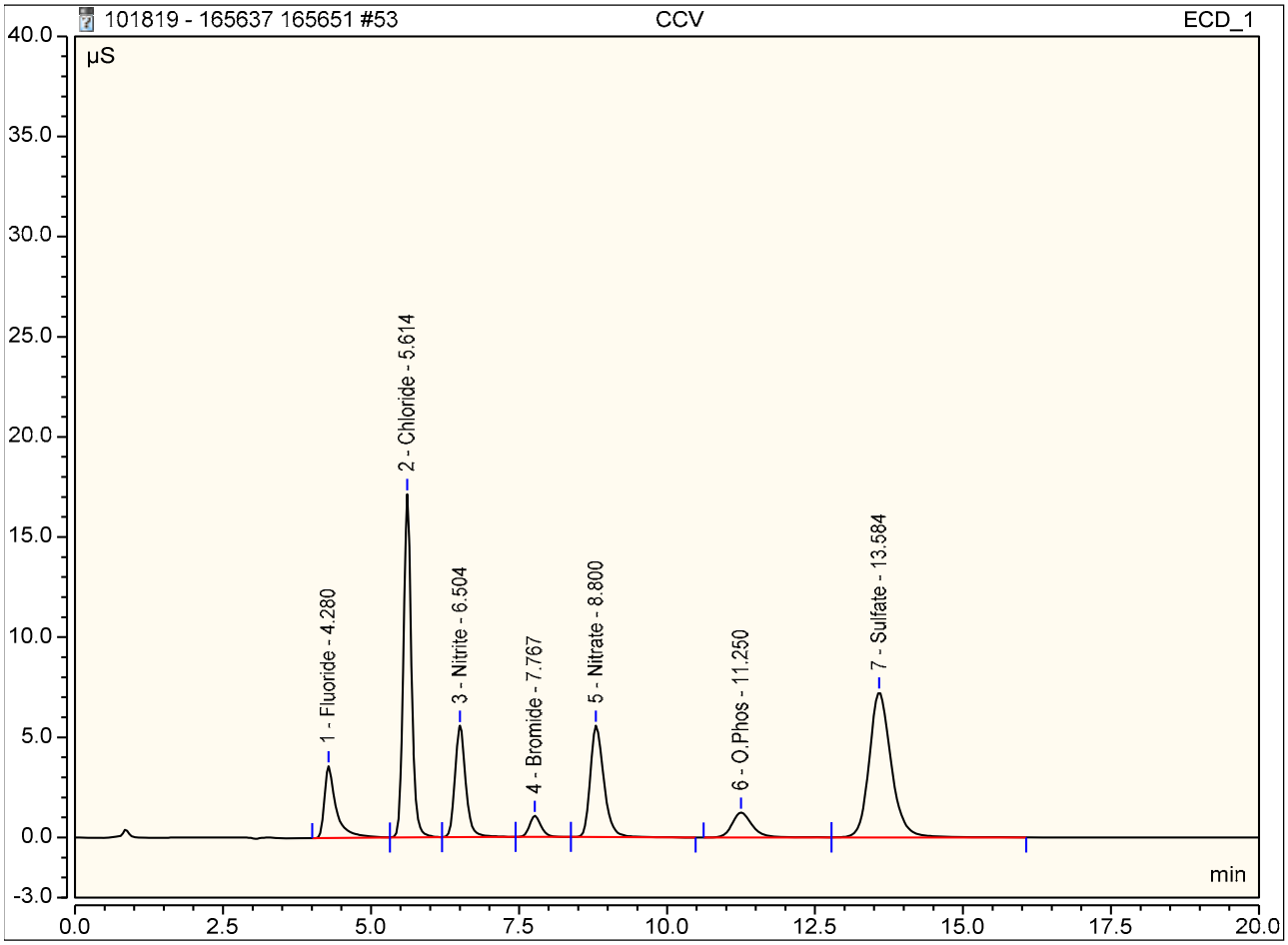
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	5.60	Chloride	1.730	10.774	9.6938
2	13.60	Sulfate	0.070	0.155	0.9764



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 11:38**	*Run Time:*	**20.00**

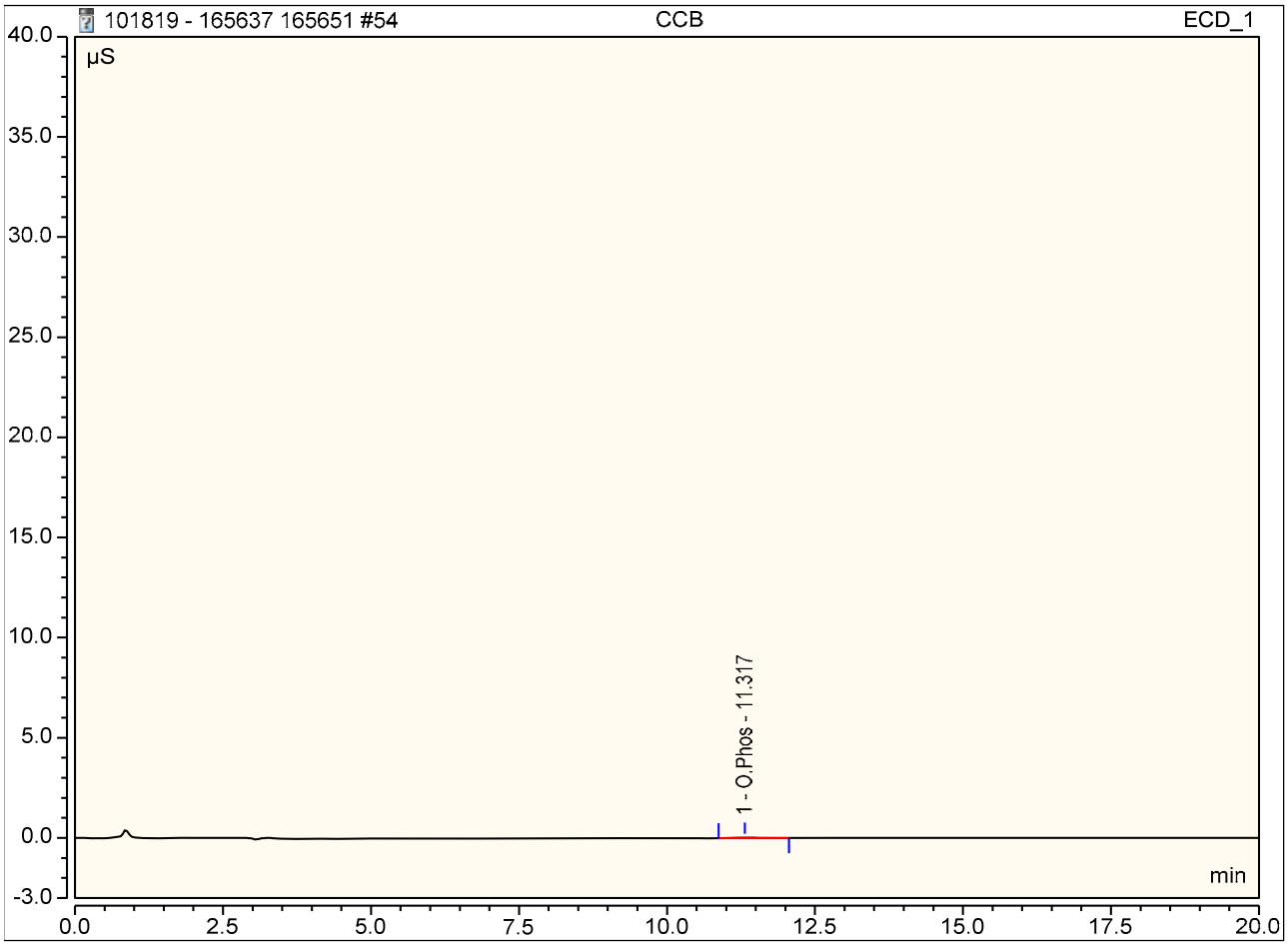
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.28	Fluoride	0.829	3.586	3.6831
2	5.61	Chloride	2.691	17.138	14.8196
3	6.50	Nitrite	1.168	5.557	3.7303
4	7.77	Bromide	0.238	1.054	3.5515
5	8.80	Nitrate	1.486	5.566	3.5670
6	11.25	O.Phos	0.490	1.240	3.7056
7	13.58	Sulfate	3.124	7.238	24.9526



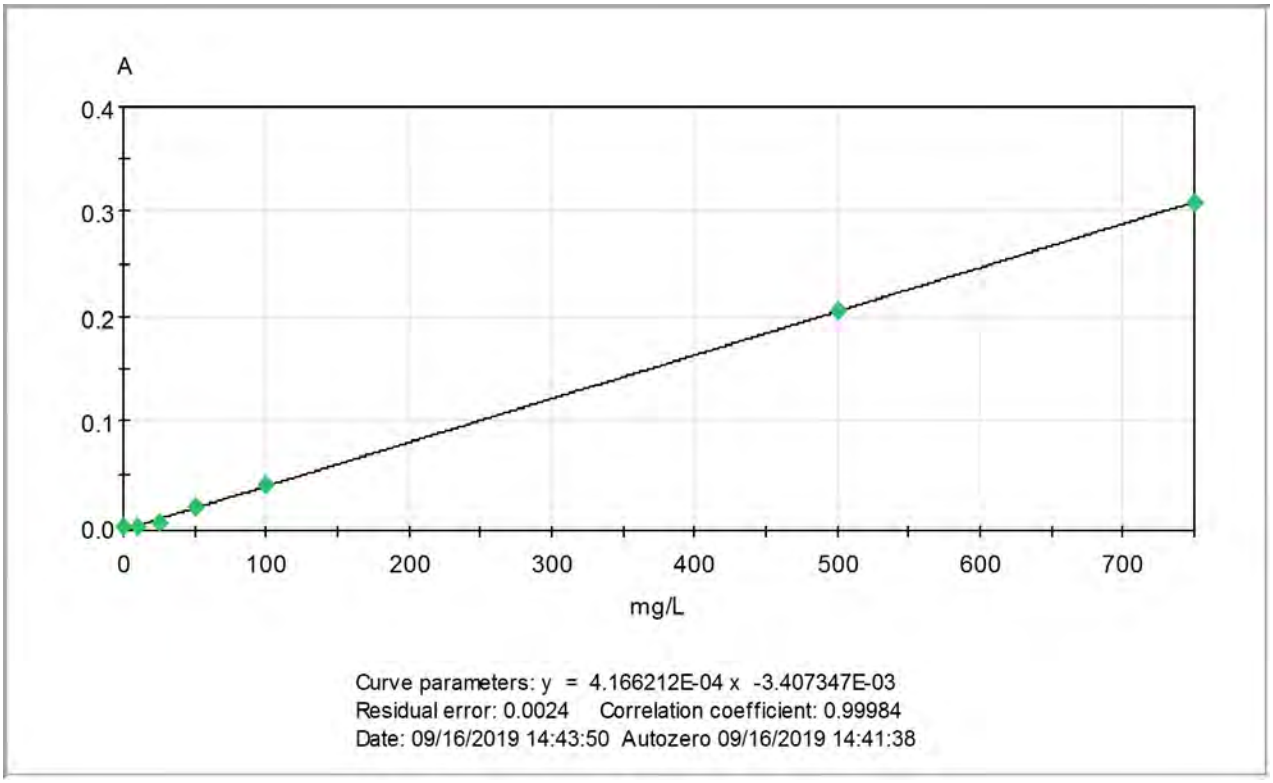
Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2647A**	*Operator:*	**aquion**
Inj. Date / Time:	**21-Oct-2019 / 11:58**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	11.32	O.Phos	0.011	0.025	0.0863



Method: COD W47434.mqa (600 nm)
Last modified: 09/16/2019 14:44:53 by CTLABORATORIES
Spectrophotometer: GENESYS 30
Serial number: 9A1W117104
Firmware: 104
Autozero: 09/16/2019 14:41:38
Measured: 09/16/2019 15:09:23 by CTLABORATORIES
Result filename: 164444 164445 164446 DATA.rqa



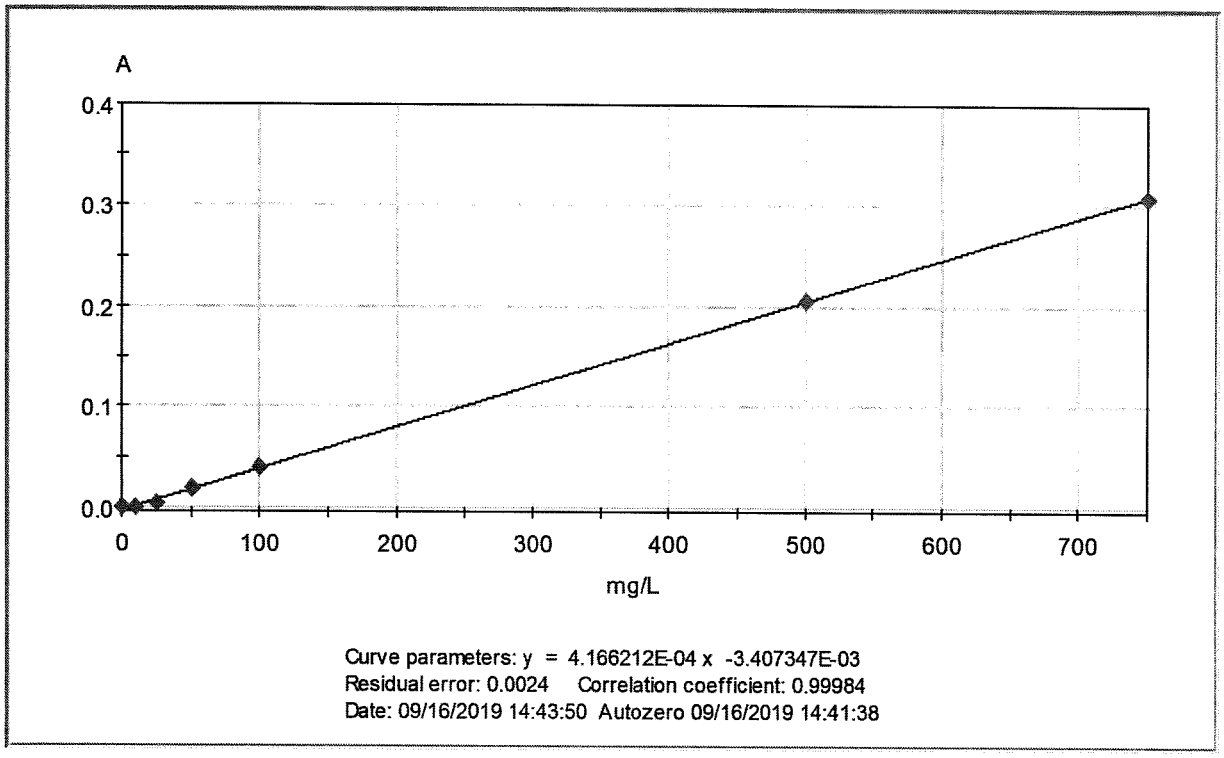
Standards

No.	Concentration [mg/L]	Ordinate [A]	Error [A]	Used
1	0.0	0.000	0.003	Yes
2	10.0	0.000	-0.001	Yes
3	25.0	0.003	-0.004	Yes
4	50.0	0.018	0.001	Yes
5	100.0	0.039	0.001	Yes
6	500.0	0.205	0.000	Yes
7	750.0	0.309	0.000	Yes

Sample	Dilution Factor	Ordinate [A]	Concentration [mg/L]

Method:	COD W47434.mqa (600 nm)
Last modified:	09/16/2019 14:44:53 by CTLABORATORIES
Spectrophotometer:	GENESYS 30
Serial number:	9A1W117104
Firmware:	104
Autozero:	10/23/2019 12:44:04
Measured:	10/23/2019 13:01:18 by CTLABORATORIES
Result filename:	165738 165740 DATA.rqa

10.24-19
GMJ



Curve parameters: y = 4.166212E-04 x -3.407347E-03
Residual error: 0.0024 Correlation coefficient: 0.99984
Date: 09/16/2019 14:43:50 Autozero 09/16/2019 14:41:38

Sample	Dilution Factor	Ordinate [A]	Concentration [mg/L]
CCV	1	0.166	406.6
CCB	1	0.001	10.6
345133	1	0.168	411.4
345132		0.003	discarded
345132	1	0.000	8.2
341300	1	0.018	51.4
MSW341300	1	0.079	197.8
MSDW341300 MSD	1	0.076	190.6
342189 (X50)	1	0.271	658.6
342190 (X50)	1	0.047	121.0
342191 (X50)	1	0.065	164.2
342929 (X50)	1	0.179	437.8
342930 (X50)	1	0.105	260.2
CCV	1	0.166	406.6
CCB	1	0.000	8.2
342931 (X20)	1	0.140	344.2

10-28-19
GMT

342934 (X50)	1	0.090	224.2
343528 (x200)	1	0.172	421.0
343530 (X50)	1	0.081	202.6
343757 (X50)	1	0.024	65.8
343773	1	0.023	63.4
MSW343773	1	0.084	209.8
MSDW343773	1	0.083	207.4
345135	1	0.172	421.0
345134		0.009	discarded
345134		0.003	discarded
345134	1	0.000	8.2
CCV	1	0.166	406.6
CCB	1	0.001	10.6
343073	1	0.013	39.4
MSW343073	1	0.080	200.2
MSDW343073	1	0.082	205.0
343081	1	0.016	46.6
343086	1	0.023	63.4
345137	1	0.168	411.4
345136	1	0.000	8.2
305034	1	0.174	425.8
305177	1	0.166	406.6
305178	1	0.167	409.0
CCV	1	0.167	409.0
CCB	1	0.002	13.0
305179	1	0.169	413.8
343844	1	0.001	10.6
MSW343844	1	0.067	169.0
MSDW343844	1	0.072	181.0
343878	1	0.101	250.6
CCV	1	0.167	409.0
CCB	1	0.002	13.0

pH - Mettler Toledo Seven Easy

Date:	10/22/2019	Analyst:	HLB	Lims #:	135767	Slope (%)	98

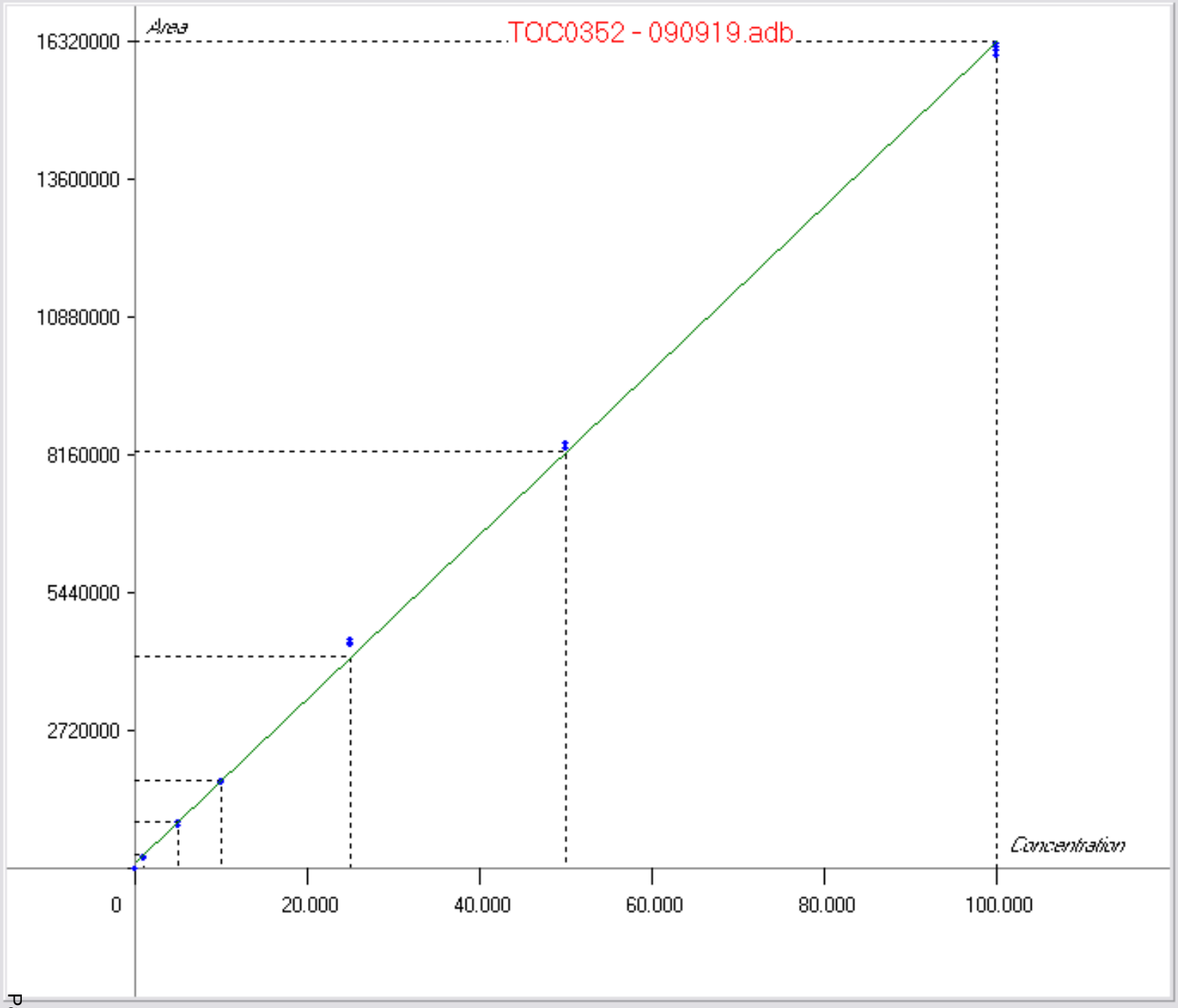
GRP	Sample ID#	Matrix	Temp (°C)*	Result	
1	BUFFER 7	QC	17.5	7.02	
2					
3					
4					
5					
6					
7	345212	WW	15.9	7.99	
8	345164	WW	8.6	8.61	
9	345161	WW	10.9	6.30	
10	345155	WW	11.6	4.95	
11	344502	WW	14.5	7.68	
dup 11	344502	WW	14.6	7.70	
12	BUFFER 7	QC	14.0	7.03	
13					
14					
15					
16					
17					
18					
19	344141	SW	8.9	8.28	
20	344137	SW	7.4	8.53	
21	343878	GW	8.7	7.77	
23	343844	GW	11.5	7.55	
dup 23	343844	GW	11.7	7.56	
24	BUFFER 7	QC	13.2	7.02	
25	344139	SW	7.8	7.99	
dup 25	344139	SW	7.9	8.00	
26					
dup 26					

To datacapture: Save CSV file under the TSS datacapture folder.

*Temperature of samples should be room temperature around 25°C

Buffer Standard IDs:

pH 4: W45311 pH 7: W46410 pH 10: W46764



Cursor Position

Concentration	Area
119.200 mg/l	5338000

A2	0
A1	162005
A0	137363
Correlation	0.99960
Order	1
Volume	100 µl
Conc.	100.00
Area	16306363

Confidence Intervals 95%

Detection/Determination 95%

Conc.	Area	Sel.
50	8411634	☑
50	8430229	☑
50	8424522	☑
50	8322530	☑
100	16222921	☑
100	16180156	☑
100	16306363	☑
100	16064230	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

09/13/2019

Analysis Name TOC0352 - 090919.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator TMG

Date Monday, September 9, 2019
Time 9:17

Start Oven Temp. 746 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL0352 INSTRUMENT:TOCW ICV0351

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Sep 9 2019, 9:17	16306363	100	1	0.99960	100 µl	Yes
	A2: 0		*A1: 162004.706846613*		*A0: 137362.891756699*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 9:27:48	1.28	344309	1	753	2	-	-
2	9 9 2019 9:31:16	0.00	0	0	753	2	-	Yes
3	9 9 2019 9:35:18	0.00	0	0	754	2	-	Yes
4	9 9 2019 9:39:19	0.00	0	0	754	2	-	Yes
5	9 9 2019 9:43:21	0.00	0	0	755	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 9:48:12	0.00	0	0	756	2	-	Yes
2	9 9 2019 9:52:50	0.00	0	0	756	2	-	Yes
3	9 9 2019 9:56:50	0.00	0	0	756	2	-	Yes
4	9 9 2019 10:00:51	0.00	0	0	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	3	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 10:05:44	0.00	0	0	758	2	-	Yes
2	9 9 2019 10:10:22	0.00	0	0	757	2	-	Yes
3	9 9 2019 10:14:23	0.00	0	0	757	2	-	Yes
4	9 9 2019 10:18:25	0.00	0	0	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	4	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 10:23:18	0.00	0	0	757	2	-	Yes
2	9 9 2019 10:27:56	0.00	0	0	757	2	-	Yes
3	9 9 2019 10:31:56	0.00	0	0	757	2	-	Yes
4	9 9 2019 10:35:58	0.00	0	0	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	5	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 10:40:50	0.00	0	0	757	2	-	Yes
2	9 9 2019 10:45:27	0.00	0	0	756	2	-	Yes
3	9 9 2019 10:49:29	0.00	0	0	756	2	-	Yes
4	9 9 2019 10:53:31	0.00	0	0	756	2	-	Yes

6 S1 Standard TC Std 0.00 mg/l 1 x

	TC	**0.00**	**0**	**0.00**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 10:58:24	0.00	0	1	756	2	-	Yes
2	9 9 2019 11:03:01	0.00	0	1	756	2	-	Yes
3	9 9 2019 11:07:02	0.00	0	1	755	2	-	Yes
4	9 9 2019 11:11:04	0.00	0	1	755	2	-	Yes

7 S2 Standard TC Std 1.00 mg/l 1 x

	TC	**0.59**	**232657**	**8.67**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 11:15:57	0.77	262203	1	755	2	-	Yes
2	9 9 2019 11:19:09	0.52	221762	1	754	2	-	Yes
3	9 9 2019 11:21:44	0.50	218113	1	755	2	-	Yes
4	9 9 2019 11:24:12	0.56	228553	1	755	2	-	Yes

8 S3 Standard TC Std. 5.00 mg/l 1 x

	TC	**4.59**	**881752**	**3.10**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 11:27:32	4.83	919077	1	754	2	-	Yes
2	9 9 2019 11:30:59	4.54	873047	1	754	2	-	Yes
3	9 9 2019 11:33:42	4.59	881009	1	754	2	-	Yes
4	9 9 2019 11:36:31	4.42	853877	1	753	2	-	Yes

9 S4 Standard TC Std. 10.00 mg/l 1 x

	TC	**9.80**	**1724566**	**1.49**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 11:40:03	10.03	1762701	1	754	2	-	Yes
2	9 9 2019 11:43:39	9.70	1708323	1	753	2	-	Yes
3	9 9 2019 11:46:27	9.75	1717356	1	753	2	-	Yes
4	9 9 2019 11:49:22	9.71	1709885	1	753	2	-	Yes

10 S5 Standard TC Std. 25.00 mg/l 1 x

	TC	**26.77**	**4474816**	**1.15**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 11:53:05	27.21	4545982	1	753	2	-	Yes
2	9 9 2019 11:56:46	26.80	4479341	1	753	2	-	Yes
3	9 9 2019 11:59:45	26.57	4442495	1	753	2	-	Yes
4	9 9 2019 12:02:44	26.51	4431448	1	753	2	-	Yes

11 S6 Standard TC Std. 50.00 mg/l 1 x

	TC	**50.98**	**8397228**	**0.60**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 12:06:34	51.07	8411634	1	753	2	-	Yes
2	9 9 2019 12:10:22	51.19	8430229	1	753	2	-	Yes
3	9 9 2019 12:13:34	51.15	8424522	1	752	2	-	Yes
4	9 9 2019 12:16:48	50.52	8322530	1	752	2	-	Yes

12 S7 Standard TC Std. 100.00 mg/l 1 x

	TC	**99.11**	**16193417**	**0.62**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 12:20:50	99.29	16222921	1	753	2	-	Yes
2	9 9 2019 12:24:55	99.03	16180156	1	752	2	-	Yes
3	9 9 2019 12:28:25	99.81	16306363	1	753	2	-	Yes
4	9 9 2019 12:31:48	98.31	16064230	1	752	2	-	Yes

13 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	**48.38**	**7974714**	**1.51**		**100 µl**	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 12:35:55	48.28	7959487	1	752	2	-	Yes
2	9 9 2019 12:39:43	48.17	7940913	1	752	2	-	Yes
3	9 9 2019 12:42:55	49.41	8142448	1	752	2	-	Yes
4	9 9 2019 12:46:11	47.64	7856011	1	752	2	-	Yes

---

14 S9 Unknown ICB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	9 9 2019 12:50:11	0	0	0	752	2	-	Yes
2	9 9 2019 12:54:47	0	0	0	752	2	-	Yes
3	9 9 2019 12:58:49	0	0	0	752	2	-	Yes
4	9 9 2019 13:02:49	0	0	0	752	2	-	Yes

Analysis Name 102419 - 165875 165876.adb

Template Name 102419 - 165875 165876.tdb
Method Name N / A
Operator TMG

Date Thursday, October 24, 2019
Time 10:19

Start Oven Temp. 758 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL0352 INSTRUMENT:TOCW
CCV0357 LCS0358 SPIKE0259

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC0352 - 090919	Sep 9 2019, 9:17	16306363	100	1	0.99960	100 µl	Yes
	A2: 0		*A1: 162004.706846613*		*A0: 137362.891756699*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	IB	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**ZERO !**	**621113**	**192.71**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 10:30:23	14.06	2415853	1	758	2	-	Yes
2	10 24 2019 10:35:00	ZERO !	68602	1	757	2	-	Yes
3	10 24 2019 10:37:32	0	0	0	757	2	-	Yes
4	10 24 2019 10:41:33	0	0	0	757	2	-	Yes
5	10 24 2019 10:45:35	0	0	0	758	2	-	-

Inj. Order	Position	Type	Identification	Dilution Factor
2	S1	Unknown	CCV	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**48.95**	**8068033**	**0.83**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 10:50:25	48.87	8054796	1	758	2	-	Yes
2	10 24 2019 10:54:11	48.58	8007998	1	758	2	-	Yes
3	10 24 2019 10:57:31	48.82	8046008	1	758	2	-	Yes
4	10 24 2019 11:00:41	49.54	8163331	1	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**47.53**	**7837619**	**0.88**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 11:04:43	47.92	7901262	1	757	2	-	Yes
2	10 24 2019 11:08:40	47.78	7878068	1	756	2	-	Yes
3	10 24 2019 11:11:51	46.97	7746124	1	756	2	-	Yes
4	10 24 2019 11:15:06	47.45	7825023	1	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	2	Unknown	MBW	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 11:19:10	0.12	157086	1	755	2	-	-
2	10 24 2019 11:22:30	0	0	0	755	2	-	Yes
3	10 24 2019 11:26:31	0	0	0	755	2	-	Yes
4	10 24 2019 11:30:33	0	0	0	754	2	-	Yes
5	10 24 2019 11:34:34	0	0	0	755	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	3	Unknown	343846	1 x

		TC	**3.19**	**654252**	**9.08**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 11:39:26	3.71	738217	1	754	2	-	Yes
2		10 24 2019 11:42:52	3.04	630001	1	754	2	-	Yes
3		10 24 2019 11:45:37	2.86	600156	1	754	2	-	Yes
4		10 24 2019 11:48:13	3.16	648636	1	753	2	-	Yes

6	4	Unknown	343848				1 x		
		TC	**ZERO !**	**129066**	**33.63**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 11:51:43	0.34	192806	1	754	2	-	Yes
2		10 24 2019 11:54:51	ZERO !	120158	1	753	2	-	Yes
3		10 24 2019 11:57:13	ZERO !	103661	1	753	2	-	Yes
4		10 24 2019 11:59:41	ZERO !	99642	1	753	2	-	Yes
5		10 24 2019 12:02:01	0	0	0	753	2	-	-

7	5	Unknown	DUP343848				1 x		
		TC	**ZERO !**	**116075**	**39.07**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 12:06:54	0.28	183238	1	754	2	-	Yes
2		10 24 2019 12:10:06	ZERO !	84110	1	754	2	-	Yes
3		10 24 2019 12:12:32	ZERO !	101587	1	753	2	-	Yes
4		10 24 2019 12:14:52	ZERO !	95365	1	753	2	-	Yes
5		10 24 2019 12:17:21	0	0	0	752	2	-	-

8	6	Unknown	MSW343848				1 x		
		TC	**45.24**	**7466042**	**0.37**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 12:22:13	45.16	7452699	1	754	2	-	Yes
2		10 24 2019 12:25:58	45.16	7453562	1	754	2	-	Yes
3		10 24 2019 12:29:02	45.14	7450191	1	754	2	-	Yes
4		10 24 2019 12:32:01	45.49	7507717	1	754	2	-	Yes

9	7	Unknown	MSWD343848				1 x		
		TC	**44.81**	**7396966**	**1.55**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 12:35:56	45.81	7558762	1	754	2	-	Yes
2		10 24 2019 12:39:37	44.82	7399044	1	754	2	-	Yes
3		10 24 2019 12:42:34	44.29	7312852	1	753	2	-	Yes
4		10 24 2019 12:45:38	44.32	7317208	1	753	2	-	Yes

10	8	Unknown	343850				1 x		
		TC	**0.35**	**193687**	**13.46**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 12:49:24	0.58	231803	1	753	2	-	Yes
2		10 24 2019 12:52:31	0.22	173346	1	753	2	-	Yes
3		10 24 2019 12:54:55	0.31	187599	1	752	2	-	Yes
4		10 24 2019 12:57:18	0.28	182000	1	752	2	-	Yes
5		10 24 2019 12:59:44	0	0	0	751	2	-	-

11	9	Unknown	343852				1 x		
		TC	**ZERO !**	**82434**	**73.79**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 13:04:36	0.06	146496	1	753	2	-	Yes
2		10 24 2019 13:07:39	ZERO !	87633	1	753	2	-	Yes
3		10 24 2019 13:10:06	0	0	0	752	2	-	Yes
4		10 24 2019 13:14:08	ZERO !	95607	1	753	2	-	Yes
5		10 24 2019 13:16:29	0	0	0	752	2	-	-

12	10	Unknown	343854				1 x		
		TC	**ZERO !**	**129075**	**16.78**		**100 µl**		
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		10 24 2019 13:21:21	0.09	151664	1	753	2	-	Yes
2		10 24 2019 13:24:21	ZERO !	99537	1	753	2	-	Yes
3		10 24 2019 13:26:45	ZERO !	132128	1	752	2	-	Yes

4	10 24 2019 13:29:07	ZERO !	132973	1	752	2	-	Yes
5	10 24 2019 13:31:30	0	0	0	752	2	-	-

13 11 Unknown 343856 1 x

TC **ZERO !** **103806** **16.79** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 13:36:26	0.05	144804	1	753	2	-	-
2	10 24 2019 13:39:28	ZERO !	107989	1	752	2	-	Yes
3	10 24 2019 13:41:56	ZERO !	95145	1	752	2	-	Yes
4	10 24 2019 13:44:19	ZERO !	85938	1	752	2	-	Yes
5	10 24 2019 13:46:43	ZERO !	126152	1	752	2	-	Yes

14 12 Unknown 343858 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 13:49:57	0.25	178329	1	752	2	-	-
2	10 24 2019 13:53:07	0	0	0	752	2	-	Yes
3	10 24 2019 13:57:11	0	0	0	752	2	-	Yes
4	10 24 2019 14:01:12	0	0	0	753	2	-	Yes
5	10 24 2019 14:05:13	0	0	0	753	2	-	Yes

15 S1 Unknown CCV 1 x

TC **50.65** **8342831** **0.52** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 14:10:05	50.96	8393306	1	753	2	-	Yes
2	10 24 2019 14:13:49	50.41	8304551	1	752	2	-	Yes
3	10 24 2019 14:16:52	50.78	8364477	1	752	2	-	Yes
4	10 24 2019 14:20:07	50.44	8308991	1	752	2	-	Yes

17 13 Unknown MBW-CCB 1 x

TC **ZERO !** **59925** **130.09** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 14:38:44	0.16	163821	1	752	2	-	Yes
2	10 24 2019 14:41:55	0	0	0	752	2	-	Yes
3	10 24 2019 14:45:57	0	0	0	752	2	-	Yes
4	10 24 2019 14:49:58	ZERO !	75881	1	752	2	-	Yes
5	10 24 2019 14:52:20	0	0	0	752	2	-	-

18 14 Unknown 343860 1 x NOT USED

TC **0.31** **186498** **29.68** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 14:57:12	0.81	268245	1	752	2	-	Yes
2	10 24 2019 15:00:28	0.13	157879	1	751	2	-	Yes
3	10 24 2019 15:02:53	0.21	171773	1	751	2	-	Yes
4	10 24 2019 15:05:29	0.07	148097	1	751	2	-	Yes
5	10 24 2019 15:07:58	ZERO !	62247	1	751	2	-	-

19 15 Unknown 343862 1 x NOT USED

TC **0.22** **172853** **13.41** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 15:11:08	0.42	205363	1	752	2	-	Yes
2	10 24 2019 15:14:21	0.13	158881	1	752	2	-	Yes
3	10 24 2019 15:16:46	0.10	153915	1	752	2	-	Yes
4	10 24 2019 15:19:15	0.22	173254	1	751	2	-	Yes
5	10 24 2019 15:21:44	0	0	0	751	2	-	-

NOT USED

NOT USED

20 16 Unknown 343864 1 x

TC **0.28** **183694** **14.51** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 15:26:37	0.53	223477	1	752	2	-	Yes
2	10 24 2019 15:29:42	0.21	171661	1	751	2	-	Yes
3	10 24 2019 15:32:09	0.22	172812	1	751	2	-	Yes
4	10 24 2019 15:34:33	0.18	166828	1	751	2	-	Yes
5	10 24 2019 15:36:58	0	0	0	750	2	-	-

21 17 Unknown 343866 1 x

TC **0.42** **205642** **23.08** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 15:41:52	0.86	276147	1	752	2	-	Yes
2	10 24 2019 15:45:08	0.32	188913	1	751	2	-	Yes
3	10 24 2019 15:47:40	0.22	173136	1	751	2	-	Yes
4	10 24 2019 15:50:02	0.29	184374	1	751	2	-	Yes
5	10 24 2019 15:52:25	0	0	0	751	2	-	-

22 18 Unknown 343868 1 x

TC **0.93** **287645** **7.64** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 15:57:18	1.60	397031	1	752	2	-	-
2	10 24 2019 16:00:39	0.97	295059	1	751	2	-	Yes
3	10 24 2019 16:03:12	0.93	287379	1	751	2	-	Yes
4	10 24 2019 16:05:42	0.74	257924	1	751	2	-	Yes
5	10 24 2019 16:08:08	1.07	310218	1	751	2	-	Yes

23 19 Unknown 343870 1 x

TC **1.06** **308926** **3.31** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 16:11:33	1.62	399835	1	751	2	-	-
2	10 24 2019 16:14:44	1.03	304925	1	750	2	-	Yes
3	10 24 2019 16:17:13	1.12	319368	1	750	2	-	Yes
4	10 24 2019 16:19:44	0.98	296553	1	750	2	-	Yes
5	10 24 2019 16:22:19	1.10	314860	1	751	2	-	Yes

24 20 Unknown 343872 1 x

TC **1.47** **374991** **3.73** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 16:25:47	2.22	497270	1	751	2	-	-
2	10 24 2019 16:29:05	1.39	362788	1	752	2	-	Yes
3	10 24 2019 16:31:37	1.56	390525	1	751	2	-	Yes
4	10 24 2019 16:34:10	1.40	363587	1	751	2	-	Yes
5	10 24 2019 16:36:39	1.52	383067	1	751	2	-	Yes

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

28 S1 Unknown CCV 1 x

	TC	**53.05**	**8732248**	**0.41**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 17:21:37	53.38	8784418	1	750	2	-	Yes
2	10 24 2019 17:25:34	52.99	8721821	1	750	2	-	Yes
3	10 24 2019 17:28:46	52.97	8718847	1	750	2	-	Yes
4	10 24 2019 17:32:05	52.88	8703906	1	750	2	-	Yes

29 24 Unknown CCB 1 x

	TC	**1.28**	**344594**	**11.09**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 24 2019 17:36:02	1.61	397870	1	751	2	-	Yes
2	10 24 2019 17:39:26	1.09	314470	1	750	2	-	Yes
3	10 24 2019 17:41:59	1.29	346634	1	750	2	-	Yes
4	10 24 2019 17:44:31	1.12	319402	1	750	2	-	Yes
5	10 24 2019 17:47:01	ZERO !	134017	1	750	2	-	-

Analysis Name 102519 - 165875R 165876R 165946.adb

Template Name 102519 - 165875R 165876R 165946.tdb
Method Name N / A
Operator TMG

Date Friday, October 25, 2019
Time 15:09

Start Oven Temp. 660 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL0352 INSTRUMENT:TOCW
CCV0357 LCSW0358 SPIKE0259

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC0352 - 090919	Sep 9 2019, 9:17	16306363	100	1	0.99960	100 µl	Yes
	A2: 0		*A1: 162004.706846613*		*A0: 137362.891756699*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	IB	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**116418**	**111.77**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 25 2019 15:19:56	1.02	302708	1	707	2	-	Yes
2	10 25 2019 15:23:20	0	0	0	715	2	-	Yes
3	10 25 2019 15:27:21	ZERO !	74421	1	723	2	-	Yes
4	10 25 2019 15:29:48	0	0	0	727	2	-	-
5	10 25 2019 15:33:49	ZERO !	88543	1	733	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**53.22**	**8759262**	**1.52**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 25 2019 15:37:03	53.55	8812284	1	737	2	-	Yes
2	10 25 2019 15:40:52	54.20	8918277	1	741	2	-	Yes
3	10 25 2019 15:44:00	52.33	8615347	1	744	2	-	Yes
4	10 25 2019 15:47:11	52.80	8691141	1	746	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	2	Unknown	MBW-CCB	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**87440**	**27.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	10 25 2019 16:05:30	0.13	158891	1	755	2	-	-
2	10 25 2019 16:08:44	ZERO !	118789	1	756	2	-	Yes
3	10 25 2019 16:11:09	ZERO !	75471	1	756	2	-	Yes
4	10 25 2019 16:13:30	ZERO !	64374	1	756	2	-	Yes
5	10 25 2019 16:16:00	ZERO !	91128	1	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	3	Unknown	343860	1 x

		TC	**0.32**	**188686**	**28.49**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 16:19:15	0.76	260017	1	757	2	-	Yes
	2	10 25 2019 16:22:23	0.39	200156	1	758	2	-	Yes
	3	10 25 2019 16:24:48	0.04	143867	1	758	2	-	Yes
	4	10 25 2019 16:27:14	0.08	150705	1	758	2	-	Yes
	5	10 25 2019 16:29:35	0	0	0	759	2	-	-

6	4	Unknown	343862	1 x

		TC	**0.31**	**187207**	**9.42**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 16:34:27	0.78	264287	1	760	2	-	-
	2	10 25 2019 16:37:51	0.25	178030	1	759	2	-	Yes
	3	10 25 2019 16:40:15	0.30	185815	1	758	2	-	Yes
	4	10 25 2019 16:42:47	0.22	172612	1	758	2	-	Yes
	5	10 25 2019 16:45:15	0.46	212374	1	758	2	-	Yes

7	5	Unknown	343864	1 x

		TC	**0.48**	**215235**	**18.09**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 16:48:36	0.83	271615	1	758	2	-	Yes
	2	10 25 2019 16:51:45	0.30	185801	1	758	2	-	Yes
	3	10 25 2019 16:54:08	0.35	193386	1	758	2	-	Yes
	4	10 25 2019 16:56:33	0.45	210141	1	758	2	-	Yes
	5	10 25 2019 16:58:59	0	0	0	758	2	-	-

8	6	Unknown	343866	1 x

		TC	**0.43**	**206367**	**24.63**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 17:03:51	0.88	280704	1	758	2	-	Yes
	2	10 25 2019 17:07:10	0.23	174819	1	757	2	-	Yes
	3	10 25 2019 17:09:35	0.37	197517	1	757	2	-	Yes
	4	10 25 2019 17:11:59	0.22	172428	1	757	2	-	Yes
	5	10 25 2019 17:14:26	0	0	0	756	2	-	-

9	7	Unknown	343868	1 x

		TC	**0.60**	**235314**	**3.20**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 17:19:19	1.14	322674	1	756	2	-	-
	2	10 25 2019 17:22:29	0.59	233686	1	756	2	-	Yes
	3	10 25 2019 17:24:56	0.62	238261	1	756	2	-	Yes
	4	10 25 2019 17:27:20	0.55	225779	1	755	2	-	Yes
	5	10 25 2019 17:29:44	0.66	243530	1	755	2	-	Yes

10	8	Unknown	343870	1 x

		TC	**0.47**	**214056**	**18.49**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 17:33:01	0.84	273005	1	755	2	-	Yes
	2	10 25 2019 17:36:11	0.36	195809	1	755	2	-	Yes
	3	10 25 2019 17:38:34	0.38	199234	1	754	2	-	Yes
	4	10 25 2019 17:40:55	0.31	188177	1	754	2	-	Yes
	5	10 25 2019 17:43:19	ZERO !	81920	1	754	2	-	-

11	9	Unknown	343872	1 x

		TC	**0.93**	**288769**	**7.58**			**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 17:46:26	1.13	320839	1	754	2	-	Yes
	2	10 25 2019 17:49:32	0.88	279633	1	754	2	-	Yes
	3	10 25 2019 17:52:01	0.83	271757	1	754	2	-	Yes
	4	10 25 2019 17:54:30	0.90	282847	1	754	2	-	Yes

15	S1	Unknown	CCV				1 x		
		TC	**54.66**	**8992330**	**0.72**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 18:43:28	54.44	8956966	1	752	2	-	Yes
	2	10 25 2019 18:47:28	55.23	9084251	1	752	2	-	Yes
	3	10 25 2019 18:50:40	54.64	8988999	1	752	2	-	Yes
	4	10 25 2019 18:53:53	54.33	8939107	1	752	2	-	Yes
16	13	Unknown	CCB				1 x		
		TC	**ZERO !**	**105184**	**7.29**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	10 25 2019 18:58:02	ZERO !	126272	1	752	2	-	-
	2	10 25 2019 19:01:11	ZERO !	95568	1	752	2	-	Yes
	3	10 25 2019 19:03:28	ZERO !	110962	1	752	2	-	Yes
	4	10 25 2019 19:05:47	ZERO !	111738	1	752	2	-	Yes
	5	10 25 2019 19:08:12	ZERO !	102468	1	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	352168						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	352169						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	345893						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	345890						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	345889						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
148990	343868		10/17/2019	1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
148990	343870		10/17/2019	1315		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
148990	343872		10/17/2019	1450		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	343788		10/14/2019	1025				ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	343836		10/14/2019	1025				ANIONS IC QSM 5.0		GW	**4**	
		Sulfate										
		Chloride										
		Nitrate Nitrogen										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	343838		10/14/2019	1215				ANIONS IC QSM 5.0		GW	4	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	343840		10/14/2019	1325				ANIONS IC QSM 5.0		GW	4	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							
	343842		10/14/2019	1510				ANIONS IC QSM 5.0		GW	4	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	345888							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	345887							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
148990	343846		10/15/2019 1025		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
148990	343848		10/15/2019 1305		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		*							
		Nitrate Nitrogen		*							
		Sulfate		*							
148990	343850		10/15/2019 1350		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
148990	343852		10/15/2019 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
148990	343854		10/15/2019 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
148990	343856		10/15/2019	1520		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
148990	343858		10/16/2019	1020		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
148990	343860		10/16/2019	1220		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
148990	343862		10/16/2019	1220		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
148990	343864		10/16/2019	1350		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	345939								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV					0			
		Chloride			CCV					0			
		Sulfate			CCV					0			
	345938								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB					0			
		Chloride			CCB					0			
		Sulfate			CCB					0			
148990	343866		10/16/2019	1625			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	345937		10/14/2019	1325					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	343840				0			
		Chloride			DUP	343840				0			
		Sulfate			DUP	343840				0			
	345935		10/14/2019	1325					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	343840				0			
		Chloride			MSW	343840				0			
		Sulfate			MSW	343840				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	352167		10/14/2019	1325					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	345935							
		Chloride			MSDW	345935							
		Sulfate			MSDW	345935							
	352170		10/15/2019	1305					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	343848							
		Chloride			DUP	343848							
		Sulfate			DUP	343848							
	352171		10/15/2019	1305					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	343848							
		Chloride			MSW	343848							
		Sulfate			MSW	343848							
	352172		10/15/2019	1305					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	352171							
		Chloride			MSDW	352171							
		Sulfate			MSDW	352171							
	352176								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV								
		Chloride			CCV								
		Sulfate			CCV								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	352177						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							
	345897						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	345896						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	343838		10/14/2019 1215				ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
148990	343846		10/15/2019 1025		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
165651 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
148990	343852		10/15/2019 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
148990	343854		10/15/2019 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	345895						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	345894						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

132

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: Aquion - System 4

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
165637 165651	10/18/2019	TMG	RLD	11/04/2019	RLD

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3		No		No	
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If No: Affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If No: Affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits		No		No	
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

Aquion Run Log - System 4

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	CCV ID's	LCS ID's	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
08/26/19	15:56	08/26/19	20:17	TMG	163901	IC2112A	082619 -	IC2561 IC2567	IC2562 IC2568	IC2563 IC2569	21.94	1332	0.97		RLD 09/06/2019
08/29/19	10:51	08/29/19	15:52	TMG	163986	IC2112A	082919 -	IC2575 IC2578	IC2576 IC2579	IC2577 IC2580	21.72	1321	0.97		RLD 09/06/2019
08/30/19	12:18	08/30/19	17:59	TMG	164026	IC2112A	083019 -	IC2575 IC2578	IC2576 IC2579	IC2577 IC2580	21.64	1337	0.97		RLD 09/19/2019
09/03/19	9:47	09/03/19	12:28	TMG	164060	IC2112A	090319 -	IC2575 IC2582	IC2576 IC2583	IC2577 IC2584	21.82	1338	0.97		RLD 09/19/2019
09/06/19	13:10	09/06/19	17:11	TMG	164212	IC2112A	090619 -	IC2587 IC2590	IC2588 IC2591	IC2589 IC2592	21.77	1335	0.97		RLD 09/19/2019
09/10/19	13:21	09/10/19	18:02	TMG	164308	IC2112A	091019 -	IS2587 IC2594	IC2588 IC2595	IC2589 IC2596	21.78	1337	0.97		RLD 09/19/2019
09/11/19	12:54	09/12/19	09:06	TMG	164342 164343 164344	IC2112A	091119 -	IC2587 IC2594	IC2588 IC2595	IC2589 IC2596	21.61	1336	0.97		RLD 09/19/2019
09/12/19	12:59	09/12/19	22:01	TMG	164369 164370	IC2112A	091219 -	IC2601 IC2604	IC2602 IC2605	IC2603 IC2606	22.21	1339	0.97		RLD 09/19/2019
09/13/19	12:27	09/13/19	15:28	TMG	164423	IC2112A	091319 -	IC2601 IC2604	IC2602 IC2605	IC2603 IC2606	21.82	1332	0.97		RLD 09/19/2019
09/20/19	11:21	09/23/19	11:12	TMG	164667 164669	IC2112A	092019 -	IC2610 IC2613	IC2611 IC2614	IC2612 IC2615	22.24	1320	0.97		RLD 10/11/2019
09/24/19	12:59	09/24/19	15:43	TMG	164765	IC2112A	092419 -	IC1610 IC1616	IC1611 IC2617	IC2612 IC2618	21.86	1322	0.97		RLD 10/11/2019
09/27/19	14:05	09/27/19	20:06	TMG	164914	IC2112A	092719 -	IC2620 IC2623	IC2621 IC2624	IC2622 IC2625	22.2	1325	0.97		RLD 10/11/2019
10/01/19	12:20	10/01/19	17:21	TMG	164983	IC2112A	100119 -	IC2620 IC2626	IC2621 IC2627	IC2622 IC2628	22.48	1322	0.97		RLD 10/11/2019
10/04/19	13:25	10/07/19	12:22	TMG	165104	IC2112A	100419 -	IC2632 IC2635	IC2633 IC2636	IC2634 IC2637	22.41	1323	0.97		RLD 10/11/2019
10/08/19	13:19	10/09/19	13:10	TMG	165282 165283	IC2112A	100819 -	IC1632 IC2635	IC2633 IC2636	IC2634 IC2637	22.29	1332	0.97		RLD 10/11/2019
10/10/19	7:56	10/10/19	11:36	TMG	IC2647A	IC2647A	101019 -	IC2651 IC2654	IC2652 IC2655	IC2653 IC2656	22.48	867	1		RLD 10/11/2019
10/10/19	15:51	10/10/19	19:52	TMG	165335	IC2647A	101019 -	IC2651 IC2654	IC2652 IC2655	IC2653 IC2656	22.45	872	1		RLD 10/11/2019
10/11/19	13:05	10/11/19	17:05	TMG	165376	IC2647A	101119 -	IC2651 IC2654	IC2652 IC2655	IC2653 IC2656	22.07	856	0.97		RLD 11/13/2019
10/14/19	14:29	10/15/19	11:55	TMG	165451	IC2647A	101419 -	IC2651 IC2654	IC2652 IC2655	IC2653 IC2656	22.3	820	0.97		RLD 11/13/2019
10/15/19	15:36	10/16/19	10:41	TMG	165479	IC2647A	101519 -	IC2651 IC2654	IC2652 IC2655	IC2653 IC2656	22.27	827	0.97		RLD 11/13/2019
10/17/19	12:41	10/18/19	11:43	TMG	165575 165577 165597	IC2647A	101719 -	IC2661 IC2658	IC2662 IC2659	IC2663 IC2660	20.79	821	0.97		RLD 11/13/2019
10/18/19	14:56	10/21/19	11:58	TMG	165637 165651	IC2647A	101819 -	IC2661 IC2666	IC2662 IC2667	IC2663 IC2668	21.06	824	0.97		RLD 11/13/2019
10/22/19	12:40	10/22/19	17:41	TMG	165762	IC2647A	102219 -	IC2661 IC2670	IC2662 IC2671	IC2663 IC2672	20.7	826	0.97		RLD 11/13/2019
10/24/19	13:22	10/24/19	20:44	TMG	165895 165896	IC2647A	102419 -	IC2674 IC2677	IC2675 IC2678	IC2676 IC2679	20.9	822	0.97		RLD 11/13/2019
10/25/19	11:36	10/28/19	11:38	TMG	165940	IC2647A	102519 -	IC2674 IC2677	IC2675 IC2678	IC2676 IC2679	21.02	825	0.97		RLD 11/13/2019
10/29/19	11:23	10/29/19	22:04	TMG	166027 166028 PT	IC2647A	102919 -	IC2674 IC2681	IC2675 IC2682	IC2676 IC2683	20.81	856	1		RLD 11/13/2019
10/30/19	14:12	10/30/19	23:13	TMG	166101 166102	IC2647A	103019 -	IC2674 IC2681	IC2675 IC2682	IC2676 IC2683	20.69	860	1		RLD 11/13/2019
10/31/19	14:47	10/31/19	18:48	TMG	166133	IC2647A	103119 -	IC2688 IC2691	IC2689 IC2692	IC2690 IC2693	20.83	861	1		RLD 11/13/2019
11/01/19				TMG	IC2694LL	IC2694LL	110119 -	IC2695	IC2696			852	1		
11/05/19				TMG	166289	IC2224 ML	110519 -					860	1		
11/08/19				TMG	166407	IC2237A	110819 -	IC2701 IC2704	IC2702 IC2705	IC2703 IC2706		840	0.97		
11/13/19				TMG	166572	IC2237A	111319 -	IC2701 IC2704	IC2702 IC2705	IC2703 IC2706		835	0.97		

Standard Log #:	IC2700	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5001 mg/L
Prep Date:	11/07/2019	Expiration Date:	11/14/2019
Prep:	Added 0.5001 g of IC2488 (Nitrocellulose Stock Std.-Dried) into a 100 ml volumetric flask and brought to volume with acetone (Chem Pure Brand Chemicals, Cat.# CP-9043, Lot # DU033-US).		

Standard Log #:	IC2701	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	11/07/2019	Expiration Date:	11/14/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20Chloride (IC2619) and 1000mg/L		

Standard Log #:	IC2702	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	11/07/2019	Expiration Date:	11/14/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2703	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Prep Date:	11/07/2019	Expiration Date:	11/14/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2704	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	11/07/2019	Expiration Date:	11/08/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2705	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	11/07/2019	Expiration Date:	11/08/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2706	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	11/07/2019	Expiration Date:	11/08/2019

Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O

Standard Log #:	IC2707	Standard/Reagent:	Hexachrome Eluent
Analyst:	TMG	Final Concentration:	na
Prep Date:	11/07/2019	Expiration Date:	11/12/2019
Prep:	Dissolve 66g of ammonium sulfate (IC2280) in 1L of DI water and add 13mL of 29% ammonium hydroxide (w26415). Dilute to 2.0L with DI water.		

Standard Log #:	IC2708	Standard/Reagent:	Hexachrome PCR
Analyst:	TMG	Final Concentration:	na
Prep Date:	11/07/2019	Expiration Date:	11/12/2019
Prep:	Add 2ml of 98% sulfuric acid to 500ml of DI water in a 1.0L volumetric flask. Add 0.5g of 1,5-Dipheynlcarbazide (w4700) to 75ml of MeoH bring to volume in 100mL flask. Combine both solutions together in 1L flask.		

Standard Log #:	IC2709	Standard:	IC Eluent Dionex
Analyst:	TMG	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	11/07/2019	Expiration Date (1 Year):	11/07/2020
	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate		

Prep:	IC2630 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC2697	Standard/Reagent:	Hex Curve
Analyst:	TMG	Final Concentration:	0.050, 0.10, 0.25, 0.50, 1.0,
Prep Date:	11/04/2019	Expiration Date:	11/09/2019
Prep:	Working standard (PDS): Dilute the analyte stock standard solution(1:1000) in Milli-Q water Std 7:Add 1mL of PDS into 100mL flask and fill with Milli-q water Std 6:Add 0.5mL of PDS into 100mL flask and fill with Milli-q water		

Standard Log #:	IC2698	Standard/Reagent:	Hex Eluent
Analyst:	TMG	Final Concentration:	N/A
Prep Date:	11/04/2019	Expiration Date:	11/09/2019
Prep:	Dissolve 66g of ammonium sulfate (IC2280) in 1L of DI water and add 13mL of 29% ammonium hydroxide (w26415). Dilute to 2.0L with DI water.		

Standard Log #:	IC2699	Standard/Reagent:	Hex PCR
Analyst:	TMG	Final Concentration:	N/A
Prep Date:	11/04/2019	Expiration Date:	11/09/2019
Prep:	Add 2ml of 98% sulfuric acid to 500ml of DI water in a 1.0L volumetric flask. Add 0.5g of 1,5-Dipheynlcarbazide (w4700) to 75ml of MeoH bring to volume in 100mL flask. Combine both solutions together in 1L flask.		

Standard Log #:	IC2688	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/31/2019	Expiration Date:	11/07/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20Chloride (IC2619) and 1000mg/L		

Standard Log #:	IC2689	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/31/2019	Expiration Date:	11/07/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2690	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	10/31/2019	Expiration Date:	11/07/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2691	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	10/31/2019	Expiration Date:	11/01/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2692	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/31/2019	Expiration Date:	11/01/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2693	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	10/31/2019	Expiration Date:	11/01/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2680	Standard/Reagent:	Ammonium Sulfate
Analyst:	TMG	Final Concentration:	n/a
Prep Date:	10/29/2019	Expiration Date:	10/29/2020
Prep:	lot: 19E2956807 CAS: 7783-20-2		

Standard Log #:	IC2681	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2682	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2683	Standard/Reagent:	SPIKE NO2-P

Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2684	Standard/Reagent:	NO3, PO4 PT
Analyst:	TMG	Final Concentration:	UNKNOWN
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	1.0mL of 336690 was added to a 100mL flask and brought to volume with di water		

Standard Log #:	IC2685	Standard/Reagent:	NO2 PT
Analyst:	TMG	Final Concentration:	UNKNOWN
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	0.1mL of 336710 was added to a 100mL flask and brought to volume with di water		

Standard Log #:	IC2686	Standard/Reagent:	Br, Cl, Fl, SO4 PT
Analyst:	TMG	Final Concentration:	UNKNOWN
Prep Date:	10/29/2019	Expiration Date:	10/30/2019

Prep:	Sample #:336964 no prep necessary

Standard Log #:	IC2687	Standard/Reagent:	TOC PT
Analyst:	TMG	Final Concentration:	UNKNOWN
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	1.0mL of 336669 was added to a 100mL flask and brought to volume with di water		

Standard Log #:	IC2673	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5007 mg/L
Prep Date:	10/24/2019	Expiration Date:	10/31/2019
Prep:	Added 0.5007 g of IC2488 (Nitrocellulose Stock Std.-Dried) into a 100 ml volumetric flask and brought to volume with acetone (Chem Pure Brand Chemicals, Cat.# CP-9043, Lot # DU033-US).		

Standard Log #:	IC2674	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/24/2019	Expiration Date:	10/31/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20Chloride (IC2619) and 1000mg/L		

Standard Log #:	IC2675	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/24/2019	Expiration Date:	10/31/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:		Standard/Reagent:	

	IC2676		SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	10/24/2019	Expiration Date:	10/31/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2677	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2,PO4
Prep Date:	10/24/2019	Expiration Date:	10/25/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2678	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/24/2019	Expiration Date:	10/25/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2679	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2,PO4

Prep Date:	10/24/2019	Expiration Date:	10/25/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2669	Standard:	IC Eluent Dionex
Analyst:	TMG	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	10/22/2019	Expiration Date (1 Year):	10/22/2020
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC2630 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2670	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/22/2019	Expiration Date:	10/23/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2671	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/22/2019	Expiration Date:	10/23/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2672	Standard/Reagent:	SPIKE NO2-P

Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO
Prep Date:	10/22/2019	Expiration Date:	10/23/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2666	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/18/2019	Expiration Date:	10/19/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2667	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/18/2019	Expiration Date:	10/19/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2668	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	10/18/2019	Expiration Date:	10/19/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2661	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2662	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2663	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2664	Standard/Reagent:	NO2 LCS STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL

Prep Date:	10/17/2019	Expiration Date:	05/30/2020
Prep:	LOT#: 4-167NO2N-2Y CAT#:AS-NO2N9-2Y EXP:05/30/2020		

Standard Log #:	IC2665	Standard/Reagent:	LCSW MIX STOCK
Analyst:	TMG	Final Concentration:	1250ug/mL SO4, 750ug/mL
Prep Date:	10/17/2019	Expiration Date:	09/30/2020
Prep:	LOT#: 15-128JKS CAT#:VCTWI-3-500 EXP:09/30/2020		

Standard Log #:	IC2658	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/16/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2659	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/16/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2237) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2660	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	10/16/2019	Expiration Date:	10/17/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2650	Standard/Reagent:	PO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	10/10/2019	Expiration Date:	10/10/2020
Prep:	LOT#: S190327034 CAT#: 250-220-611 EXP:10/10/2020		

Standard Log #:	IC2651	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2652	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2653	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2654	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2646	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/09/2019	Expiration Date (48 Hours):	10/11/2019
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2245 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2647	Standard:	IC_Calibration_Dionex_B
Analyst:	TMG	Concentrations:	N/A
Prep Date:	10/09/2019	Expiration Date (48 hours):	10/11/2019

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2646	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2619	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2593	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2648	Standard/Reagent:	AS14 DIONEX COLUMN

Analyst:	TMG	Final Concentration:	NA
Prep Date:	10/09/2019	Expiration Date:	NA
Prep:	Dionex As14 IonPac column Product # 046124 Serial #: 190805020 Lot# : 01914032		

Standard Log #:	IC2649	Standard/Reagent:	GUARD COLUMN
Analyst:	TMG	Final Concentration:	NA
Prep Date:	10/09/2019	Expiration Date:	NA
Prep:	SERIAL #: 190812098		

Standard Log #:	IC2638	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/08/2019	Expiration Date:	10/09/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2639	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/08/2019	Expiration Date:	10/09/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2237) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2640	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	10/08/2019	Expiration Date:	10/09/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2245) brrought to volume with milli-Q H2O		

Standard Log #:	IC2641	Standard/Reagent:	Hexachrome Eluent
Analyst:	TMG	Final Concentration:	na

Prep Date:	10/08/2019	Expiration Date:	10/13/2019
Prep:	Dissolve 66g of ammonium sulfate (IC2280) in 1L of DI water and add 13mL of 29% ammonium hydroxide (w26415). Dilute to 2.0L with DI water.		

Standard Log #:	IC2642	Standard/Reagent:	Hexachrome PCR
Analyst:	TMG	Final Concentration:	na
Prep Date:	10/08/2019	Expiration Date:	10/13/2019
Prep:	Add 2ml of 98% sulfuric acid to 500ml of DI water in a 1.0L volumetric flask. Add 0.5g of 1,5-Dipheynlcarbazide (w4700) to 75ml of MeoH bring to volume in 100mL flask. Combine both solutions together in 1L flask.		

Standard Log #:	IC2643	Standard/Reagent:	Hexachrome Dig Solution
Analyst:	DGS	Final Concentration:	N/A
Prep Date:	10/08/2019	Expiration Date:	11/08/2019
Prep:	Into a 1L volumetric flask, dissolved 20g of Sodium Hydroxide (NaOH) and 30g of Sodium Carbonate (Na2CO3) and filled to volume with DI water. pH of solution must be greater than 11.5		

Standard Log #:	IC2644	Standard/Reagent:	Hexachrome PDS CCV
Analyst:	DGS	Final Concentration:	1000 ug/L
Prep Date:	10/08/2019	Expiration Date:	10/22/2019

Prep:	1mL of CCV stock standard (W46881) into 1 L volumetric flask.

Standard Log #:	IC2645	Standard/Reagent:	Hexachrome PDS LCS
Analyst:	DGS	Final Concentration:	1000 ug/L
Prep Date:	10/08/2019	Expiration Date:	10/22/2019
Prep:	1 mL of LCS stock standard (W46882) into 1 liter volumetric flask		

Standard Log #:	IC2629	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5010 mg/L
Prep Date:	10/02/2019	Expiration Date:	10/09/2019
Prep:	Added 0.5010 g of IC2488 (Nitrocellulose Stock Std.-Dried) into a 100 ml volumetric flask and brought to volume with acetone (Chem Pure Brand Chemicals, Cat.# CP-9043, Lot # DU033-US).		

Standard Log #:	IC2630	Standard/Reagent:	Conc. Eluent Dionix
Analyst:	TMG	Final Concentration:	1.75 M Sodium Carbonate, (
Prep Date:	10/02/2019	Expiration Date:	10/02/2020
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate and 84.0g of Sodium Bicarbonate and brought to volume with Milli-Q DI H2O. (500x concentrate)		

Standard Log #:	IC2619	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L Cl
Prep Date:	09/26/2019	Expiration Date:	09/26/2020
Prep:	LOT #: S190607015 CAT #: 250-220-371 EXP:09/26/2020		

Standard Log #:	IC2620	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	09/26/2019	Expiration Date:	10/03/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2621	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	09/26/2019	Expiration Date:	10/03/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2622	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L

Standard Log #:	IC2616	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	09/24/2019	Expiration Date:	09/25/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2617	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	09/24/2019	Expiration Date:	09/25/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2237) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2618	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.01mg/L NO2, PO4
Prep Date:	09/24/2019	Expiration Date:	09/25/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2245) brrought to volume with milli-Q H2O		

Prep Date:	09/05/2019	Expiration Date:	09/06/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2591	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	09/05/2019	Expiration Date:	09/06/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2237) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2592	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	09/05/2019	Expiration Date:	09/06/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2245) brrought to volume with milli-Q H2O		

Standard Log #:	IC2593	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	09/05/2019	Expiration Date:	09/05/2020

Prep:	CAT#:250-220-701 LOT#:S190322012 Exp:09/05/2019

Standard Log #:	IC2574	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L NO3
Prep Date:	08/29/2019	Expiration Date:	08/29/2020
Prep:	LOT #:S190225004 CAT#:250-220-521 EXP:08/29/2020		

Standard Log #:	IC2575	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2426) , and 25 ml 1000 mg/L Sulfate (IC2427), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2576	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2577	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L

Standard Log #:	IC2551	Standard/Reagent:	Hexachrome Soil Digestion Solution
Analyst:	DGS	Concentration:	N/A
Prep Date:	08/21/2019	Expiration Date (1 Month):	09/21/2019

PREP	Standards/Reagents Used
Into a 1L volumetric flask, dissolved 20g of Sodium Hydroxide (NaOH) (1) and 30g of Sodium Carbonate (Na2CO3) (2) and filled to volume with DI water. pH of solution must be greater than 11.5.	(1) W45383 (2) IC 1305

Standard Log #:	IC2552	Standard/Reagent:	HEXACHROME PDS CCV
Analyst:	DGS	Final Concentration:	1000ug/L
Prep Date:	08/21/2019	Expiration Date:	09/04/19
Prep:	1ml of CCV stock standard (w46881) into 1 liter volumetric flask.		

Standard Log #:	IC2553	Standard/Reagent:	HEXACHROME PDS LCS-I
Analyst:	DGS	Final Concentration:	1000ug/L
Prep Date:	08/21/2019	Expiration Date:	09/04/19

Standard Log #:	IC2535	Standard/Reagent:	FI STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S190129008 Cat #: 250-220-401 Exp: 08/08/2020		

Standard Log #:	IC2536	Standard/Reagent:	Br STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S1920213009 Cat #: 250-220-236 Exp: 08/08/2020		

Standard Log #:	IC2537	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO
Prep Date:	08/08/2019	Expiration Date:	08/09/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:		Standard/Reagent:	

	IC2538		LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/ L NO2
Prep Date:	08/08/2019	Expiration Date:	08/09/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2237) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2539	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2-P
Prep Date:	08/08/2019	Expiration Date:	08/09/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2245) brrought to volume with milli-Q H2O		

Standard Log #:	IC2540	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	08/08/2019	Expiration Date (48 Hours):	08/10/2019
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2118, and Phosphate IC2245 and brought to volume with Milli-Q DI H_20.		

Standard	IC2541	Standard:	IC_Calibration_Dionex_B

Log #:			
Analyst:	TMG	Concentrations:	N/A
Prep Date:	08/08/2019	Expiration Date (48 hours):	08/10/2019

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2540	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2426	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2427	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2423	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	06/12/2019	Expiration Date:	06/19/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC1978) , Bromide (IC1977), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2289) , and 25 ml 1000 mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2424	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	06/12/2019	Expiration Date:	06/19/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2425	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	06/12/2019	Expiration Date:	06/19/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC1978), Bromide (IC1977), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2289) and 1000mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2426	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L

Prep Date:	06/12/2019	Expiration Date:	06/12/2020
Prep:	LOT #:S190214034 CAT #:250-220-37x EXP:06/12/2020		

Standard Log #:	IC2427	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/12/2019	Expiration Date:	06/12/2020
Prep:	LOT #:S190322012 CAT #:250-220-70x EXP:06/12/2020		

Standard Log #:	IC2333	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	04/24/2019	Expiration Date:	05/01/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC1978) , Bromide (IC1977), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2289) , and 25 ml 1000 mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2334	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	04/24/2019	Expiration Date:	05/01/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2104) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2335	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	04/24/2019	Expiration Date:	05/01/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC1978), Bromide (IC1977), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2289) and 1000mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2336	Standard/Reagent:	LCS STOCK MIX
Analyst:	TMG	Final Concentration:	175ug/mL Br, F, NO3, PO4

Prep Date:	04/24/2019	Expiration Date:	03/30/2020
Prep:	LOT# 14-65JKS CAT# VCTWI-3-500		

Standard Log #:	IC2337	Standard/Reagent:	LCS NO2 STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	04/24/2019	Expiration Date:	03/30/2020
Prep:	LOT# 4-167NO2N-2Y CAT# AS-NO2N9-2Y		

Standard Log #:	IC2316	Standard/Reagent:	AS14 DIONEX COLUMN
Analyst:	TMG	Final Concentration:	NA
Prep Date:	04/16/2019	Expiration Date:	NA
Prep:	Dionex As14 IonPac column Product # 046124 Serial #: 190215072 Lot# : 01827170		

Standard Log #:	IC2317	Standard/Reagent:	GUARD COLUMN
Analyst:	TMG	Final Concentration:	NA
Prep Date:	04/16/2019	Expiration Date:	NA
Prep:	SERIAL #181004394		

Standard Log #:	IC2318	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	04/16/2019	Expiration Date (48 Hours):	04/18/2019
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC1978, Bromide IC1977, Nitrate IC2118, and Phosphate IC2245 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2319	Standard:	IC_Calibration_Dionex_B

Analyst:	TMG	Concentrations:	N/A
Prep Date:	04/16/2019	Expiration Date (48 hours):	04/18/2019

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2318	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2289	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2290	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2285	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	03/27/2019	Expiration Date:	04/03/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC1978) , Bromide (IC1977), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (2065) , and 25 ml 1000 mg/L Sulfate (IC2132), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2286	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3, PO4 30n
Prep Date:	03/27/2019	Expiration Date:	04/03/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2104) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2287	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	03/27/2019	Expiration Date:	04/03/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC1978), Bromide (IC1977), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2065) and 1000mg/L Sulfate (IC2132), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2288	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L

Prep Date:	03/27/2019	Expiration Date:	03/27/2020
Prep:	CAT #:250-220-55x LOT #:S181129005 exp: 03/27/2020		

Standard Log #:	IC2289	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	03/27/2019	Expiration Date:	03/27/2020
Prep:	CAT #:250-220-37x LOT #:S190214034 exp: 03/27/2020		

Standard Log #:	IC2290	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	03/27/2019	Expiration Date:	03/27/2020
Prep:	CAT #:250-220-70x LOT #:S181005026 exp: 03/27/2020		

Prep Date:	02/27/2019	Expiration Date:	02/28/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC1884) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2243	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	02/27/2019	Expiration Date:	02/28/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2009) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2244	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	02/27/2019	Expiration Date:	02/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC1884) and Phosphate(IC2245) brrought to volume with milli-Q H2O		

Standard Log #:	IC2245	Standard/Reagent:	PO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	02/27/2019	Expiration Date:	02/27/2020

Prep:	LOT #:S180718005 CAT #:250-220-611 EXO:02/27/2020

WCOD QSM Analytical Run
165740 on 10/28/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
148990	343878		10/17/2019 1530		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	COD QSM		GW	4	
		49IDW						74074			
	345136						COD QSM				
				MBW				74074			
	345137						COD QSM				
				LCSW				74074			

10 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

COD Data Validation Checklist

		Method: Chemical Oxygen Demand EPA 410.4			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
165738 165730	10/23/2019	GMJ/HLB	ETK	10/31/2019	YES

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Does a digestion sheet accompany the data package?	---	X		Yes		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	X		Yes		
3. Was a passing calibration test applied to sample analysis?	≥0.995	X		Yes		
4. Was a passing ICV analyzed immediately after the calibration?	90-110%	X		Yes		
5. Was a passing ICB analyzed immediately after the ICV?	< |LOD|or client/project specific	X		Yes		
6. Were CCVs and CCB analyzed at the required frequency?	1 per 10 samples	X		Yes		
7. Did analyzed CCVs meet the required acceptance criteria?	90-110%	X		Yes		
8. Did analyzed CCBs meet the acceptance criteria?	< |LOD|or client/project specific	X		Yes		
9. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		Yes		
10. Was the method blank within acceptance criteria?	< |LOD|or client/project specific	X		Yes		
11. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	X		Yes		
12. Did the LCS meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits	X		Yes		
13. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		Yes		
14. Did the MS/ MSD's meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits		X		No	343073 MSDW FAILED HIGH, M FLAGGED

15. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	X		Yes		
16. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	X		Yes		
17. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	X		Yes		
18. Were the samples digested within hold time?	28 days	X		Yes		
19. Was the max temperature(s) for reactor(s) documented?	---	X		Yes		
20. Was the method specifed temperature reached?		X		Yes		
21. Were reagents/standards used before expiration date?	---	X		Yes		
22. Are all samples on the job lists accounted for?	---	X		Yes		

CHEMICAL OXYGEN DEMAND REAGENT LOG

Prep Batch(es): 74072 74073 74074

Date/Time/Analyst: 10/22/2019 12:00:00 GMJ

Run(s): 165738 165740

Date/Time/Analyst: 10/22/2019 12:00 GMJ

Reagents:	W #	Exp Date
ICAL Preparation	47437	12/16/2019
CCV Preparation	47436	12/16/2019
LCS/ICV Preparation	47438	12/16/2019
Silver Sulfate Acid	47393	09/04/2020
Potassium Dichromate Dig Solution	46751	04/29/2020

Spiked Samples:	W #	Exp Date
Spiking Solution	47435	12/16/2019

Concentration 2000 mg/L

Volume of Spike Used 0.2 mL

Final Sample Volume 2.5 mL

Final Spike Concentration 148.2 mg/L

Date: 10/22/2019

Time: 16:30

COD DIGESTION BLOCK TEMPS

	A	B
Temperature (Max) 150°C ± 2°C:	N/A	151

	E	D
Temperature (Max) 150°C ± 2°C:	150.2	N/A

GENESYS 30 Instrument Run Logbook

Date	Start Time	End Time	Analyst	Test/Analyte	Calibration Test #	Run #/ Comments	Maintenance	Review
05/29/19	15:30	16:06	SAW/HLB	COD	COD W46407	161265		
05/30/19	15:46	15:51	SAW	COD	COD W46407	161265 RERUNS		
06/10/19	15:00	18:00	SAW	CHLOROPHYLL-A	N/A	161605		
06/11/19	8:45	09:13	HLB	COD	COD W46935	161577, 583, 586		
06/11/19	15:05	15:09	SAW	CHLOROPHYLL-A	N/A	161605		
06/17/19	14:20	14:48	HLB	COD	COD W46935	161786 161787		
06/18/19	7:45	07:56	HLB	COD	COD W46935	161786 161787 RERUN		
06/19/19	13:40	14:05	SAW/JLH	CHLOROPHYLL-A	N/A	161886		
06/24/19	14:25	14:57	HLB	COD	COD W46935	161989, 162007		
07/02/19	15:30	15:59	HLB	COD	COD W46935	162309		
07/03/19	7:35	07:41	HLB	COD	COD W46935	162309 RERUN		
07/11/19	13:47	14:13	HLB	COD	COD W46935	162502 162503		
07/23/19	12:45	13:16	HLB	COD	COD W46935	162887 162888		
07/31/19	12:15	12:30	HLB	COD	COD W46935	163109		
08/05/19	10:07	10:26	JLH/HLB	CHLOROPHYLL-A	N/A	163200		
08/07/19	12:15	12:30	HLB	COD	COD W46935	163290 163202		
08/08/19	7:30	07:37	HLB	COD	COD W46935	163292 RERUN		
08/14/19	13:00	13:24	HLB	COD	COD W46935	163493 163494		
08/26/19	15:00	16:13	HLB	COD	COD W46935 A	163838, 844, 842, 843		
08/27/19	13:45	14:05	HLB	COD	COD W46935 A	163842 RERUNS		
09/04/19	15:15	15:29	HLB	COD	COD W46935 A	164084		
09/16/19	14:44	15:09	HLB	COD	CODW47434	164444 164445 164446		
09/17/19	7:10	07:20	HLB	COD	COD W47434	164444 RERUN		
09/23/19	13:50	14:16	HLB	COD	COD W47434	164704 164707 164278		
09/30/19	13:30	14:00	HLB/GMJ	COD	COD W47434	164931		
10/07/19	15:55	16:30	HLB/GMJ	COD	COD W47434	165159 165160		
10/08/19	7:15	07:26	HLB	COD	COD W47434	165160 RERUN		
09/24/19	15:43	16:07	HLB	COD	COD W47434	164736 164737		
10/15/19	14:30	15:08	GMJ	COD	COD W47434	165460 165462		
10/16/19	8:30	08:50	GMJ	COD	COD W47434	165460 RERUN		
10/24/19	10:00	11:00	GMJ	COD	COD W47434	165738 165740		
10/25/19	10:30	10:44	HLB	CHLOROPHYLL-A	NA	165929		
10/29/19	10:00	11:00	GMJ	COD	COD W47434	165460 165462 RERUN		
11/04/19	14:30	15:30	GMJ	COD	COD W47434	166256 166258		
11/05/19	8:00	08:30	GMJ	COD	COD W47434	166256 166258 RERUN		
11/11/19	13:00	13:20	GMJ	COD	COD W47434	166435		
11/20/19	8:30	08:55	GMJ	COD	COD 47434	166774, 166775		

Standard Log #:	W47436	Standard/Reagent:	COD CCV
Analyst:	HLB	Concentration:	400 mg/L
Prep Date:	9-16-19	Expiration Date (3 Months):	12-16-19
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.			(1) W47437

Standard Log #:	W47437	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	HLB	Concentration:	1,000 mg/L
Prep Date:	9-16-19	Expiration Date (3 Months):	12-16-19
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W33269

Standard Log #:	W47438	Standard/Reagent:	COD LCS
Analyst:	HLB	Concentration:	400 mg/L
Prep Date:	9-16-19	Expiration Date (3 Months):	12-16-19
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W47435

Standard Log #:	W47434	Standard/Reagent:	COD ICAL
Analyst:	HLB	Concentration:	N/A
Prep Date:	9-16--19	Expiration Date (3 Months):	12-16-19
PREP		Standards/Reagents Used	
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)		(1) W47437	

Standard Log #:	W47435	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	HLB	Concentration:	2,000 mg/L
Prep Date:	9-16-19	Expiration Date (3 Months):	12-16-19
PREP		Standards/Reagents Used	
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.		(1) W39424	

Standard Log #:	W47393	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	HLB	Concentration:	N/A
Prep Date:	9-4-19	Expiration Date (1 Year):	9-4-20
PREP		Standards/Reagents Used	
Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).		(1) W47235 (2) W47283	

Standard Log #:	W47283	Chemical:	Silver Sulfate ACS
Analyst:	HLB	Vendor:	LabChem
Date Received:	8-8-19	Catalog #:	LC227558
Expiration Date (if any):	NA	Lot #:	J078-11
Comments:	25g		

Standard Log #:	W47235	Chemical:	Sulfuric Acid ACS GR
Analyst:	HLB	Vendor:	EMD
Date Received:	7-30-19	Catalog #:	SX1244-5
Expiration Date (if any):	NA	Lot #:	58351
Comments:			

Standard Log #:	W46752	Chemical:	Silver Sulfate
Analyst:	SAW	Vendor:	Alfa Aesar (VWR)
Date Received:	3/11/19	Catalog #:	11417
Expiration Date (if any):	4/29/20	Lot #:	X23E017
Comments:	Opened 4/29/19		

Standard Log #:	W46753	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	SAW	Concentration:	N/A
Prep Date:	4/29/19	Expiration Date (1 Year):	4/29/20
PREP		Standards/Reagents Used	
Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).		(1) W46508 (2) W46752	

Standard Log #:	W46749	Chemical:	Potassium Dichromate
Analyst:	SAW	Vendor:	JT Baker (VWR)
Date Received:	2/22/19	Catalog #:	3090-01
Expiration Date (if any):	3/6/25	Lot #:	0000213858
Comments:	Opened 4/29/19		

Standard Log #:	W46750	Chemical:	mERCURY (II) SULFATE
Analyst:	SAW	Vendor:	BTC
Date Received:	3/11/19	Catalog #:	212940-100G
Expiration Date (if any):	4/29/20	Lot #:	50004425
Comments:	Opened 4/29/19		

Standard Log #:	W46751	Standard/Reagent:	Dichromate Digestion Solution
Analyst:	SAW	Concentration:	N/A
Prep Date:	4/29/19	Expiration Date (1 Year):	4/29/20

PREP	Standards/Reagents Used
Into a 2L volumetric flask, dissolved 66.6g of Mercuric sulfate (1) in about 500 mL of DI water. Volumetrically added 334 mL of Sulfuric acid (2) and dissolved 20.42g of Potassium dichromate (3) and then filled to volume with DI water.	(1) W46750 (2) W46508 (3) W46749

LPWC01_13
WetChem Reagent Prep Logbook
Logbook Created 02/07/2019

NOTEBOOK VIEW: LTN_LPWC01_13_Default, NOTEBOOK: LPWC01_13, PAGE: 81
Page is Locked
Author: hbeckel on: 6/12/2019 1:15:54 PM
Page is not Witnessed
Project: Unassigned
Page Title: 061019

Standard Log #:	W46931	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	HLB	Concentration:	1,000 mg/L
Prep Date:	6-10-19	Expiration Date (3 Months):	9-10-19
PREP		Standards/Reagents Used	
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.		(1) W33269	

Standard Log #:	W46932	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	HLB	Concentration:	2,000 mg/L
Prep Date:	6-10-19	Expiration Date (3 Months):	9-10-19
PREP		Standards/Reagents Used	

Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.	(1) W39424

Standard Log #:	W46933	Standard/Reagent:	COD CCV
Analyst:	HLB	Concentration:	400 mg/L
Prep Date:	6-10-19	Expiration Date (3 Months):	9-10-19
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.			(1) W46931

Standard Log #:	W46934	Standard/Reagent:	COD LCS
Analyst:	HLB	Concentration:	400 mg/L
Prep Date:	6-10-19	Expiration Date (3 Months):	9-10-19
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W46932

Standard Log #:	W46935	Standard/Reagent:	COD ICAL
Analyst:	HLB	Concentration:	N/A
Prep Date:	6-10-19	Expiration Date (3 Months):	9-10-19

PREP	Standards/Reagents Used
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)	(1) W46931

1

CT Laboratories, LLC

Standard Log #:	W46749	Chemical:	Potassium Dichromate
Analyst:	SAW	Vendor:	JT Baker (VWR)
Date Received:	2/22/19	Catalog #:	3090-01
Expiration Date (if any):	3/6/25	Lot #:	0000213858
Comments:	Opened 4/29/19		

Standard Log #:	W46750	Chemical:	mERCURY (II) SULFATE
Analyst:	SAW	Vendor:	BTC
Date Received:	3/11/19	Catalog #:	212940-100G
Expiration Date (if any):	4/29/20	Lot #:	50004425
Comments:	Opened 4/29/19		

Standard Log #:	W46751	Standard/Reagent:	Dichromate Digestion Solution
Analyst:	SAW	Concentration:	N/A
Prep Date:	4/29/19	Expiration Date (1 Year):	4/29/20

PREP	Standards/Reagents Used
Into a 2L volumetric flask, dissolved 66.6g of Mercuric sulfate (1) in about 500 mL of DI water. Volumetrically added 334 mL of Sulfuric acid (2) and dissolved 20.42g of Potassium dichromate (3) and then filled to volume with DI water.	(1) W46750 (2) W46508 (3) W46749

Standard Log #:	W46752	Chemical:	Silver Sulfate
Analyst:	SAW	Vendor:	Alfa Aesar (VWR)
Date Received:	3/11/19	Catalog #:	11417
Expiration Date (if any):	4/29/20	Lot #:	X23E017
Comments:	Opened 4/29/19		

Standard Log #:	W46753	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	SAW	Concentration:	N/A
Prep Date:	4/29/19	Expiration Date (1 Year):	4/29/20

PREP	Standards/Reagents Used
	(1) W46508

Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).	(2) W46752

Standard Log #:	W46508	Chemical:	H2SO4
Analyst:	LJS	Vendor:	MILLIPORE
Date Received:	Unknown	Catalog #:	SX1244-5
Expiration Date (if any):	N/A	Lot #:	58115
Comments:			

Standard Log #:	W39424	Chemical:	Potassium hydrogen phthalate
Analyst:	SAW	Vendor:	ACROS
Date Received:	7/1/16	Catalog #:	424061000
Expiration Date (if any):	N/A	Lot #:	A0365830
Comments:			

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypo chlorite: Into a 500mL vol. volumetrically combined 30mL W33266 & filled to mark w/ DI H_2O exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W32416 & filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bms 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 01/07/14 AGK — TOCW CCV Std: Into a 100mL vol pipetted 50mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Std: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

1/9/14 CS
Signed — Date — Signed — Date

* + W23456 CES 4/2/10 KHP Buffer - Into a beaker dissolved 2.5g KHP W1521 Volumetrically added 450mL CO_2 free dI H_2O + 42.5mL 0.1 M HCl W23371 + adj pH to 3.1 ± 0.05 exp 4/9/10

* W23457 ESC 4/2/10 C.C2CO N Sulfuric Acid: VWR Cat# BDH3229-4 lot # 9334 exp: 11/30/10

* W23458 ESC 4/5/10 Stock Ammonium Molybdate soln: Into a 1L vol. dissolved 40g ammonium molybdate tetrahydrate W22553 & stirred for 4 hours, brought to vol. w/ DI H_2O exp: 6/5/10

* W23459 ESC 4/5/10 Antimony Potassium Tartrate Stock: Into a 500mL vol. dissolved 1.61g Antimony Potassium tartrate W23460 & filled to vol. w/ DI H_2O exp: 6/5/10

* W23460 CSC 4/5/10 Antimony Potassium Tartrate Trihydate: Fischer Cat# A867-250 Lot # 082639A ~~exp: 4/5/15~~ 8-27-14 mml

W23461 CES 4/5/10 NH_3 LCS - Into a 200mL vol pipetted 1mL W23462 + filled to vol w/ dI H_2O exp 4/12/10

* W23462 CES 4/5/10 NH_3/ TKN ICV/ LCS stock - Into a 1L vol dissolved 3.819g NH_4Cl W23266 pipetted 2mL H_2SO_4 W23390 + filled to vol w/ dI H_2O exp 5/5/10

* W23463 mml 4/5/10 TKN/ TPhos Ical working std 250 mg/L into a 100ml vol. pipetted 25ml W23289 + W21863 + brought to vol w/ DI H_2O exp 5/5/10

Continued on Page

Read and Understood By

mml 4-22-10
Signed Date Signed Date

WPH Analytical Run
165767 on 10/28/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
148990	343878	49IDW	10/17/2019 1530		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	PH		GW	4	

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

pH Data Validation Checklist

		Method: pH EPA 150.1, SM 4500-H+B, EPA 9040C, EPA 9045D			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
165767	10/28/2019	HLB	ETK	10/31/2019	YES

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Was the calibration slope recorded on the bench sheet?	95-110%	Yes		X		
2. Were reagents/standards used before expiration date?	---	Yes		X		
3. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	Yes		X		
4. Were the duplicates within acceptable limits?	Differ by $\leq$ 0.10 pH units	Yes		X		
5. Are all samples on the job lists accounted for?	---	Yes		X		
6. Were SM 4500-H+B samples bracketed by calibration buffer 7?	Every 10 samples, Differ by $\leq$ 0.10 pH units	Yes		X		

Mettler Toledo (Easy Seven) pH Calibration & Maintenance Run Logbook

		pH Buffer Reference ID #			3 Point Calibration						
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope (95-110%)	Temp ° C	Comments	Review
09/25/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	97%	17.7		
09/26/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	96%	17.2		
09/27/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	97%	17.6		
09/30/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	98%	18.1		
10/01/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.08	97%	18.5		
10/02/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	97%	17.6		
10/03/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	97%	17.5		
10/04/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	97%	17.2		
10/07/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.1	97%	17		
10/09/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	98%	17.2		
10/10/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.08	98%	18.2		
10/11/19	CLB	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.02	4	10.06	97%	20.7		
10/14/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.1	98%	16.6		
10/15/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	98%	17.4		
10/16/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	98%	17.1		
10/17/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	97%	17.8		
10/18/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.1	97%	17.1		
10/21/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.07	4	10.13	97%	17		
10/22/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.1	98%	16.3		
10/23/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.03	4	10.09	96%	17.3		
10/24/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.04	4	10.11	98%	16		
10/25/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.04	4	10.12	95%	15.3		
10/28/19	ATJ	W46410 EX: 3/5/20	W45311 EX: 1/2/20	W46764 EX:05/2/20	7.04	4	10.1	98%	16.5		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date	Start Time	End Time	Analyst	Analyte	Lims Run #(s)	Comments
05/09/19	15:45	16:25	CLB	PH	160641, 642	
05/23/19	10:20	15:50	CLB	PH	161142, 143, 144	
05/30/19	9:05	09:55	CLB/SRW	PH	161341	
06/10/19	10:00	14:00	CLB/SRW	PH	161503, 504, 505	
06/11/19	13:30	15:30	CLB/SRW	PH	161653, 654	
06/20/19	9:00	12:30	CLB/SRW	PH	161926, 927, 928	
06/26/19	11:32	12:20	BMM	PH	162097, 098	
07/05/19	9:15	11:10	CLB/TMG	PH	162386, 162387	
07/11/19	10:00	12:00	CLB/GMJ	PH	162536, 162537	
07/17/19	14:25	14:32	SRW	PH	162726	
07/19/19	10:30	13:00	SRW	PH	162783, 784, 785	
07/26/19	13:00	15:31	SRW	PH	162962, 963, 964	
08/01/19	11:00	12:44	SRW	PH	163160	
08/16/19	15:20	17.45	HLB	PH	163621 163622 163623	
08/19/19	9:30	13:10	CLB	PH	163641	
08/20/19	16:30	17:30	HLB	PH	163726	
08/23/19	15:25	18:24	SRW	PH	163819 163820	
08/30/19	10:17	11:50	SRW	PH	164006 164007	
09/06/19	9:25	12:55	CLB	PH	164193, 196	
09/13/19	14:30	16:48	SRW	PH	164417, 419, 420	
09/19/19	10:15	11:05	HLB	PH	164573, 576	
09/27/19	15:30	17:00	CLB	PH	164894, 896	
10/04/19	13:00	16:15	HLB	PH	165095, 96, 97	
10/11/19	13:30	15:20	CLB	PH	165368, 369	
10/18/19	9:55	13:35	CLB	PH	165621	
10/22/19	16:00	16:20	HLB	PH	165767	
10/23/19	13:00	13:30	CLB	PH	165829	
10/24/19	15:00	15:30	SRW	PH	165902	
10/24/19	15:40	16:10	GMJ	PH	166006	
10/30/19	14:30	15:00	HLB	PH	166103	
11/01/19	14:05	16:30	CLB	PH	166144 166145	
11/04/19						
11/05/19						
11/06/19	15:00	15:30	GMJ	PH	166346	
11/07/19	13:40	14:10	HLB	PH	166377	
11/08/19	14:00	14:30	SRW	PH	166413	
11/11/19	13:30	14:00	SRW	PH	166453	
11/12/19						
11/13/19	16:00	16:20	HLB	PH	166581	
11/15/19	15:05	15:50	CLB	PH	166672	
11/18/19	17:00	17:30	SRW	PH	166711	
11/19/19	15:00	15:15	ATJ	PH	166781	
11/20/19	14:55	15:25	CLB	PH	166813	
11/21/19	15:30	16:05	GMJ	PH	166873	

Standard Log #:	W46764	Chemical:	PH BUFFER 10
Analyst:	LJS	Vendor:	INORGANIC VENTURES
Date Received:	5/2/19	Catalog #:	PHBLUE-10-4L
Expiration Date (if any):	5/2/20	Lot #:	P2-WCS675599
Comments:			

Standard Log #:	W46410	Chemical:	PH 7 BUFFER
Analyst:	MEZ	Vendor:	INORGANICS VENTURES
Date Received:	2/12/19	Catalog #:	PHYELLOW-7
Expiration Date (if any):	3/5/2020	Lot #:	N2-WCS674708
Comments:	Opened 3/5/2019. Expires 1 year from open date.		

Standard Log #:	W45311	Chemical:	pH Buffer; Red 4
Analyst:	SAW	Vendor:	Inorganic Ventures
Date Received:	8/31/18	Catalog #:	PHRED-4
Expiration Date (if any): 1/2/2020		Lot #:	N2-WCS6367622
Comments: Opened 1/2/2019	"This product expires on: May 18, 2022 or 1 year after opening the sealed TCT bag, whichever comes first."		

WORGANIC CARBON QSM 5.0 Analytical Run
165875 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	353168								WORGANIC CARBON QSM 5.0				
					ICV								
	353167								WORGANIC CARBON QSM 5.0				
					ICB								
	348907								WORGANIC CARBON QSM 5.0				
					CCV					0			
	348908								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	348909								WORGANIC CARBON QSM 5.0				
					MBW					0			
148990	343846		10/15/2019	1025			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW06											
148990	343848		10/15/2019	1305			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW2			Designated MS/MSD								
	348910		10/15/2019	1305					ORGAN CARBON T QSM 5.0				
		13MW2			DUP	343848				0			
	348911		10/15/2019	1305					ORGAN CARBON T QSM 5.0				
		13MW2			MSW	343848				0			
	353165		10/15/2019	1305					ORGAN CARBON T QSM 5.0				
		13MW2			MSDW	348911							
148990	343850		10/15/2019	1350			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW04											
148990	343852		10/15/2019	1440			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW3											
148990	343854		10/15/2019	1440			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13TW3											
148990	343856		10/15/2019	1520			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW4											
148990	343858		10/16/2019	1020			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49EQB-48MW2											
	348912								WORGANIC CARBON QSM 5.0				
					CCV					0			
	353166								WORGANIC CARBON QSM 5.0				
					CCB								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
165875 on 11/15/2019

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	348915							WORGANIC CARBON QSM 5.0				
					CCV				0			
	348916							WORGANIC CARBON QSM 5.0				
					CCB				0			
148990	343860		10/16/2019	1220		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48MW3										
148990	343862		10/16/2019	1220		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48TW3										
148990	343864		10/16/2019	1350		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		49MW02										
148990	343866		10/16/2019	1625		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48MW1										
148990	343868		10/17/2019	1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		49MW01										
148990	343870		10/17/2019	1315		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		50MW02										
148990	343872		10/17/2019	1450		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48MW2										
	348917							WORGANIC CARBON QSM 5.0				
					CCV				0			
	348918							WORGANIC CARBON QSM 5.0				
					CCB				0			

28 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist	Instrument: TOCW

LIMS Run #(s)	Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)
165875 165876 165946	10/25/2019	TMG	RLD	11/04/2019	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		
4. Were the ICV and ICB analyzed?	---	Yes		Yes		
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		
20. Are all samples on the job lists accounted for?	---	Yes		Yes		
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
10/03/19	14:09	10/03/19	22:22	TMG	165048, 165049, 165050	W	0352	
10/4/19	10:20	10/4/19	17:46	TMG	165084	W	0352	
10/7/19	10:01	10/7/19	17:19	TMG	165034	W	0352	
10/8/19	09:45	10/8/19	15:10	TMG	165208, 165209	W	0352	
10/9/19	9:10	10/9/19	12:52	TMG	165215, 165216	S	0318	
10/16/19	12:47	10/16/19	17:59	TMG	165508	W	0352	
10/17/19	8:37	10/17/19	10:07	TMG	165508RE	W	0352	
10/21/19	8:45	10/21/19	11:33	TMG	165683	W	0352	TIC
10/22/19	8:36	10/22/19	19:04	TMG	165735, 165734	W	0352	
10/23/19	9:27	10/23/19	20:43	TMG	165791, 165792	W	0352	
10/24/19	10:30	10/24/19	20:12	TMG	165875, 165876	W	0352	
10/25/19	11:29	10/25/19	14:37	TMG	165939	S	0318	
10/25/19	15:19	10/25/19	25:51	TMG	165875R, 165876R, 165946	W	0352	
10/28/19	12:11	10/28/19	23:37	TMG	165983, 165984	W	0352	
10/29/19	10:33	10/29/19	17:14	TMG	165985, 166025, 166026	W	0352	PT
10/30/19	9:09	10/30/19	22:51	TMG	166065, 166066, 166067	W	0352	
10/31/19	10:22	10/31/19	22:16	TMG	166029, 166112, 166113 166114	W	0352	
11/2/19	10:44	11/2/19	12:02	TMG	166177	S	0318	

Reviewed By:_____

Standard Log #:	TOC0359	Standard/Reagent:	LCS TOC STOCK STD
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	10/28/2019	Expiration Date:	09/01/2021
Prep:			

Standard Log #:	TOC0360	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0361	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0357	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/16/2019	Expiration Date (1 Month):	11/16/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0358	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/16/2019	Expiration Date (1 Month):	11/16/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0355	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/02/2019	Expiration Date (1 Month):	11/02/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0356	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/02/2019	Expiration Date (1 Month):	11/02/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 181
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 090919

Standard Log #:	TOC0352	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	09/09/2019	Expiration Date (1 Month):	10/09/2019

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0258 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

1

CT Laboratories, LLC

Standard Log #:	TOC0350	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	09/04/2019	Expiration Date (1 Month):	10/04/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0351	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	09/04/2019	Expiration Date (1 Month):	10/04/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0332	Standard:	TOCW LOD Check
Analyst:	TMG	Concentration:	1.5 mg/L
Prep Date:	06/05/2019	Expiration Date (1 Month):	07/05/2019
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0333	Standard:	TOCW LOQ Check
Analyst:	TMG	Concentration:	3.0 mg/L
Prep Date:	06/05/2019	Expiration Date (1 Month):	07/05/2019
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0258	Standard/Reagent:	TOC CCV STOCK STD
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/05/2018	Expiration Date:	02/28/2020
Prep:	Ultra Scientific TOC standard @ 1000 or - 5 ug/mL Lot # CS-0215		

Standard Log #:	TOC0259	Standard/Reagent:	TOC LCS STOCK STD
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/05/2018	Expiration Date:	11/01/2019
Prep:	CAT# 250-250-05X LOT# S171123022		

Standard Log #:	TOC0260	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	06/05/2018	Expiration Date (1 Month):	07/05/2018
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0261	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	06/05/2018	Expiration Date (1 Month):	07/05/2018
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0206 and brought to volume with Milli-Q DI H_2O.		

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev. 02/2017

CHAIN OF CUSTODY

Company: Weston Solutions
Project Contact: Tony Pace
Telephone: 757-819-5310
Project Name: Radford AAP SWMU 49
Project #:
Location: Radford, VA
Sampled By: B. Bounds, P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 148990
Company: WESTON SOLUTIONS,
Project: RADFORD AAP
Logged By: JLS PM: BM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: Anthony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St. Ste. 603 Hampton, VA 23669

Invoice To:*
EMAIL:
Company: Same
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOCs 8260C	MEE RSK-175	Anions 9056A	TOC 9060A										Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
						Fill in Spaces with Bottles per Test																
10/15	1025	GW	G	1	48MW06	N	3	2	1	1										7		343846
10/15	1305	GW	G	21	13MW2	N	9	6	3	3										21	X	343848
10/15	1350	GW	G	7	49MW04	N	3	2	1	1										7	~~X~~	343850
10/15	1440	GW	G	—	13MW3	N	3	2	1	1										7		343852
10/15	1440	GW	G	—	13TW3	N	3	2	1	1										7		343854
10/15	1520	GW	G	—	13MW4	N	3	2	1	1										7		343856
10/16	1020	GW	G	—	49EQ13-48MW2	N	3	2	1	1										7		343858
10/16	1220	GW	G	—	48MW3	N	3	2	1	1										7		343860
10/16	1220	GW	G	—	48TW3	N	3	2	1	1										7		343862
10/16	1350	GW	G	—	49MW02	N	3	2	1	1										7		343864
10/16	1625	GW	G	—	48MW1	N	3	2	1	1										7		343866
10/17	1200	GW	G	—	49MW01	N	3	2	1	1										7		343868

Relinquished By: _____ Date/Time 10/17/2019 1800
Received By: Fedex Date/Time 10/17/2019 1800

Received by: _____ Date/Time 10/18/19 1210
Received for Laboratory by: _____ Date/Time 10/18/19 1600

Lab Use Only
Ice Present (Yes) No
Temp 23.9 IR Gun 28
Cooler # 4 coolers

Rev. 02/2017

CHAIN OF CUSTODY

Company: Weston Solutions
Project Contact: Tony Pace
Telephone: 757-819-5310
Project Name: Radford AAP SWMU 49
Project #:
Location: Radford, VA
Sampled By: B. Bounds, P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Lab Use Only
Place Header Sticker Here:

14899O

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: Anthony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St., Ste. 603 Hampton, VA 23669

Invoice To:* Same
EMAIL:
Company:
Address:

Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

* Trip Blanks included but not listed on COC - added & logged by JS

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: Std.
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOCs 8260C	MEE 8015 RSK-175	Anions 9056A	TOC 9060A	pH 9040	COD 410.4	6 10E Total Metals 7470A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test									
10/17	1315	GW	G	—	50MW02	N	3	2	1	1				7		343870
10/17	1450	GW	G	—	48MW2	N	3	2	1	1				7		343872
10/17	1530	GW	G	—	49IDW	N					1	1	1	3		343878
10/17	730				TRIP Blank											344136

Relinquished By:	Date/Time	Received By:	Date/Time
	10/17/2019 1800	Fedex	10/17/2019 1805
Received by:	Date/Time	Received for Laboratory by:	Date/Time
for DJL	10/18/19 1210		10/18/19 1600

Lab Use Only
Ice Present (Yes) No
Temp 3.9 IR Gun 28
Cooler # 4 coolers

Cooler Receipt Form

Ice Present (YES) NO

Temperature 3.9

IR Gun # 28

Initials TL

Date 10/18/19 Time 12:10

Cooler #: 6407

Cooler Receipt Form

Ice Present (YES) NO

Temperature 3.5

IR Gun # 28

Initials

Date 10/18/19 Time 12:10

Cooler #: 6408

CUSTODY SEAL

DATE 10/17/2019

SIGNATURE

Quality Environmental Containers
800-255-3950 • www.qecusa.com

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.9

IR Gun # 28

Initials M

Date 10/18/19 Time 12:10

Cooler #: 6205

CUSTODY SEAL
DATE 10/17/2019
SIGNATURE

QEC Quality Environmental Containers
800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 10/17/2019
SIGNATURE

QEC Quality Environmental Containers
800-255-3950 • www.qecusa.com

FORM #: FPM3-02
Rev. #: 1.0
Effective Date: 05/27/2014
Page 1 of 1

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.4

IR Gun # 28

Initials DL

Date 10/18/19 Time 12:10

Cooler #: 5838

FedEx Express

ORIGIN ID:WALA (770) 855-6275
PAUL I. TAYLOR
WESTON SOLUTIONS, INC
5555 PEACHTREE PKWY STE 150
STE 150
PEACHTREE CORNERS, GA 30092
UNITED STATES US

SHIP DATE: 17OCT19
ACTWGT: 27.10 LB
CAD: 6995155/SSFE2021
DIMS: 18x13x11 IN
BILL THIRD PARTY

TO CT LAB
1230 LANGE CT
BARABOO WI 53913
(608) 356-2766
INV:
PO:
REF: 03886.552.500.3110
DEPT:

FRI - 18 OCT 10:30A
PRIORITY OVERNIGHT

2 of 3
MPS# 7803 1914 1896
0263
Mstr# 7803 1914 1885
0201

XH MSNA

53913
WI-US MSN

CUSTODY SEAL
DATE 10/17/2019
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 10/17/2019
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

Folder #: 148990

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU-49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 149631

Project Manager: *BMS* **Date Received:** 10/18/19 **Log Date:** 10/18/2019

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 3.9 oC

SAMPLE #: 343846 DESCR: 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 10/15/2019 Time: 1025**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/29/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/29/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/17/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				11/12/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343848 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/15/2019 **Time:** 1305

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***DESIGNATED MATRIX SPIKE***	10/29/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***	10/29/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	10/17/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	11/12/2019	10/30/2019		Logged

SAMPLE #: 343850 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/15/2019 **Time:** 1350

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/29/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/29/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/17/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				11/12/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343852 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/15/2019 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/29/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/29/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/17/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/12/2019	10/30/2019		Logged

SAMPLE #: 343854 **DESCR:** 13TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/15/2019 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/29/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/29/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/17/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/12/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343856 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/15/2019 **Time:** 1520

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/29/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/29/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/17/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/12/2019	10/30/2019		Logged

SAMPLE #: 343858 **DESCR:** 49EQB-48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/16/2019 **Time:** 1020

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/30/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/30/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/18/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/13/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343860 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/16/2019 **Time:** 1220

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/30/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/30/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/18/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/13/2019	10/30/2019		Logged

SAMPLE #: 343862 **DESCR:** 48TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/16/2019 **Time:** 1220

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/30/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/30/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/18/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/13/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343864 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/16/2019 **Time:** 1350

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/30/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/30/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/18/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/13/2019	10/30/2019		Logged

SAMPLE #: 343866 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/16/2019 **Time:** 1625

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/30/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/30/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/18/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/13/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343868 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/17/2019 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/31/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/31/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/19/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/14/2019	10/30/2019		Logged

SAMPLE #: 343870 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/17/2019 **Time:** 1315

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/31/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/31/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/19/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				11/14/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343872 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/17/2019 **Time:** 1450

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/31/2019	10/30/2019		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				10/31/2019	10/30/2019		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				10/19/2019	10/30/2019		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				11/14/2019	10/30/2019		Logged

SAMPLE #: 343878 **DESCR:** 49IDW **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/17/2019 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					10/30/2019		Logged
989	COD QSM	(EPA 410.4)				11/14/2019	10/30/2019		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				04/14/2020	10/30/2019		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				04/14/2020	10/30/2019		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				04/14/2020	10/30/2019		NeedPrep
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 343878 **DESCR:** 49IDW **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 10/17/2019 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0	(EPA 7470A)				11/14/2019	10/30/2019		NeedPrep

SAMPLE #: 344136 **DESCR:** TRIP BLANK **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 10/14/2019 **Time:** 0000

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)				10/28/2019	10/30/2019		Logged

Folder #: 148990 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

Invoice Number: 149631 **Preliminary Invoice Estimate:** $ 2,940.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	16	$ 12.00	0.00	$ 192.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	16	$ 12.00	0.00	$ 192.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	16	$ 12.00	0.00	$ 192.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.50	0.00	$ 3.50
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.00	0.00	$ 23.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	16	$ 16.00	0.00	$ 256.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	16	$ 16.00	0.00	$ 256.00

METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	16	$ 16.00	0.00	$ 256.00
ORGAN CARBON T QSM 5.0	GROUND WATER	16	$ 28.00	0.00	$ 448.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	16	$ 60.00	0.00	$ 960.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**27**	TOC
HNO3	**2**	HG,ICP,K,NA
MISC	**5**	SUB
UNPRES PL	**25**	Anions
VOA	**21**	TIC
VOA HCL	**94**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 148990
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 10/18/2019 16:16
Received Date / Time / By: 10/18/2019 12:10 JLS

Project Name: RADFORD AAP SWMU-49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 10/18/2019 16:00 JLS
Project #: PM: BMS

Coolers: 6407,6408,6205,5838
Custody Seals Present : **Y**

Temperature: <3.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EX[RESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 780319141885
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED ON ICE.

ONE CUSTODY SEAL WAS PRESENT AND INTACT ON EACH COOLER UPON RECEIPT - ALL WERE DATED 10/17/2019 & SIGNED.

A MAJORITY OF THE SAMPLES WERE RECEIVED PAST-HOLD FOR NITRATE. THE CLIENT ADVISED THE LAB TO PROCEED WITH THE ANALYSIS OF THE SAMPLES.

TWO TRIP BLANKS WERE RECEIVED BUT WERE NOT LISTED ON THE COC. THE TRIP BLANK WAS ADDED TO THE COC AND LOGGED FOR VOC ANALYSIS, PER THE BOTTLES RECEIVED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
343846 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
343846 48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 5			
343846 48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
343848 13MW2				
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 3			
343848 13MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC

	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	VOA HCL	1		/	GAS,VOC
	Total # of Containers of Type		(***VOA HCL***) = **15**		

343848 13MW2

H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type		(***H2SO4 PL***) = **3**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

343850 49MW04

UNPRES PL	1		/	Anions
Total # of Containers of Type		(***UNPRES PL***) = **1**		

343850 49MW04

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type		(***VOA HCL***) = **6**		

343850 49MW04

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type		(***H2SO4 PL***) = **1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

343852 13MW3

UNPRES PL	1		/	Anions
Total # of Containers of Type		(***UNPRES PL***) = **1**		

343852 13MW3

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type		(***VOA HCL***) = **6**		

343852 13MW3

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type		(***H2SO4 PL***) = **1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

343854 13TW3

UNPRES PL	1		/	Anions
Total # of Containers of Type		(***UNPRES PL***) = **1**		

343854 13TW3

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 6

343854 13TW3

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

343856 13MW4

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

343856 13MW4

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 6

343856 13MW4

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

343858 49EQB-48MW2

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

343858 49EQB-48MW2

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 6

343858 49EQB-48MW2

H2SO4 PL	1	Y	/	TOC

Total # of Containers of Type (*H2SO4 PL*) = 1

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

343860 48MW3

UNPRES PL	1		/	Anions

Total # of Containers of Type (*UNPRES PL*) = 1

343860 48MW3

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

Total # of Containers of Type (*VOA HCL*) = 6

343860 48MW3

		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
343862	48TW3				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
343862	48TW3				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) =**	**6**	
343862	48TW3				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
343864	49MW02				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
343864	49MW02				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) =**	**6**	
343864	49MW02				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
343866	48MW1				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
343866	48MW1				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) =**	**6**	
343866	48MW1				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description		Container Type	Cond. Code	pH OK?/Filtered?	Tests
343868	49MW01				

		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
343868	49MW01				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 6**		
343868	49MW01				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
343870 50MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
343870 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 6**		
343870 50MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
343872 48MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
343872 48MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 6**		
343872 48MW2				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
343878 49IDW				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
343878 49IDW				
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type	**(*HNO3*) = 1**		

148990

343878 49IDW

	UNPRES PL	1	/	pH
	Total # of Containers of Type	(***UNPRES PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
344136 TRIP BLANK				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	(***VOA HCL***) = **2**		

Condition Code	*Condition Description*
1	Sample Received OK

CT LABORATORIES

delivering more than data from your environmental analyses

ANALYTICAL RESULTS FOR:

ANTHONY PACE
WESTON SOLUTIONS, INC.
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

PROJECT SITE:	RFAAP SWMU-49; RADFORD, VA
DOD CONTRACT #:	
PROJECT #:	
SDG:	151051
FOLDERS:	(151051, 151081, & 151102)
PREPARED:	February 21, 2020
TOTAL # OF PAGES:	1370

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents

Section	Page
Cover Page	1
Table of Contents	2
Case Narrative and Summary of Detects (if applicable)	3
Data Qualifier Sheet	7
Sample Delivery Group Summary	9
QC Batch Cross Reference	10
VOC QC Summary Documents	13
VOC Sample Data Documents	134
VOC ICAL Documents	256
VOC CCV Documents	396
VOC QC Documents	438
VOC Logbook Documents	471
Metals CLP Forms Documents	512
Metals Raw Data Documents	570
Metals Logbook Documents	741
Inorganic CLP Forms Documents	1015
Inorganic Raw Data Documents	1127
Inorganic Logbook Documents	1224
Chain of Custody, PM Confirmation and Sample Condition Forms	1335

CT LABORATORIES

delivering more than data from your environmental analyses

Case Narrative

Client: Bering Sea Environmental
Project: RFAAP SWMU-49, Radford, VA
Sample Receipt Dates: 01/29/2020, 01/30/2020, & 01/31/2020
SDG #: *151051* (Folder #'s 151051, 151081, & 151102)

Nineteen water samples were received and analyzed for a variety of parameters, including: VOCs, Dissolved Gases, Metals, pH, COD, Anions, and TOC. Three Trip Blanks were included with the VOCs. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.1 requirements.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C (VOC) and RSK-175 (Dissolved Gases). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

VOC (8260C) Water Analysis

Analytical Run # 168571

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 168568

CCV1 had a high recovery outside specified criteria bromomethane. This compound was qualified with a "Z" flag in the associated samples.

The Matrix Spike (MS) for sample # 384096 had a high recovery for bromochloromethane. The Matrix Spike Duplicate (MSD) had a low recovery for trans-1,2-dichloroethene and a high recovery for 1,1-dichloroethene. The parent sample results for these compounds were qualified with an "M" flag.

Dissolved Gases (RSK-175) Analysis

Analytical Run # 168647

Sample #'s 384099 & 384615 had a pH>2. These samples were qualified with a "T" flag for being insufficiently preserved.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 168589

Selenium was detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The sample was reported and qualified with a "B" flag for selenium because the MB result was greater than $1/10^{th}$ of the sample result.

The MS and MSD for sample # 367579 had recoveries outside of acceptable limits for aluminum, iron, thallium, and vanadium. A Serial Dilution (L) was analyzed and was not applicable for thallium and vanadium because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). The L was not acceptable for iron because the result exceeded the Relative Percent Difference (RPD) limit. A Post Digestion Spike (PDS) was analyzed and was unacceptable for iron and thallium. The parent sample was reported and qualified with an "M" flag for the failing elements. The parent sample was reported and not qualified for aluminum because the L was acceptable.

The Duplicate (DUP) for sample # 384619 was not applicable for antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc because the parent sample results were less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

ICP Sodium & Potassium (6010C) Water Analysis

Analytical Run # 168516

All analytical results for this run met the method/project specified quality control criteria.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 168650

The DUP for sample # 384619 was not applicable for mercury because the parent sample result was less than five times the LOQ. An MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC), 9040C (pH), 410.4 (COD) and 9056A (Anions). All samples were analyzed within the holding time unless noted below. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Water Analysis

Analytical Run # 168488

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 168532

The MS and the MSD for sample # 384096 had a low recovery for sulfate. The parent sample result for this analyte was qualified with an “M” flag.

Analytical Run # 168553

All analytical results for this run met the method/project specified quality control criteria.

COD (410.4) Water Analysis

Analytical Run # 168727

The MS and the MSD for sample # 384619 had a high recovery. The parent sample result was qualified with an “M” flag.

pH (9040C) Water Analysis

Analytical Run # 168555

The DUP for sample # 384619 exceeded the precision limit (>0.1 S.U. difference). The parent sample result was qualified with a “Y” flag.

TOC (9060A) Water Analysis

Analytical Run # 168628

All analytical results for this run met the method/project specified quality control criteria.

CT LABORATORIES

delivering more than data from your environmental analyses

Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

CT LABORATORIES

delivering more than data from your environmental analyses

MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sample Delivery Group

151051

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name: RADFORD AAP SWMU 49
Project #:

	CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
1	383695	151051		TB-1	TRIP BLANK	01/28/2020	01/29/2020
2	383696	151051		48MW07	GROUND WATER	01/28/2020	01/29/2020
3	383697	151051		13MW5	GROUND WATER	01/28/2020	01/29/2020
4	383698	151051		13MW4	GROUND WATER	01/28/2020	01/29/2020
5	383699	151051		13MW3	GROUND WATER	01/28/2020	01/29/2020
6	383700	151051		13TW3	GROUND WATER	01/28/2020	01/29/2020
7	383701	151051		49MW04	GROUND WATER	01/28/2020	01/29/2020
8	384093	151081		TB-2	TRIP BLANK	01/29/2020	01/30/2020
9	384094	151081		48MW06	GROUND WATER	01/29/2020	01/30/2020
10	384095	151081		49MW05	GROUND WATER	01/29/2020	01/30/2020
11	384096	151081		13MW2	GROUND WATER	01/29/2020	01/30/2020
12	384097	151081		49MW03	GROUND WATER	01/29/2020	01/30/2020
13	384098	151081		49EQB-49MW03	GROUND WATER	01/29/2020	01/30/2020
14	384099	151081		49MW02	GROUND WATER	01/29/2020	01/30/2020
15	384609	151102		TB-3	TRIP BLANK	01/30/2020	01/31/2020
16	384610	151102		48MW1	GROUND WATER	01/30/2020	01/31/2020
17	384613	151102		49MW01	GROUND WATER	01/30/2020	01/31/2020
18	384614	151102		50MW02	GROUND WATER	01/30/2020	01/31/2020
19	384615	151102		48MW2	GROUND WATER	01/30/2020	01/31/2020
20	384616	151102		48MW3	GROUND WATER	01/30/2020	01/31/2020
21	384617	151102		48TW3	GROUND WATER	01/30/2020	01/31/2020
22	384619	151102		49IDW	GROUND WATER	01/30/2020	01/31/2020

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

QC Batch Cross Reference Summary

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name: RADFORD AAP SWMU 49
Project #:
Report Date: 02/21/2020
Date Received: 01/31/2020
SDG #: 151051

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
384619	pH	EPA 9040C	GROUND WATER		168555

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
384619	COD QSM	EPA 410.4	GROUND WATER	75455	168727

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
383696	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
383697	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
383698	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
383699	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
383700	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
383701	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
384094	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532
384095	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532
384096	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532
384097	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532
384098	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532
384099	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532
384610	Anions QSM 5.0	EPA 9056A	GROUND WATER		168553
384613	Anions QSM 5.0	EPA 9056A	GROUND WATER		168553
384614	Anions QSM 5.0	EPA 9056A	GROUND WATER		168553
384615	Anions QSM 5.0	EPA 9056A	GROUND WATER		168553
384616	Anions QSM 5.0	EPA 9056A	GROUND WATER		168553
384617	Anions QSM 5.0	EPA 9056A	GROUND WATER		168553
383699	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
383700	Anions QSM 5.0	EPA 9056A	GROUND WATER		168488
384094	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532
384095	Anions QSM 5.0	EPA 9056A	GROUND WATER		168532

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU 49
Project #:
SDG #: 151051

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
383696	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
383697	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
383698	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
383699	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
383700	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
383701	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384094	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384095	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384096	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384097	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384098	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384099	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384610	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384613	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384614	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384615	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384616	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628
384617	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		168628

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
384619	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	75378	168590

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
384619	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	75378	168590

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
384619	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	75378	168589

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
384619	Mercury, Total QSM	EPA 7470A	GROUND WATER	75377	168650

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
383695	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		168568
383696	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
383697	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU 49
Project #:
SDG #: 151051

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
383698	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
383699	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
383700	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
383701	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
384093	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		168568
384094	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
384095	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
384096	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
384097	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
384098	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
384099	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168568
384609	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		168571
384610	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168571
384613	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168571
384614	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168571
384615	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168571
384616	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168571
384617	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		168571

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
383696	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
383697	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
383698	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
383699	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
383700	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
383701	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384094	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384095	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384096	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384097	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384098	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384099	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384610	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384613	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384614	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384615	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384616	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647
384617	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	75417	168647

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:27	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U M	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U M	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U M	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384096
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	4.6		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.41	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383699
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.79	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 08:58	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383698
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.83	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 08:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383697
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 12:03	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	4.6		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.38	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383700
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.72	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:16	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	1.3		0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	2.3		0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384094
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 08:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383696
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:34	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.32	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.86	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.76	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384610
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.7		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U T	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U T	0.50	1.0	1.1	1.1
74-82-8	Methane	1.3	T	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	21		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	3.5		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384615
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.71	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	78		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	13		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384616
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:22	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.65	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	73		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	13		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384617
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 16:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	14		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.51	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384098
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:06	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	2.5		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.38	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384613
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 14:43	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U T	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U T	0.50	1.0	1.1	1.1
74-82-8	Methane	0.88	T	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 16:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 16:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384099
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 16:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384097
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:10	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383701
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 13:57	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 09:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description: **49MW05**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384095
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 14:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:10	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	1.1		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	GROUND WATER	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384614
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 15:13	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.3		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383695
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383695
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	383695
% Solids:		Date Received:	01/29/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:08	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384093
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384093
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384093
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168568	Dilution Factor:	1.00
Date & Time Analyzed:	02/06/2020 / 10:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384609
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384609
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	TRIP BLANK	SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	384609
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	168571	Dilution Factor:	1.00
Date & Time Analyzed:	02/05/2020 / 10:14	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

METHOD BLANK

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:		SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	385671
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	168571	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	02/05/2020	09:45	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
79-00-5	1,1,2-Trichloroethane	02/05/2020	09:45	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
75-35-4	1,1-Dichloroethene	02/05/2020	09:45	0.4	U	0.4	2.0	***1.0***
87-61-6	1,2,3-Trichlorobenzene	02/05/2020	09:45	0.23	U	0.23	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	02/05/2020	09:45	0.28	U	0.28	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	02/05/2020	09:45	0.25	U	0.25	1.00	***0.50***
106-93-4	1,2-Dibromoethane	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
107-06-2	1,2-Dichloroethane	02/05/2020	09:45	0.24	U	0.24	1.00	***0.50***
78-87-5	1,2-Dichloropropane	02/05/2020	09:45	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	02/05/2020	09:45	0.26	U	0.26	1.00	***0.50***
123-91-1	1,4-Dioxane	02/05/2020	09:45	34	U	34	100	***50***
78-93-3	2-Butanone	02/05/2020	09:45	2.6	U	2.6	10.0	***5.0***
591-78-6	2-Hexanone	02/05/2020	09:45	3	U	3	10	***5***
108-10-1	4-Methyl-2-pentanone	02/05/2020	09:45	2.2	U	2.2	10.0	***5.0***
67-64-1	Acetone	02/05/2020	09:45	4	U	4	20	***10***
71-43-2	Benzene	02/05/2020	09:45	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
75-27-4	Bromodichloromethane	02/05/2020	09:45	0.29	U	0.29	1.00	***0.50***
75-25-2	Bromoform	02/05/2020	09:45	0.4	U	0.4	2.0	***1.0***
74-83-9	Bromomethane	02/05/2020	09:45	0.9	U	0.9	4.0	***2.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:		SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	385671
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	168571	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
75-15-0	Carbon disulfide	02/05/2020	09:45	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
108-90-7	Chlorobenzene	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
75-00-3	Chloroethane	02/05/2020	09:45	0.5	U	0.5	2.0	***1.0***
67-66-3	Chloroform	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	02/05/2020	09:45	0.6	U	0.6	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	02/05/2020	09:45	0.3	U	0.3	1.00	***0.5***
10061-01-5	cis-1,3-Dichloropropene	02/05/2020	09:45	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
124-48-1	Dibromochloromethane	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
75-71-8	Dichlorodifluoromethane	02/05/2020	09:45	0.4	U	0.4	2.0	***1.0***
100-41-4	Ethylbenzene	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
76-13-1	Freon 113	02/05/2020	09:45	0.7	U	0.7	4.0	***2.0***
98-82-8	Isopropylbenzene	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
179601-23-1	m & p-Xylene	02/05/2020	09:45	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	02/05/2020	09:45	0.5	U	0.5	2.0	***1.0***
1634-04-4	Methyl tert-butyl ether	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
108-87-2	Methylcyclohexane	02/05/2020	09:45	0.26	U	0.26	1.00	***0.50***
75-09-2	Methylene chloride	02/05/2020	09:45	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	02/05/2020	09:45	0.26	U	0.26	1.00	***0.50***
100-42-5	Styrene	02/05/2020	09:45	0.29	U	0.29	1.00	***0.50***
127-18-4	Tetrachloroethene	02/05/2020	09:45	0.27	U	0.27	1.00	***0.50***
108-88-3	Toluene	02/05/2020	09:45	0.21	U	0.21	1.00	***0.50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:		SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	385671
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	168571	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020420.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
156-60-5	trans-1,2-Dichloroethene	02/05/2020	09:45	0.3	U	0.3	1.0	***0.50***
10061-02-6	trans-1,3-Dichloropropene	02/05/2020	09:45	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	02/05/2020	09:45	0.3	U	0.3	1.0	***0.5***
75-69-4	Trichlorofluoromethane	02/05/2020	09:45	0.4	U	0.4	2.0	***1.0***
75-01-4	Vinyl chloride	02/05/2020	09:45	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:		SDG No.:	151051
Sample wt/vol:	23.6 (g/mL)	CTL Sample ID:	385850
% Solids:		Date Received:	01/31/2020
Soil Extract Vol:	23.6 (mL)	Date/Time Prepared:	02/06/2020 / 07:59
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	75417
Analytical Run #:	168647	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	02/06/2020	08:46	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	02/06/2020	08:46	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	02/06/2020	08:46	0.3	U	0.3	0.7	***0.4***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:		SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	385929
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	168568	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	02/06/2020	09:11	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
79-00-5	1,1,2-Trichloroethane	02/06/2020	09:11	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
75-35-4	1,1-Dichloroethene	02/06/2020	09:11	0.4	U	0.4	2.0	***1.0***
87-61-6	1,2,3-Trichlorobenzene	02/06/2020	09:11	0.23	U	0.23	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	02/06/2020	09:11	0.28	U	0.28	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	02/06/2020	09:11	0.25	U	0.25	1.00	***0.50***
106-93-4	1,2-Dibromoethane	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
107-06-2	1,2-Dichloroethane	02/06/2020	09:11	0.24	U	0.24	1.00	***0.50***
78-87-5	1,2-Dichloropropane	02/06/2020	09:11	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	02/06/2020	09:11	0.26	U	0.26	1.00	***0.50***
123-91-1	1,4-Dioxane	02/06/2020	09:11	34	U	34	100	***50***
78-93-3	2-Butanone	02/06/2020	09:11	2.6	U	2.6	10.0	***5.0***
591-78-6	2-Hexanone	02/06/2020	09:11	3	U	3	10	***5***
108-10-1	4-Methyl-2-pentanone	02/06/2020	09:11	2.2	U	2.2	10.0	***5.0***
67-64-1	Acetone	02/06/2020	09:11	4	U	4	20	***10***
71-43-2	Benzene	02/06/2020	09:11	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
75-27-4	Bromodichloromethane	02/06/2020	09:11	0.29	U	0.29	1.00	***0.50***
75-25-2	Bromoform	02/06/2020	09:11	0.4	U	0.4	2.0	***1.0***
74-83-9	Bromomethane	02/06/2020	09:11	0.9	U	0.9	4.0	***2.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **METHOD BLANK**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:		SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	385929
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	168568	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
75-15-0	Carbon disulfide	02/06/2020	09:11	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
108-90-7	Chlorobenzene	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
75-00-3	Chloroethane	02/06/2020	09:11	0.5	U	0.5	2.0	***1.0***
67-66-3	Chloroform	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	02/06/2020	09:11	0.6	U	0.6	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	02/06/2020	09:11	0.3	U	0.3	1.00	***0.5***
10061-01-5	cis-1,3-Dichloropropene	02/06/2020	09:11	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
124-48-1	Dibromochloromethane	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
75-71-8	Dichlorodifluoromethane	02/06/2020	09:11	0.4	U	0.4	2.0	***1.0***
100-41-4	Ethylbenzene	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
76-13-1	Freon 113	02/06/2020	09:11	0.7	U	0.7	4.0	***2.0***
98-82-8	Isopropylbenzene	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
179601-23-1	m & p-Xylene	02/06/2020	09:11	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	02/06/2020	09:11	0.5	U	0.5	2.0	***1.0***
1634-04-4	Methyl tert-butyl ether	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
108-87-2	Methylcyclohexane	02/06/2020	09:11	0.26	U	0.26	1.00	***0.50***
75-09-2	Methylene chloride	02/06/2020	09:11	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	02/06/2020	09:11	0.26	U	0.26	1.00	***0.50***
100-42-5	Styrene	02/06/2020	09:11	0.29	U	0.29	1.00	***0.50***
127-18-4	Tetrachloroethene	02/06/2020	09:11	0.27	U	0.27	1.00	***0.50***
108-88-3	Toluene	02/06/2020	09:11	0.21	U	0.21	1.00	***0.50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:		SDG No.:	151051
Sample wt/vol:	(g/mL)	CTL Sample ID:	385929
% Solids:		Date Received:	01/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	168568	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W020520.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
156-60-5	trans-1,2-Dichloroethene	02/06/2020	09:11	0.3	U	0.3	1.0	***0.50***
10061-02-6	trans-1,3-Dichloropropene	02/06/2020	09:11	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	02/06/2020	09:11	0.3	U	0.3	1.0	***0.5***
75-69-4	Trichlorofluoromethane	02/06/2020	09:11	0.4	U	0.4	2.0	***1.0***
75-01-4	Vinyl chloride	02/06/2020	09:11	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Analytical Method:	EPA 8260C	SDG:	151051
Analytical Run #:	168568	ICAL Calibration #:	W020520.

CTLab #	383695				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	102	80	119	
CTLab #	**383696**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**383697**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**383698**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**383699**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**383700**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	100	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Analytical Method: EPA 8260C | SDG: 151051

Analytical Run #: 168568 | ICAL Calibration #: W020520.

CTLab #	383701				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	103	80	119	

CTLab #	384093				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	104	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	384094				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	384095				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	97	85	114	
d8-Toluene	100	104	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	384096				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	384097				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	96	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	101	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Analytical Method:	EPA 8260C	SDG:	151051
Analytical Run #:	168568	ICAL Calibration #:	W020520.

CTLab #	384098				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	106	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	384099				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	94	85	114	
d8-Toluene	100	104	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	385865	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	385869	Sample Type:	Continuing Calibration Verification		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	70	120	
Bromofluorobenzene	100	99.0	70	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	100	85	115	

CTLab #	385929	Sample Type:	Method Blank		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	70	120	
Bromofluorobenzene	100	98.0	75	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	100	85	115	

CTLab #	386137	Sample Type:	Continuing Calibration Verification		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	109	50	150	
Bromofluorobenzene	100	96.0	50	150	
d8-Toluene	100	105	50	150	
Dibromofluoromethane	100	102	50	150	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Analytical Method:	EPA 8260C	SDG:	151051
Analytical Run #:	168568	ICAL Calibration #:	W020520.

CTLab #	386138	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	96.0	85	114	
d8-Toluene	100	104	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	386139	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97.0	81	118	
Bromofluorobenzene	100	96.0	85	114	
d8-Toluene	100	103	89	112	
Dibromofluoromethane	100	103	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Analytical Method: EPA 8260C | SDG: 151051

Analytical Run #: 168571 | ICAL Calibration #: W020420.

CTLab #	384609				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**384610**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	95	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	97	89	112	
Dibromofluoromethane	100	97	80	119	
CTLab #	**384613**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**384614**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**384615**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**384616**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	97	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Analytical Method:	EPA 8260C	SDG:	151051
Analytical Run #:	168571	ICAL Calibration #:	W020420.

CTLab #	384617				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	
CTLab #	**385671**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	87.0	70	120	
Bromofluorobenzene	100	105	75	120	
d8-Toluene	100	97.0	85	120	
Dibromofluoromethane	100	93.0	85	115	
CTLab #	**385672**	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**385677**	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	70	120	
Bromofluorobenzene	100	103	70	120	
d8-Toluene	100	101	85	120	
Dibromofluoromethane	100	101	85	115	
CTLab #	**385801**	Sample Type:		Lab Control Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	98.0	80	119	
CTLab #	**385802**	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	50	150	
Bromofluorobenzene	100	100	50	150	
d8-Toluene	100	101	50	150	
Dibromofluoromethane	100	98.0	50	150	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: GROUND WATER
SDG No.: 151051
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 168568
Sample No.: 386138
Parent Sample No.: 384096
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W020520.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	02/06/2020	18:14	74-131	12.7	BDL	10.0	127	
1,1,2,2-Tetrachloroethane	02/06/2020	18:14	71-121	10.3	BDL	10.0	103	
1,1,2-Trichloroethane	02/06/2020	18:14	80-119	11.7	BDL	10.0	117	
1,1-Dichloroethane	02/06/2020	18:14	77-125	11.4	BDL	10.0	114	
1,1-Dichloroethene	02/06/2020	18:14	71-131	13.1	BDL	10.0	131	
1,2,3-Trichlorobenzene	02/06/2020	18:14	69-129	11.4	BDL	10.0	114	
1,2,4-Trichlorobenzene	02/06/2020	18:14	69-130	11.5	BDL	10.0	115	
1,2-Dibromo-3-chloropropane	02/06/2020	18:14	62-128	9.89	BDL	10.0	99	
1,2-Dibromoethane	02/06/2020	18:14	77-121	10.7	BDL	10.0	107	
1,2-Dichlorobenzene	02/06/2020	18:14	80-119	11.0	BDL	10.0	110	
1,2-Dichloroethane	02/06/2020	18:14	73-128	11.7	BDL	10.0	117	
1,2-Dichloropropane	02/06/2020	18:14	78-122	11.7	BDL	10.0	117	
1,3-Dichlorobenzene	02/06/2020	18:14	80-119	11.0	BDL	10.0	110	
1,4-Dioxane	02/06/2020	18:14	59-139	541	BDL	500	108	
2-Butanone	02/06/2020	18:14	56-143	104	BDL	100	104	
2-Hexanone	02/06/2020	18:14	57-139	101	BDL	100	101	
4-Methyl-2-pentanone	02/06/2020	18:14	67-130	110	BDL	100	110	
Acetone	02/06/2020	18:14	39-160	89.0	BDL	100	89	
Benzene	02/06/2020	18:14	79-120	11.7	BDL	10.0	117	
Bromochloromethane	02/06/2020	18:14	78-123	12.4	BDL	10.0	124	*FAIL*
Bromodichloromethane	02/06/2020	18:14	79-125	11.4	BDL	10.0	114	
Bromoform	02/06/2020	18:14	66-130	9.17	BDL	10.0	92	
Bromomethane	02/06/2020	18:14	53-141	13.7	BDL	10.0	137	
Carbon disulfide	02/06/2020	18:14	64-133	23.8	BDL	20.0	119	
Carbon tetrachloride	02/06/2020	18:14	72-136	13.3	BDL	10.0	133	
Chlorobenzene	02/06/2020	18:14	82-118	11.8	BDL	10.0	118	
Chloroethane	02/06/2020	18:14	60-138	12.2	BDL	10.0	122	
Chloroform	02/06/2020	18:14	79-124	11.8	BDL	10.0	118	
Chloromethane	02/06/2020	18:14	50-139	10.5	BDL	10.0	105	
cis-1,2-Dichloroethene	02/06/2020	18:14	78-123	11.8	BDL	10.0	118	
cis-1,3-Dichloropropene	02/06/2020	18:14	75-124	11.4	BDL	10.0	114	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: GROUND WATER
SDG No.: 151051
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 168568
Sample No.: 386138
Parent Sample No.: 384096
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W020520.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Cyclohexane	02/06/2020	18:14	71-130	12.3	BDL	10.0	123
Dibromochloromethane	02/06/2020	18:14	74-126	10.2	BDL	10.0	102
Dichlorodifluoromethane	02/06/2020	18:14	32-152	11.4	BDL	10.0	114
Ethylbenzene	02/06/2020	18:14	79-121	11.7	BDL	10.0	117
Freon 113	02/06/2020	18:14	70-136	24.4	BDL	20.0	122
Isopropylbenzene	02/06/2020	18:14	72-131	12.1	BDL	10.0	121
m & p-Xylene	02/06/2020	18:14	80-121	23.4	BDL	20.0	117
Methyl Acetate	02/06/2020	18:14	56-136	8.71	BDL	10.0	87
Methyl tert-butyl ether	02/06/2020	18:14	71-124	10.2	BDL	10.0	102
Methylcyclohexane	02/06/2020	18:14	72-132	13.2	BDL	10.0	132
Methylene chloride	02/06/2020	18:14	74-124	11.8	BDL	10.0	118
o-Xylene	02/06/2020	18:14	78-122	11.5	BDL	10.0	115
Styrene	02/06/2020	18:14	78-123	11.4	BDL	10.0	114
Tetrachloroethene	02/06/2020	18:14	74-129	12.8	BDL	10.0	128
Toluene	02/06/2020	18:14	80-121	12.0	BDL	10.0	120
trans-1,2-Dichloroethene	02/06/2020	18:14	75-124	12.2	BDL	10.0	122
trans-1,3-Dichloropropene	02/06/2020	18:14	73-127	11.2	BDL	10.0	112
Trichloroethene	02/06/2020	18:14	79-123	11.9	BDL	10.0	119
Trichlorofluoromethane	02/06/2020	18:14	65-141	13.4	BDL	10.0	134
Vinyl chloride	02/06/2020	18:14	58-137	12.6	BDL	10.0	126

Spike Recovery: 1 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: GROUND WATER SDG No.: 151051

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 168647 Sample No.: 385853 Parent Sample No.: 384096

Analytical Prep Batch #: 75417 Analytical Preparation Date/Time: 02/06/2020 07:59

ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	02/06/2020	09:32	74-131	4.19	BDL	4.79	87
Ethene	02/06/2020	09:32	72-133	5.96	BDL	6.81	88
Methane	02/06/2020	09:32	73-125	1.96	BDL	2.30	85

Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: GROUND WATER SDG No.: 151051

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 168568 Sample No.: 386139 Parent Sample No.: 386138

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W020520.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,1,1-Trichloroethane	02/06/2020	18:43	12.7	10.0	127	0	74-131	20	
1,1,2,2-Tetrachloroethane	02/06/2020	18:43	10.5	10.0	105	2	71-121	20	
1,1,2-Trichloroethane	02/06/2020	18:43	11.3	10.0	113	4	80-119	20	
1,1-Dichloroethane	02/06/2020	18:43	11.6	10.0	116	1	77-125	20	
1,1-Dichloroethene	02/06/2020	18:43	13.2	10.0	132	1	71-131	20	*FAIL*
1,2,3-Trichlorobenzene	02/06/2020	18:43	11.3	10.0	113	1	69-129	20	
1,2,4-Trichlorobenzene	02/06/2020	18:43	11.5	10.0	115	0	69-130	20	
1,2-Dibromo-3-chloropropane	02/06/2020	18:43	10.3	10.0	103	4	62-128	20	
1,2-Dibromoethane	02/06/2020	18:43	10.6	10.0	106	0	77-121	20	
1,2-Dichlorobenzene	02/06/2020	18:43	11.0	10.0	110	0	80-119	20	
1,2-Dichloroethane	02/06/2020	18:43	11.8	10.0	118	1	73-128	20	
1,2-Dichloropropane	02/06/2020	18:43	11.5	10.0	115	1	78-122	20	
1,3-Dichlorobenzene	02/06/2020	18:43	11.3	10.0	113	2	80-119	20	
1,4-Dioxane	02/06/2020	18:43	525	500	105	3	59-139	20	
2-Butanone	02/06/2020	18:43	106	100	106	2	56-143	20	
2-Hexanone	02/06/2020	18:43	101	100	101	0	57-139	20	
4-Methyl-2-pentanone	02/06/2020	18:43	111	100	111	0	67-130	20	
Acetone	02/06/2020	18:43	91.4	100	91	3	39-160	20	
Benzene	02/06/2020	18:43	11.6	10.0	116	0	79-120	20	
Bromochloromethane	02/06/2020	18:43	12.1	10.0	121	2	78-123	20	
Bromodichloromethane	02/06/2020	18:43	11.2	10.0	112	2	79-125	20	
Bromoform	02/06/2020	18:43	9.68	10.0	97	5	66-130	20	
Bromomethane	02/06/2020	18:43	13.3	10.0	133	3	53-141	20	
Carbon disulfide	02/06/2020	18:43	24.3	20.0	122	2	64-133	20	
Carbon tetrachloride	02/06/2020	18:43	13.6	10.0	136	2	72-136	20	
Chlorobenzene	02/06/2020	18:43	11.3	10.0	113	4	82-118	20	
Chloroethane	02/06/2020	18:43	12.3	10.0	123	1	60-138	20	
Chloroform	02/06/2020	18:43	11.8	10.0	118	0	79-124	20	
Chloromethane	02/06/2020	18:43	11.3	10.0	113	7	50-139	20	
cis-1,2-Dichloroethene	02/06/2020	18:43	11.7	10.0	117	1	78-123	20	
cis-1,3-Dichloropropene	02/06/2020	18:43	11.4	10.0	114	0	75-124	20	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: GROUND WATER SDG No.: 151051

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 168568 Sample No.: 386139 Parent Sample No.: 386138

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W020520.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
Cyclohexane	02/06/2020	18:43	12.4	10.0	124	1	71-130	20	
Dibromochloromethane	02/06/2020	18:43	10.2	10.0	102	1	74-126	20	
Dichlorodifluoromethane	02/06/2020	18:43	11.5	10.0	115	1	32-152	20	
Ethylbenzene	02/06/2020	18:43	11.7	10.0	117	0	79-121	20	
Freon 113	02/06/2020	18:43	24.7	20.0	124	1	70-136	20	
Isopropylbenzene	02/06/2020	18:43	12.0	10.0	120	1	72-131	20	
m & p-Xylene	02/06/2020	18:43	23.2	20.0	116	1	80-121	20	
Methyl Acetate	02/06/2020	18:43	9.31	10.0	93	7	56-136	20	
Methyl tert-butyl ether	02/06/2020	18:43	10.7	10.0	107	4	71-124	20	
Methylcyclohexane	02/06/2020	18:43	12.9	10.0	129	2	72-132	20	
Methylene chloride	02/06/2020	18:43	11.7	10.0	117	1	74-124	20	
o-Xylene	02/06/2020	18:43	11.5	10.0	115	0	78-122	20	
Styrene	02/06/2020	18:43	11.5	10.0	115	1	78-123	20	
Tetrachloroethene	02/06/2020	18:43	12.8	10.0	128	0	74-129	20	
Toluene	02/06/2020	18:43	12.0	10.0	120	1	80-121	20	
trans-1,2-Dichloroethene	02/06/2020	18:43	12.5	10.0	125	2	75-124	20	*FAIL*
trans-1,3-Dichloropropene	02/06/2020	18:43	11.4	10.0	114	1	73-127	20	
Trichloroethene	02/06/2020	18:43	12.0	10.0	120	1	79-123	20	
Trichlorofluoromethane	02/06/2020	18:43	13.4	10.0	134	0	65-141	20	
Vinyl chloride	02/06/2020	18:43	12.7	10.0	127	1	58-137	20	

RPD or Spike Recovery: 2 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: GROUND WATER SDG No.: 151051

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 168647 Sample No.: 385854 Parent Sample No.: 385853

Analytical Prep Batch #: 75417 Analytical Preparation Date/Time: 02/06/2020 07:59

ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	02/06/2020	09:36	4.24	4.79	89	1	74-131	30
Ethene	02/06/2020	09:36	5.98	6.81	88	0	72-133	30
Methane	02/06/2020	09:36	1.96	2.30	85	1	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample No.: 385672
SDG No.: 151051
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 385672
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 168571
ICAL Calibration #: W020420.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	02/05/2020	08:45	74-131	11.0		10.0	110
1,1,2,2-Tetrachloroethane	02/05/2020	08:45	71-121	10.1		10.0	101
1,1,2-Trichloroethane	02/05/2020	08:45	80-119	9.95		10.0	100
1,1-Dichloroethane	02/05/2020	08:45	77-125	10.5		10.0	105
1,1-Dichloroethene	02/05/2020	08:45	71-131	11.1		10.0	111
1,2,3-Trichlorobenzene	02/05/2020	08:45	69-129	10.2		10.0	102
1,2,4-Trichlorobenzene	02/05/2020	08:45	69-130	9.87		10.0	99
1,2-Dibromo-3-chloropropane	02/05/2020	08:45	62-128	9.42		10.0	94
1,2-Dibromoethane	02/05/2020	08:45	77-121	9.73		10.0	97
1,2-Dichlorobenzene	02/05/2020	08:45	80-119	10.1		10.0	101
1,2-Dichloroethane	02/05/2020	08:45	73-128	10.1		10.0	101
1,2-Dichloropropane	02/05/2020	08:45	78-122	10.2		10.0	102
1,3-Dichlorobenzene	02/05/2020	08:45	80-119	10.1		10.0	101
1,4-Dioxane	02/05/2020	08:45	59-139	594		500	119
2-Butanone	02/05/2020	08:45	56-143	103		100	103
2-Hexanone	02/05/2020	08:45	57-139	102		100	102
4-Methyl-2-pentanone	02/05/2020	08:45	67-130	99.5		100	100
Acetone	02/05/2020	08:45	39-160	108		100	108
Benzene	02/05/2020	08:45	79-120	10.6		10.0	106
Bromochloromethane	02/05/2020	08:45	78-123	9.79		10.0	98
Bromodichloromethane	02/05/2020	08:45	79-125	9.63		10.0	96
Bromoform	02/05/2020	08:45	66-130	9.63		10.0	96
Bromomethane	02/05/2020	08:45	53-141	10.9		10.0	109
Carbon disulfide	02/05/2020	08:45	64-133	21.7		20.0	108
Carbon tetrachloride	02/05/2020	08:45	72-136	11.2		10.0	112
Chlorobenzene	02/05/2020	08:45	82-118	9.78		10.0	98
Chloroethane	02/05/2020	08:45	60-138	11.1		10.0	111
Chloroform	02/05/2020	08:45	79-124	10.3		10.0	103

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Sample No.: 385672

SDG No.: 151051

Analytical Method: EPA 8260C

Concentration Units: ug/L

Sample No.: 385672

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 168571

ICAL Calibration #: W020420.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloromethane	02/05/2020	08:45	50-139	10.5		10.0	105
cis-1,2-Dichloroethene	02/05/2020	08:45	78-123	10.3		10.0	103
cis-1,3-Dichloropropene	02/05/2020	08:45	75-124	10.2		10.0	102
Cyclohexane	02/05/2020	08:45	71-130	11.7		10.0	117
Dibromochloromethane	02/05/2020	08:45	74-126	10.0		10.0	100
Dichlorodifluoromethane	02/05/2020	08:45	32-152	11.7		10.0	117
Ethylbenzene	02/05/2020	08:45	79-121	10.9		10.0	109
Freon 113	02/05/2020	08:45	70-136	24.0		20.0	120
Isopropylbenzene	02/05/2020	08:45	72-131	11.1		10.0	111
m & p-Xylene	02/05/2020	08:45	80-121	20.8		20.0	104
Methyl Acetate	02/05/2020	08:45	56-136	10.2		10.0	102
Methyl tert-butyl ether	02/05/2020	08:45	71-124	10.0		10.0	100
Methylcyclohexane	02/05/2020	08:45	72-132	11.8		10.0	118
Methylene chloride	02/05/2020	08:45	74-124	9.76		10.0	98
o-Xylene	02/05/2020	08:45	78-122	10.5		10.0	105
Styrene	02/05/2020	08:45	78-123	10.6		10.0	106
Tetrachloroethene	02/05/2020	08:45	74-129	10.5		10.0	105
Toluene	02/05/2020	08:45	80-121	10.3		10.0	103
trans-1,2-Dichloroethene	02/05/2020	08:45	75-124	10.3		10.0	103
trans-1,3-Dichloropropene	02/05/2020	08:45	73-127	9.97		10.0	100
Trichloroethene	02/05/2020	08:45	79-123	10.5		10.0	105
Trichlorofluoromethane	02/05/2020	08:45	65-141	11.6		10.0	116
Vinyl chloride	02/05/2020	08:45	58-137	11.3		10.0	113

Spike Recovery: 0 out of 51 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample No.: 385851
SDG No.: 151051
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 385851
Parent Sample No.: 0
Analytical Prep Batch #: 75417
Analytical Preparation Date/Time: 02/06/2020 07:59
Analytical Run #: 168647
ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	02/06/2020	08:42	74-131	4.78		4.79	100
Ethene	02/06/2020	08:42	72-133	6.71		6.81	99
Methane	02/06/2020	08:42	73-125	2.24		2.30	97

Spike Recovery: 0 out of 3 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample No.: 385865
SDG No.: 151051
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 385865
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 168568
ICAL Calibration #: W020520.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	02/06/2020	08:14	74-131	10.1		10.0	101
1,1,2,2-Tetrachloroethane	02/06/2020	08:14	71-121	9.57		10.0	96
1,1,2-Trichloroethane	02/06/2020	08:14	80-119	9.27		10.0	93
1,1-Dichloroethane	02/06/2020	08:14	77-125	9.66		10.0	97
1,1-Dichloroethene	02/06/2020	08:14	71-131	10.6		10.0	106
1,2,3-Trichlorobenzene	02/06/2020	08:14	69-129	9.60		10.0	96
1,2,4-Trichlorobenzene	02/06/2020	08:14	69-130	9.67		10.0	97
1,2-Dibromo-3-chloropropane	02/06/2020	08:14	62-128	9.86		10.0	99
1,2-Dibromoethane	02/06/2020	08:14	77-121	9.61		10.0	96
1,2-Dichlorobenzene	02/06/2020	08:14	80-119	9.25		10.0	92
1,2-Dichloroethane	02/06/2020	08:14	73-128	9.81		10.0	98
1,2-Dichloropropane	02/06/2020	08:14	78-122	9.40		10.0	94
1,3-Dichlorobenzene	02/06/2020	08:14	80-119	9.58		10.0	96
1,4-Dioxane	02/06/2020	08:14	59-139	488		500	98
2-Butanone	02/06/2020	08:14	56-143	98.1		100	98
2-Hexanone	02/06/2020	08:14	57-139	99.1		100	99
4-Methyl-2-pentanone	02/06/2020	08:14	67-130	101		100	101
Acetone	02/06/2020	08:14	39-160	93.7		100	94
Benzene	02/06/2020	08:14	79-120	9.67		10.0	97
Bromochloromethane	02/06/2020	08:14	78-123	9.98		10.0	100
Bromodichloromethane	02/06/2020	08:14	79-125	9.48		10.0	95
Bromoform	02/06/2020	08:14	66-130	9.64		10.0	96
Bromomethane	02/06/2020	08:14	53-141	13.3		10.0	133
Carbon disulfide	02/06/2020	08:14	64-133	21.1		20.0	106
Carbon tetrachloride	02/06/2020	08:14	72-136	10.4		10.0	104
Chlorobenzene	02/06/2020	08:14	82-118	9.37		10.0	94
Chloroethane	02/06/2020	08:14	60-138	9.89		10.0	99
Chloroform	02/06/2020	08:14	79-124	9.78		10.0	98

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample No.: 385865
SDG No.: 151051
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 385865
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 168568
ICAL Calibration #: W020520.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloromethane	02/06/2020	08:14	50-139	9.33		10.0	93
cis-1,2-Dichloroethene	02/06/2020	08:14	78-123	10.1		10.0	101
cis-1,3-Dichloropropene	02/06/2020	08:14	75-124	9.61		10.0	96
Cyclohexane	02/06/2020	08:14	71-130	10.7		10.0	107
Dibromochloromethane	02/06/2020	08:14	74-126	9.46		10.0	95
Dichlorodifluoromethane	02/06/2020	08:14	32-152	9.86		10.0	99
Ethylbenzene	02/06/2020	08:14	79-121	9.96		10.0	100
Freon 113	02/06/2020	08:14	70-136	21.8		20.0	109
Isopropylbenzene	02/06/2020	08:14	72-131	9.97		10.0	100
m & p-Xylene	02/06/2020	08:14	80-121	19.3		20.0	96
Methyl Acetate	02/06/2020	08:14	56-136	9.44		10.0	94
Methyl tert-butyl ether	02/06/2020	08:14	71-124	9.67		10.0	97
Methylcyclohexane	02/06/2020	08:14	72-132	10.7		10.0	107
Methylene chloride	02/06/2020	08:14	74-124	9.36		10.0	94
o-Xylene	02/06/2020	08:14	78-122	9.60		10.0	96
Styrene	02/06/2020	08:14	78-123	9.43		10.0	94
Tetrachloroethene	02/06/2020	08:14	74-129	10.1		10.0	101
Toluene	02/06/2020	08:14	80-121	9.58		10.0	96
trans-1,2-Dichloroethene	02/06/2020	08:14	75-124	10.0		10.0	100
trans-1,3-Dichloropropene	02/06/2020	08:14	73-127	9.57		10.0	96
Trichloroethene	02/06/2020	08:14	79-123	9.67		10.0	97
Trichlorofluoromethane	02/06/2020	08:14	65-141	10.8		10.0	108
Vinyl chloride	02/06/2020	08:14	58-137	10.4		10.0	104

Spike Recovery: 0 out of 51 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE LAB CONTROL SAMPLE

Sample Description: **LCSD**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample No.: 385801
SDG No.: 151051
Analytical Method: EPA 8260C
Concentration Units: ug/L

Analytical Run #: 168571 Sample No.: 385801 Parent Sample No.: 385672
Analytical Prep Batch #: 0 Analytical Preparation Date/Time:
ICAL Calibration #: W020420.

Analyte	Analysis Date/Time	Spike Result	Parent Result	Spike Amount	%R	%RPD	Control Limit (%R)	Control Limit (%RPD)
1,1,1-Trichloroethane	02/05/2020 17:12	11.9	11.0	10.0	119	8	74-131	20
1,1,2,2-Tetrachloroethane	02/05/2020 17:12	10.3	10.1	10.0	103	2	71-121	20
1,1,2-Trichloroethane	02/05/2020 17:12	10.8	9.95	10.0	108	8	80-119	20
1,1-Dichloroethane	02/05/2020 17:12	11.7	10.5	10.0	117	11	77-125	20
1,1-Dichloroethene	02/05/2020 17:12	12.2	11.1	10.0	122	9	71-131	20
1,2,3-Trichlorobenzene	02/05/2020 17:12	11.1	10.2	10.0	111	8	69-129	20
1,2,4-Trichlorobenzene	02/05/2020 17:12	11.2	9.87	10.0	112	13	69-130	20
1,2-Dibromo-3-chloropropane	02/05/2020 17:12	9.97	9.42	10.0	100	6	62-128	20
1,2-Dibromoethane	02/05/2020 17:12	10.6	9.73	10.0	106	9	77-121	20
1,2-Dichlorobenzene	02/05/2020 17:12	11.4	10.1	10.0	114	12	80-119	20
1,2-Dichloroethane	02/05/2020 17:12	11.1	10.1	10.0	111	9	73-128	20
1,2-Dichloropropane	02/05/2020 17:12	11.4	10.2	10.0	114	11	78-122	20
1,3-Dichlorobenzene	02/05/2020 17:12	11.4	10.1	10.0	114	12	80-119	20
1,4-Dioxane	02/05/2020 17:12	511	594	500	102	15	59-139	20
2-Butanone	02/05/2020 17:12	108	103	100	108	5	56-143	20
2-Hexanone	02/05/2020 17:12	113	102	100	113	10	57-139	20
4-Methyl-2-pentanone	02/05/2020 17:12	113	99.5	100	113	13	67-130	20
Acetone	02/05/2020 17:12	114	108	100	114	5	39-160	20
Benzene	02/05/2020 17:12	11.9	10.6	10.0	119	12	79-120	20
Bromochloromethane	02/05/2020 17:12	11.0	9.79	10.0	110	12	78-123	20
Bromodichloromethane	02/05/2020 17:12	10.7	9.63	10.0	107	11	79-125	20
Bromoform	02/05/2020 17:12	9.41	9.63	10.0	94	2	66-130	20
Bromomethane	02/05/2020 17:12	11.0	10.9	10.0	110	1	53-141	20
Carbon disulfide	02/05/2020 17:12	23.1	21.7	20.0	116	6	64-133	20
Carbon tetrachloride	02/05/2020 17:12	12.2	11.2	10.0	122	9	72-136	20
Chlorobenzene	02/05/2020 17:12	10.9	9.78	10.0	109	11	82-118	20
Chloroethane	02/05/2020 17:12	11.9	11.1	10.0	119	7	60-138	20
Chloroform	02/05/2020 17:12	11.1	10.3	10.0	111	7	79-124	20

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE LAB CONTROL SAMPLE

Sample Description: **LCSD**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample No.: 385801
SDG No.: 151051
Analytical Method: EPA 8260C
Concentration Units: ug/L

Analytical Run #: 168571 Sample No.: 385801 Parent Sample No.: 385672
Analytical Prep Batch #: 0 Analytical Preparation Date/Time:
ICAL Calibration #: W020420.

Analyte	Analysis Date/Time		Spike Result	Parent Result	Spike Amount	%R	%RPD	Control Limit (%R)	Control Limit (%RPD)
Chloromethane	02/05/2020	17:12	11.8	10.5	10.0	118	12	50-139	20
cis-1,2-Dichloroethene	02/05/2020	17:12	11.0	10.3	10.0	110	7	78-123	20
cis-1,3-Dichloropropene	02/05/2020	17:12	10.6	10.2	10.0	106	4	75-124	20
Cyclohexane	02/05/2020	17:12	12.9	11.7	10.0	129	10	71-130	20
Dibromochloromethane	02/05/2020	17:12	10.5	10.0	10.0	105	5	74-126	20
Dichlorodifluoromethane	02/05/2020	17:12	12.3	11.7	10.0	123	5	32-152	20
Ethylbenzene	02/05/2020	17:12	11.9	10.9	10.0	119	9	79-121	20
Freon 113	02/05/2020	17:12	25.2	24.0	20.0	126	5	70-136	20
Isopropylbenzene	02/05/2020	17:12	12.0	11.1	10.0	120	8	72-131	20
m & p-Xylene	02/05/2020	17:12	23.1	20.8	20.0	116	10	80-121	20
Methyl Acetate	02/05/2020	17:12	10.5	10.2	10.0	105	3	56-136	20
Methyl tert-butyl ether	02/05/2020	17:12	10.7	10.0	10.0	107	7	71-124	20
Methylcyclohexane	02/05/2020	17:12	12.9	11.8	10.0	129	9	72-132	20
Methylene chloride	02/05/2020	17:12	10.7	9.76	10.0	107	9	74-124	20
o-Xylene	02/05/2020	17:12	11.2	10.5	10.0	112	6	78-122	20
Styrene	02/05/2020	17:12	11.8	10.6	10.0	118	11	78-123	20
Tetrachloroethene	02/05/2020	17:12	11.8	10.5	10.0	118	12	74-129	20
Toluene	02/05/2020	17:12	11.4	10.3	10.0	114	10	80-121	20
trans-1,2-Dichloroethene	02/05/2020	17:12	10.8	10.3	10.0	108	5	75-124	20
trans-1,3-Dichloropropene	02/05/2020	17:12	10.4	9.97	10.0	104	4	73-127	20
Trichloroethene	02/05/2020	17:12	11.7	10.5	10.0	117	11	79-123	20
Trichlorofluoromethane	02/05/2020	17:12	12.6	11.6	10.0	126	8	65-141	20
Vinyl chloride	02/05/2020	17:12	12.1	11.3	10.0	121	7	58-137	20

RPD or Spike Recovery: 0 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample ID:	385671	SDG No.:	151051
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	02/05/2020	Time Analyzed:	09:45
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	168571	Extraction Batch #:	0
		ICAL Calibration #:	W020420.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	386244	02/05/2020 08:00	
2	LCSW	385672	02/05/2020 08:45	W020420.
3	CCV	385677	02/05/2020 08:45	W020420.
4	MBW	385671	02/05/2020 09:45	W020420.
5	TB-3	384609	02/05/2020 10:14	W020420.
6	48MW1	384610	02/05/2020 14:13	W020420.
7	49MW01	384613	02/05/2020 14:43	W020420.
8	50MW02	384614	02/05/2020 15:13	W020420.
9	48MW2	384615	02/05/2020 15:43	W020420.
10	48MW3	384616	02/05/2020 16:13	W020420.
11	48TW3	384617	02/05/2020 16:43	W020420.
12	LCSDW	385801	02/05/2020 17:12	W020420.
13	CCVF	385802	02/05/2020 17:12	W020420.

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample ID:	385850	SDG No.:	151051
Matrix:	LIQUID	Date Extracted:	02/06/2020
Date Analyzed:	02/06/2020	Time Analyzed:	08:46
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	168647	Extraction Batch #:	75417
		ICAL Calibration #:	P4DG121319

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	385945	02/06/2020 08:38	P4DG121319
2	LCSW	385851	02/06/2020 08:42	P4DG121319
3	MBW	385850	02/06/2020 08:46	P4DG121319
4	48MW07	383696	02/06/2020 08:50	P4DG121319
5	13MW5	383697	02/06/2020 08:53	P4DG121319
6	13MW4	383698	02/06/2020 08:58	P4DG121319
7	13MW3	383699	02/06/2020 09:01	P4DG121319
8	13TW3	383700	02/06/2020 09:05	P4DG121319
9	49MW04	383701	02/06/2020 09:10	P4DG121319
10	48MW06	384094	02/06/2020 09:16	P4DG121319
11	49MW05	384095	02/06/2020 09:19	P4DG121319
12	13MW2	384096	02/06/2020 09:27	P4DG121319
13	13MW2MSW	385853	02/06/2020 09:32	P4DG121319
14	13MW2MSDW	385854	02/06/2020 09:36	P4DG121319
15	49MW03	384097	02/06/2020 09:40	P4DG121319
16	CCV	385946	02/06/2020 09:44	P4DG121319
17	49EQB-49MW03	384098	02/06/2020 09:53	P4DG121319
18	49MW02	384099	02/06/2020 09:57	P4DG121319
19	48MW1	384610	02/06/2020 10:00	P4DG121319
20	49MW01	384613	02/06/2020 10:06	P4DG121319
21	50MW02	384614	02/06/2020 10:10	P4DG121319
22	48MW2	384615	02/06/2020 10:14	P4DG121319
23	48MW3	384616	02/06/2020 10:17	P4DG121319
24	48TW3	384617	02/06/2020 10:22	P4DG121319
25	CCV	385947	02/06/2020 10:26	P4DG121319

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Sample ID:	385929	SDG No.:	151051
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	02/06/2020	Time Analyzed:	09:11
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	168568	Extraction Batch #:	0
		ICAL Calibration #:	W020520.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	385876	02/06/2020 07:32	
2	LCSW	385865	02/06/2020 08:14	W020520.
3	CCV	385869	02/06/2020 08:14	W020520.
4	MBW	385929	02/06/2020 09:11	W020520.
5	TB-1	383695	02/06/2020 10:08	W020520.
6	TB-2	384093	02/06/2020 10:37	W020520.
7	49EQB-49MW03	384098	02/06/2020 11:05	W020520.
8	48MW07	383696	02/06/2020 11:34	W020520.
9	13MW5	383697	02/06/2020 12:03	W020520.
10	13MW4	383698	02/06/2020 12:31	W020520.
11	13MW3	383699	02/06/2020 13:00	W020520.
12	13TW3	383700	02/06/2020 13:28	W020520.
13	49MW04	383701	02/06/2020 13:57	W020520.
14	48MW06	384094	02/06/2020 14:26	W020520.
15	49MW05	384095	02/06/2020 14:54	W020520.
16	13MW2	384096	02/06/2020 15:23	W020520.
17	49MW03	384097	02/06/2020 15:52	W020520.
18	49MW02	384099	02/06/2020 16:20	W020520.
19	13MW2MSW	386138	02/06/2020 18:14	W020520.
20	13MW2MSDW	386139	02/06/2020 18:43	W020520.
21	CCVF	386137	02/06/2020 19:11	W020520.

BFB

Data File : c:\instarch\data\feb0420b\BFB1.D Vial: 1
Acq On : 4 Feb 2020 14:44 Operator: RLD-DGS
Sample : 165564,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020420.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.675 to 4.681 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.8	19782	PASS
75	95	30	60	49.0	48997	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.9	6856	PASS
173	174	0.00	2	0.7	540	PASS
174	95	50	100	73.3	73250	PASS
175	174	5	9	8.1	5908	PASS
176	174	95	101	100.7	73795	PASS
177	176	5	9	6.6	4840	PASS

W020420.M Thu Feb 06 10:12:56 2020

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0420B\BFB1.D
Injection Date : 4 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 14:44 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\FEB0420B\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	4 Feb 2020	16:30
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0 mL P	4 Feb 2020	17:00
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0 mL Pu	4 Feb 2020	17:30
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0 mL Pu	4 Feb 2020	18:01
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0 mL P	4 Feb 2020	18:31
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0 mL P	4 Feb 2020	19:01
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0 mL P	4 Feb 2020	19:31
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0 mL P	4 Feb 2020	20:01
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0 mL P	4 Feb 2020	20:31
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.0/100 ug/L, 5.0 mL Pur	4 Feb 2020	21:30
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.0/300 ug/L, 5.0 mL Pur	4 Feb 2020	22:00
MB-ICB1	1.00	1.00	1.00	168564,MBW, pH<2, 5.0 mL DI H20 Purge	4 Feb 2020	23:28

8260 ISTD/SSTD 20ug/ml VOC0665
8260 BFB STD. 50ug/ml VOC0664
8260 ICV STD. 100ug/ml VOC0666
8260 CCV/CALIB. 100ug/ml VOC0667

BFB

Data File : C:\Instarch\Data\FEB0520\BFB1.D Vial: 1
Acq On : 5 Feb 2020 8:00 Operator: RLD-DGS
Sample : 168563,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020420.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.669 to 4.675 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	19643	PASS
75	95	30	60	49.9	49896	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	9.0	8986	PASS
173	174	0.00	2	1.2	822	PASS
174	95	50	100	66.3	66347	PASS
175	174	5	9	8.9	5905	PASS
176	174	95	101	97.0	64343	PASS
177	176	5	9	7.0	4488	PASS

W020420.M Thu Feb 06 08:09:16 2020

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0520\BFB1.D
Injection Date : 5 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 08:00 Total files within period : 19
Sample Directory : C:\INSTARCH\DATA\FEB0520\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	168563,LCSW, 10.0/100 ug/L, 5.0 mL Pur	5 Feb 2020	08:45
MB-ICB1	1.00	1.00	1.00	168563,MBW, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	09:45
384609	1.00	1.00	1.00	168571,384609, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	10:14
384610	1.00	1.00	1.00	168571,384610, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	14:13
384613	1.00	1.00	1.00	168571,384613, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	14:43
384614	1.00	1.00	1.00	168571,384614, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	15:13
384615	1.00	1.00	1.00	168571,384615, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	15:43
384616	1.00	1.00	1.00	168571,384616, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	16:13
384617	1.00	1.00	1.00	168571,384617, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	16:43
CCVF-L~1	1.00	1.00	1.00	168564,LCSDW, 10.0/100 ug/L, 5.0 mL Pur	5 Feb 2020	17:12

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL5.D Date Analyzed : 4 Feb 2020
Instrument ID : VMS3 Time Analyzed : 18:31
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1316503	7.72	956153	11.63	490968	14.93
UPPER LIMIT	2633006	8.22	1912306	12.13	981936	15.43
LOWER LIMIT	658252	7.22	478077	11.13	245484	14.43
File ID Sample						
384609 168571,38	1276092	7.72	936571	11.63	453817	14.93
384610 168571,38	1190374	7.72	860326	11.63	413952	14.93
384613 168571,38	1167850	7.72	853400	11.63	410484	14.93
384614 168571,38	1166895	7.72	845175	11.63	408609	14.93
384615 168571,38	1159222	7.72	846192	11.63	411516	14.93
384616 168571,38	981349	7.72	709200	11.63	336945	14.93
384617 168571,38	1034405	7.72	751538	11.63	362361	14.93
CCVF-L~1 168564,LC	1095282	7.72	809787	11.63	397599	14.93
CCV-LCS1 168563,LC	1370059	7.72	1006807	11.63	496845	14.93
MB-ICB1 168563,MB	826775	7.72	583276	11.63	269936	14.93

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

BFB

Data File : C:\Instarch\Data\FEB0520\BFB1.D Vial: 1
Acq On : 5 Feb 2020 12:11 Operator: RLD-DGS
Sample : BFB DIRECT INJ. Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020520.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.560 to 4.582 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.5	24915	PASS
75	95	30	60	45.7	58455	PASS
95	95	100	100	100.0	127903	PASS
96	95	5	9	7.0	8924	PASS
173	174	0.00	2	0.1	88	PASS
174	95	50	100	99.0	126590	PASS
175	174	5	9	7.8	9931	PASS
176	174	95	101	97.8	123857	PASS
177	176	5	9	7.0	8699	PASS

W020520.M Tue Feb 11 13:41:21 2020

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020520.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0520\BFB1.D
Injection Date : 5 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 12:11 Total files within period : 18
Sample Directory : C:\INSTARCH\DATA\FEB0520\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CALW1	1.00	1.00	1.00	CALIB. PT. 1 0.50/5.00 ug/L, 5.0	5 Feb 2020	13:58
CALW2	1.00	1.00	1.00	CALIB. PT. 2 1.00/10.00 ug/L, 5.0	5 Feb 2020	14:26
CALW3	1.00	1.00	1.00	CALIB. PT. 3 2.00/20.00 ug/L, 5.0	5 Feb 2020	14:55
CALW4	1.00	1.00	1.00	CALIB. PT. 4 5.00/50.00 ug/L, 5.0	5 Feb 2020	15:24
CALW5	1.00	1.00	1.00	CALIB. PT. 5 10.00/100 ug/L, 5.0	5 Feb 2020	15:52
CALW6	1.00	1.00	1.00	CALIB. PT. 6 20.00/200 ug/L, 5.0	5 Feb 2020	16:21
CALW7	1.00	1.00	1.00	CALIB. PT. 7 40.00/400 ug/L, 5.0	5 Feb 2020	16:49
CALW8	1.00	1.00	1.00	CALIB. PT. 8 40.00/400 ug/L, 5.0	5 Feb 2020	17:18
CALW9	1.00	1.00	1.00	CALIB. PT. 9 80.00/800 ug/L, 25.0	5 Feb 2020	17:47
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.00/100 ug/L, 5.0	5 Feb 2020	18:44
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.00/300 ug/L, 5.0	5 Feb 2020	19:12
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 ml DI H2O	5 Feb 2020	20:37

8260 ISTD/SSTD 20ug/ml VOC0665
8260 BFB STD. 50ug/ml VOC0664
8260 ICV STD. 100ug/ml VOC0668
8260 CCV/CALIB. 100ug/ml VOC0669

BFB

Data File : C:\Instarch\Data\FEB0620\BFB1.D Vial: 1
Acq On : 6 Feb 2020 7:32 Operator: RLD-DGS
Sample : 168568,BFB, Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020520.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.554 to 4.563 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.3	19313	PASS
75	95	30	60	46.8	46814	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	7.6	7586	PASS
173	174	0.00	2	1.1	1055	PASS
174	95	50	100	97.1	97138	PASS
175	174	5	9	7.1	6879	PASS
176	174	95	101	96.4	93600	PASS
177	176	5	9	7.4	6973	PASS

W020520.M Mon Feb 10 09:14:48 2020

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0620\BFB1.D
Injection Date : 6 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 07:32 Total files within period : 37
Sample Directory : C:\INSTARCH\DATA\FEB0620\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	168568,LCSW, 10.00/1000 ug/L, 5.0 ml P	6 Feb 2020	08:14
MB1	1.00	1.00	1.00	168568,MBW, pH<2, 5.0 ml DI H2O Purge	6 Feb 2020	09:11
383695	1.00	1.00	1.00	168568,383695, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	10:08
384093	1.00	1.00	1.00	168568,384093, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	10:37
384098	1.00	1.00	1.00	168568,384098, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	11:05
383696	1.00	1.00	1.00	168568,383696, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	11:34
383697	1.00	1.00	1.00	168568,383697, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	12:03
383698	1.00	1.00	1.00	168568,383698, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	12:31
383699	1.00	1.00	1.00	168568,383699, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	13:00
383700	1.00	1.00	1.00	168568,383700, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	13:28
383701	1.00	1.00	1.00	168568,383701, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	13:57
384094	1.00	1.00	1.00	168568,384094, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	14:26
384095	1.00	1.00	1.00	168568,384095, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	14:54
384096	1.00	1.00	1.00	168568,384096, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	15:23
384097	1.00	1.00	1.00	168568,384097, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	15:52
384099	1.00	1.00	1.00	168568,384099, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	16:20
384096MS	1.00	1.00	1.00	168568,MSW384096, pH<2, 10.00/1000 ug/L, 5.	6 Feb 2020	18:14
384096SD	1.00	1.00	1.00	168568,MSDW384096, pH<2, 10.00/1000 ug/L, 5.	6 Feb 2020	18:43
CCVF-L~1	1.00	1.00	1.00	168570,LCSDW, 10.00/1000 ug/L, 5.0 ml P	6 Feb 2020	19:11

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): CALW5.D Date Analyzed : 5 Feb 2020
Instrument ID : VMS4 Time Analyzed : 15:52
GC Column : DB-624 UI ID : VMS4(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	969568	7.61	1055879	11.53	641679	14.83
UPPER LIMIT	1939136	8.11	2111758	12.03	1283358	15.33
LOWER LIMIT	484784	7.11	527940	11.03	320840	14.33
File ID Sample						
383695 168568,38	1004930	7.61	1134782	11.53	692983	14.83
383696 168568,38	943172	7.61	1077104	11.52	659235	14.83
383697 168568,38	915902	7.61	1030843	11.53	642649	14.83
383698 168568,38	921354	7.61	1046715	11.53	644074	14.83
383699 168568,38	912594	7.61	1052417	11.53	650420	14.83
383700 168568,38	899389	7.61	1032095	11.53	637309	14.83
383701 168568,38	892598	7.61	1033741	11.53	641724	14.83
384093 168568,38	948782	7.61	1082730	11.53	654267	14.83
384094 168568,38	924108	7.61	1064146	11.53	659757	14.82
384095 168568,38	896959	7.61	1057530	11.53	653997	14.83
384096 168568,38	872820	7.61	1002024	11.53	630205	14.83
384096MS 168568,MS	808428	7.61	960418	11.53	611740	14.83
384096SD 168568,MS	828518	7.61	980199	11.53	621340	14.83
384097 168568,38	860514	7.61	1002607	11.53	619904	14.83
384098 168568,38	950789	7.61	1086912	11.53	664805	14.83
384099 168568,38	861159	7.61	995959	11.53	634375	14.83
385238 168566,38	864491	7.61	1014099	11.52	625495	14.83
CCV-LCS1 168568,LC	990689	7.61	1091657	11.53	671900	14.82
CCVF-L~1 168570,LC	842744	7.61	1005565	11.53	635300	14.83
MB1 168568,MB	972974	7.61	1089403	11.53	667290	14.83

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384609.D Vial: 6
Acq On : 5 Feb 2020 10:14 Operator: RLD-DGS
Sample : 168571,384609, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:35:37 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1276092	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	936571	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	453817	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	295365	19.516	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	93571	20.468	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %			
61) SURRd8Tolule	9.72	98	1231313	19.869	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	492391	20.552	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.08	50	1784	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.09	43	3200	Below	Cal	99
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3399	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	8135	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.63	43	1847	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.71	42	2380	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384609.D Vial: 6
Acq On : 5 Feb 2020 10:14 Operator: RLD-DGS
Sample : 168571,384609, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:35:37 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.62	91	2308	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	12.55	104	1030	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.26	55	1414	Below Cal # 42	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	13.49	83	1044	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.66	91	1165	N.D.	
89)	2chlorotolue	13.66	91	1165	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.45	105	1029	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.91	119	1142	N.D.	
97)	14dichlorobe	14.97	146	1562	N.D.	
98)	12dichlorobe	15.49	146	1089	N.D.	
99)	nButylbenzen	15.50	91	1270	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384609.D Vial: 6
Acq On : 5 Feb 2020 10:14 Operator: RLD-DGS
Sample : 168571,384609, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:35:37 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.74	180	1156	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.05	128	1631	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

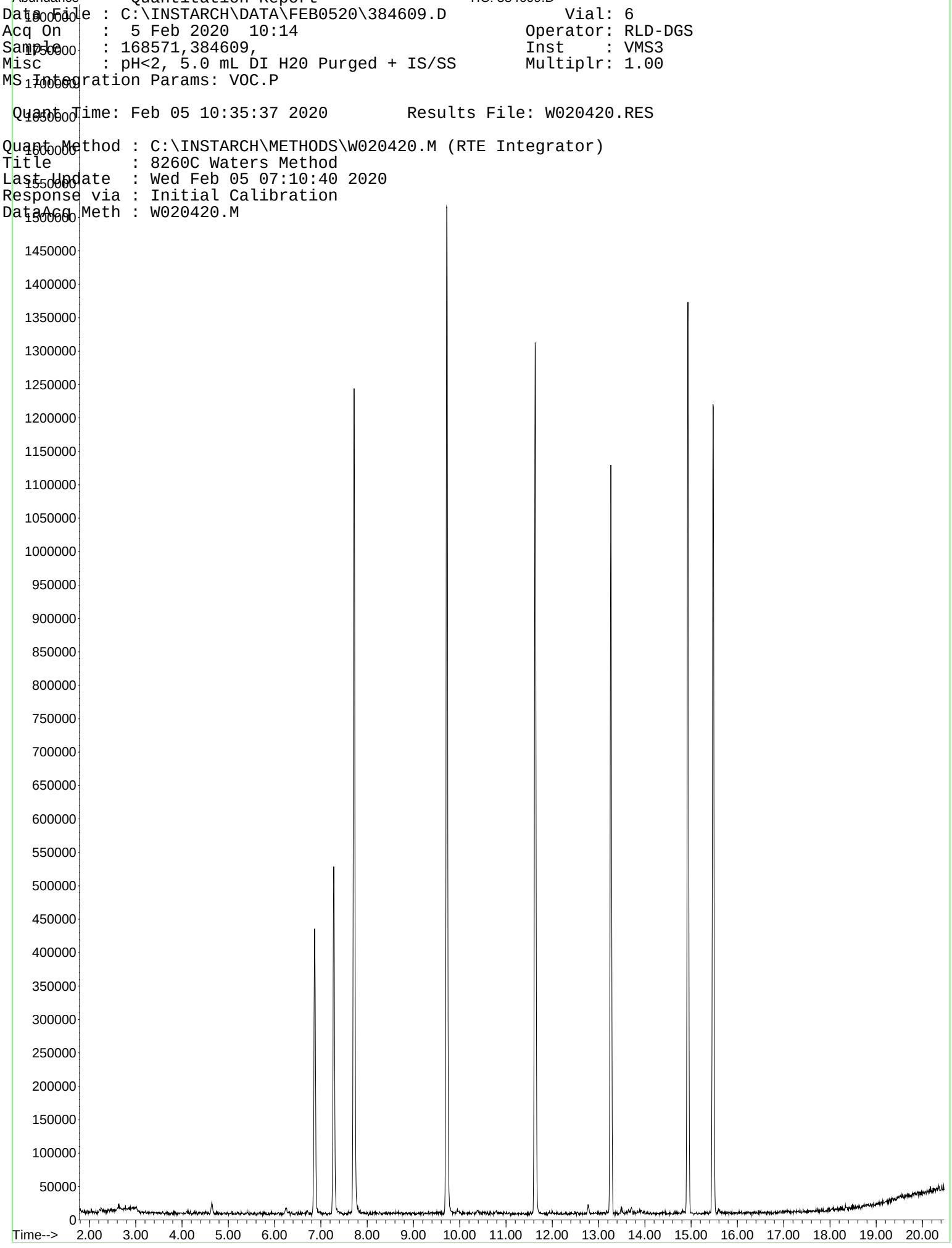
Quantitation Report

TIC: 384609.D

Data File : C:\INSTARCH\DATA\FEB0520\384609.D Vial: 6
Acq On : 5 Feb 2020 10:14 Operator: RLD-DGS
Sample : 168571,384609, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:35:37 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384610.D Vial: 14
Acq On : 5 Feb 2020 14:13 Operator: RLD-DGS
Sample : 168571,384610, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 14:34:25 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1190374	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	860326	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	413952	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	274197	19.422	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 97 %			
45) SURR12DCAd4	7.28	102	81178	19.036	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 95 %			
61) SURRd8Tolule	9.72	98	1123789	19.440	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97 %			
83) SURR4BrFBenz	13.26	95	436383	19.968	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.09	50	1703	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.73	67	3686	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	4.01	96	2049	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	12559	Below	Cal	88
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.25	76	2306	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.66	84	1681	Below	Cal	90
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.55	63	23707	0.8634	ug/L	98
27) Vinylacetate	5.64	43	1407	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.28	96	12560	0.7585	ug/L	99
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	2510	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384610.D Vial: 14
Acq On : 5 Feb 2020 14:13 Operator: RLD-DGS
Sample : 168571,384610, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 14:34:25 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.67	83	1201	N.D.		
40) 111trichlota	6.93	97	6613	0.3213	ug/L	94
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	0.00	119	0	N.D.		
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	7.39	78	1564	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	8.18	95	41301	2.7280	ug/L	89
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	8.65	88	1333	Below	Cal #	67
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	9.80	92	3764	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	10.53	166	3843	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	11.63	91	2068	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	11.84	91	2993	N.D.		
76) m p-Xylene	12.00	106	3217	N.D.		
77) o-Xylene	12.53	106	1946	N.D.		
78) Styrene	12.54	104	1349	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	13.25	55	1543	Below	Cal #	42
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	14.44	105	1686	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	15.47	91	1409	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384610.D Vial: 14
Acq On : 5 Feb 2020 14:13 Operator: RLD-DGS
Sample : 168571,384610, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 14:34:25 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.02	128	1214	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

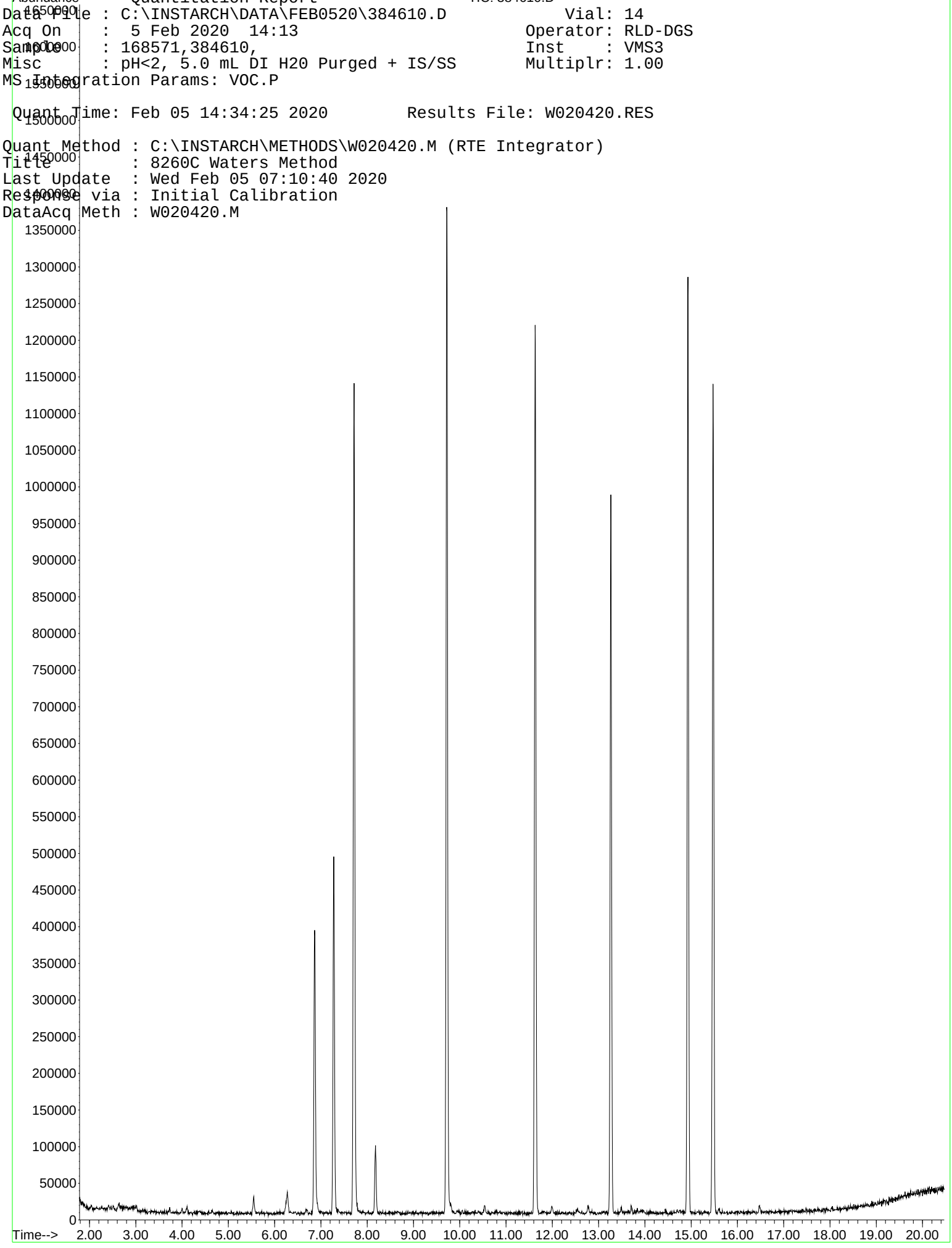
(#) = qualifier out of range (m) = manual integration

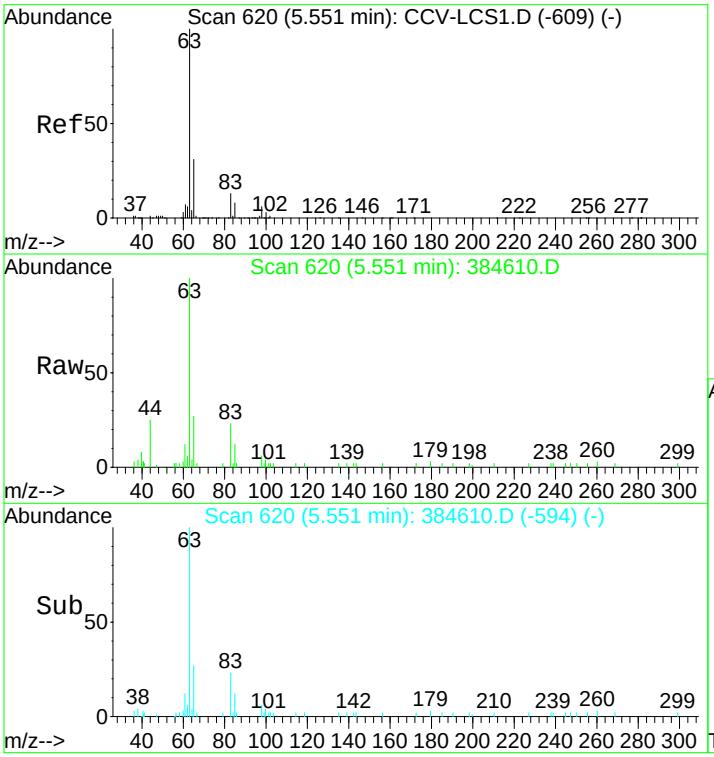
Abundance Quantitation Report TIC: 384610.D

Data File : C:\INSTARCH\DATA\FEB0520\384610.D Vial: 14
Acq On : 5 Feb 2020 14:13 Operator: RLD-DGS
Sample : 168571,384610, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 14:34:25 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

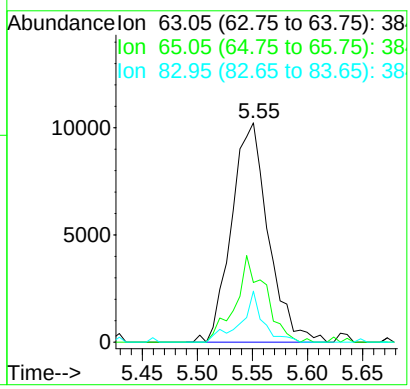


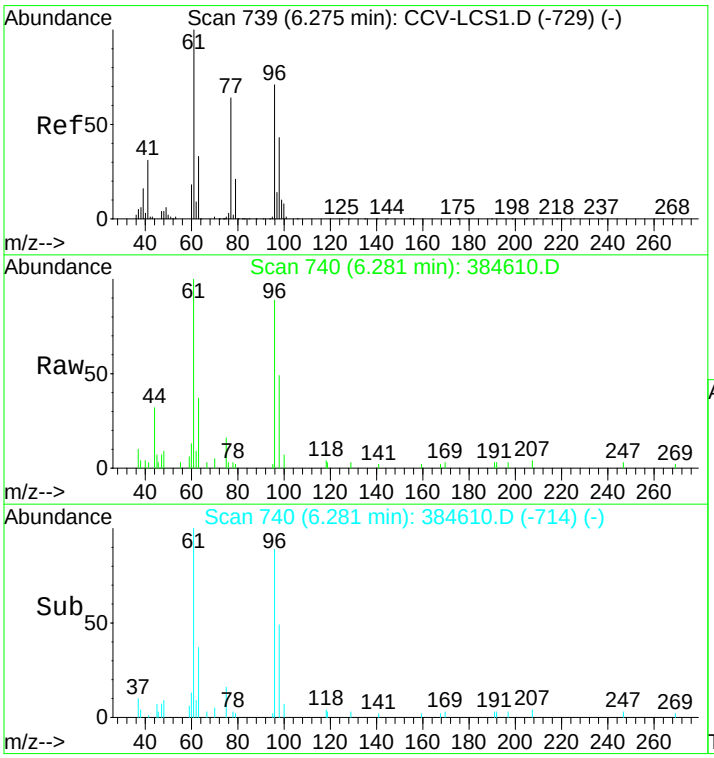


#26
11dichlorota
Concen: 0.86 ug/L
RT: 5.55 min Scan# 620
Delta R.T. 0.01 min
Lab File: 384610.D
Acq: 5 Feb 2020 14:13

Tgt Ion: 63 Resp: 23707

Ion	Ratio	Lower	Upper
63	100		
65	32.5	11.7	51.7
83	14.0	0.0	33.3

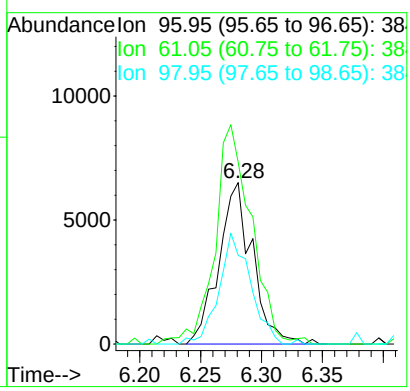


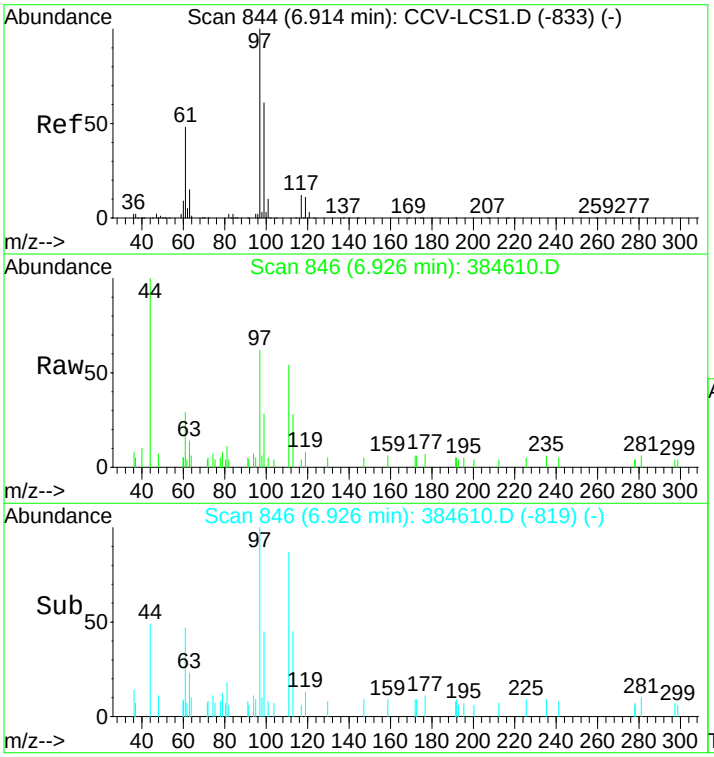


#32
c12dichlorte
Concen: 0.76 ug/L
RT: 6.28 min Scan# 740
Delta R.T. 0.01 min
Lab File: 384610.D
Acq: 5 Feb 2020 14:13

Tgt Ion: 96 Resp: 12560

Ion	Ratio	Lower	Upper
96	100		
61	146.6	126.9	166.9
98	64.0	46.8	86.8

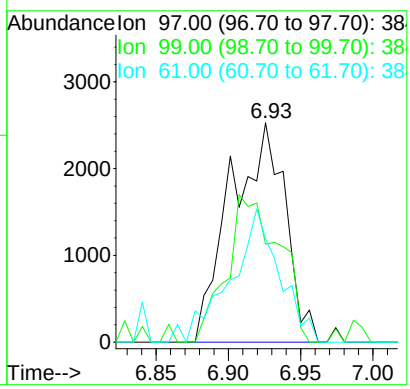


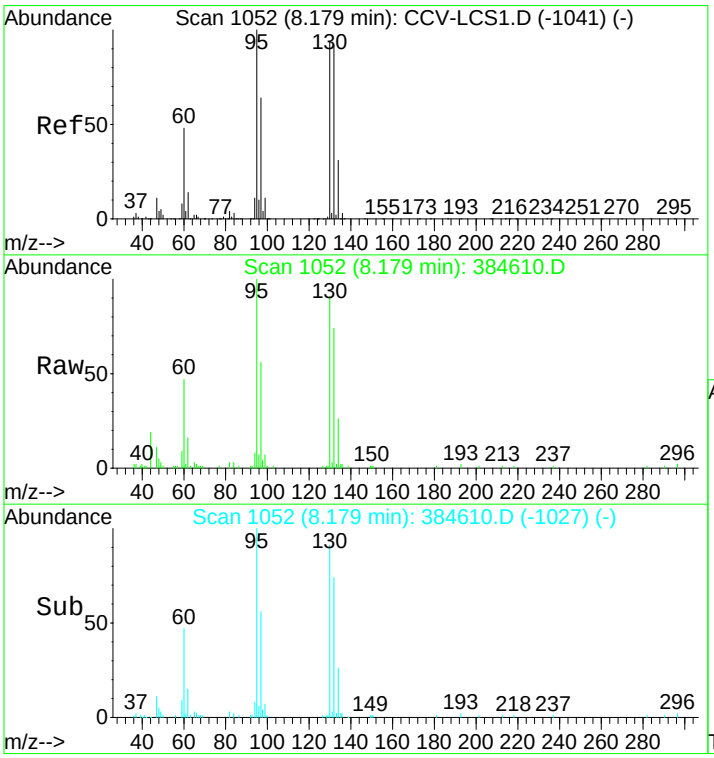


#40
111trichlota
Concen: 0.32 ug/L
RT: 6.93 min Scan# 846
Delta R.T. 0.01 min
Lab File: 384610.D
Acq: 5 Feb 2020 14:13

Tgt Ion: 97 Resp: 6613

Ion	Ratio	Lower	Upper
97	100		
99	64.6	43.6	83.6
61	54.9	26.0	66.0

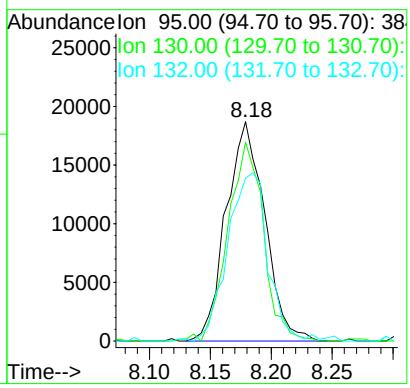




#49
trichloroete
Concen: 2.73 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. 0.00 min
Lab File: 384610.D
Acq: 5 Feb 2020 14:13

Tgt Ion: 95 Resp: 41301

Ion	Ratio	Lower	Upper
95	100		
130	83.4	75.4	115.4
132	80.1	70.1	110.1



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384613.D Vial: 15
Acq On : 5 Feb 2020 14:43 Operator: RLD-DGS
Sample : 168571,384613, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:04:11 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1167850	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	853400	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	410484	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	270382	19.521	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	83221	19.891	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %			
61) SURRd8Tolule	9.72	98	1120312	19.753	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	434116	20.032	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.09	50	1337	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.73	67	12901	0.8803	ug/L	98
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	3.99	96	1311	N.D.		
14) Trichlorotfluoroeth	4.04	101	6122	N.D.		
15) Acetone	4.10	43	7725	Below Cal		95
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	2407	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	1952	Below Cal		91
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.54	63	1093	N.D.		
27) Vinylacetate	5.64	43	1238	Below Cal	#	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	2541	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384613.D Vial: 15
Acq On : 5 Feb 2020 14:43 Operator: RLD-DGS
Sample : 168571,384613, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:04:11 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.68	83	9790	0.3817 ug/L	95
40) 111trichlota	6.93	97	2428	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.13	119	37963	2.4904 ug/L	96
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.37	78	1626	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.65	88	5360	Below Cal #	65
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	9.81	92	4022	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.63	91	3085	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.84	91	2077	N.D.	
76) m p-Xylene	11.99	106	2954	N.D.	
77) o-Xylene	12.55	106	1003	N.D.	
78) Styrene	12.56	104	1392	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.25	55	1079	Below Cal #	42
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.45	105	1787	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.47	91	1740	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\FEB0520\384613.D Vial: 15
Acq On : 5 Feb 2020 14:43 Operator: RLD-DGS
Sample : 168571,384613, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:04:11 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.04	128	1279	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

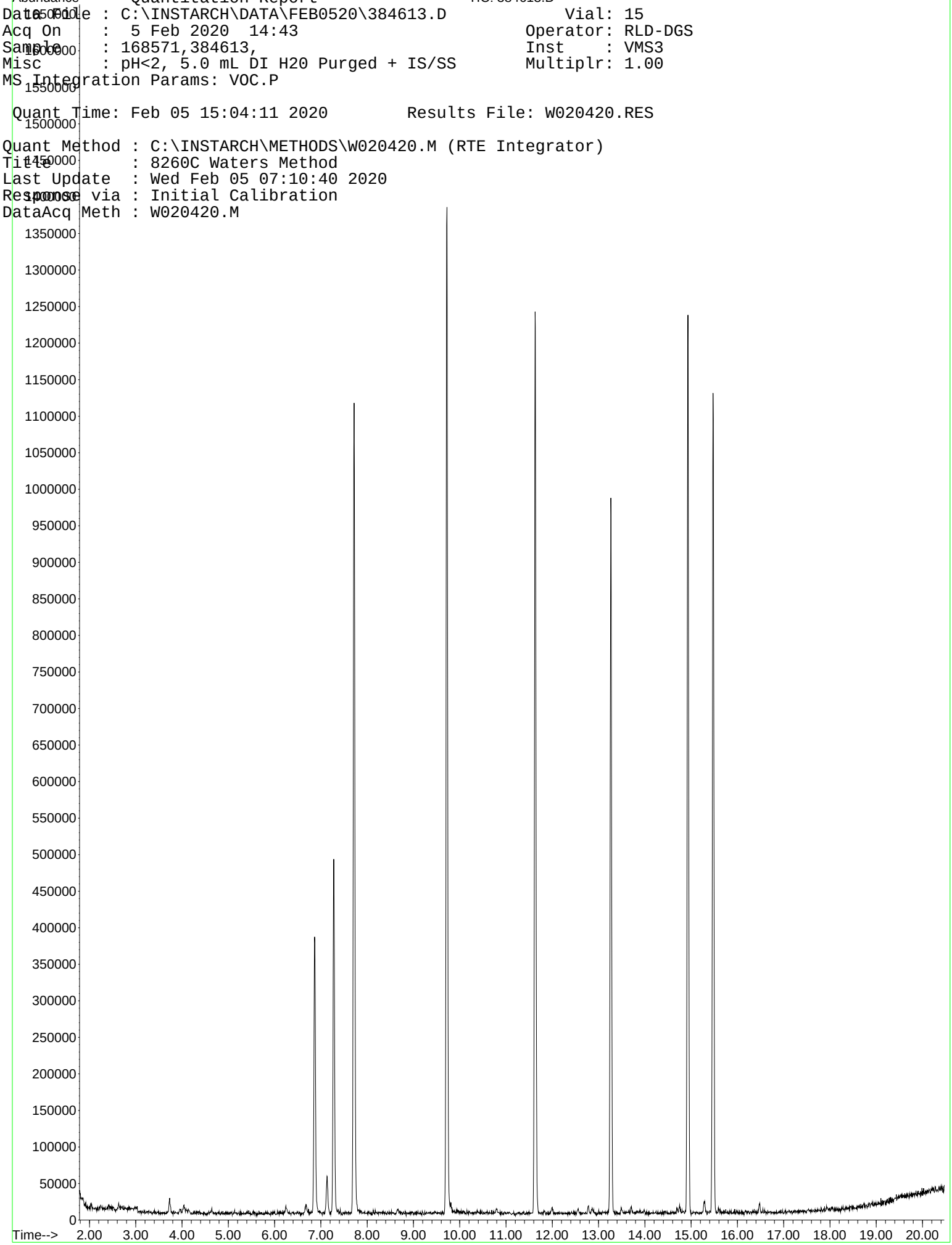
(#) = qualifier out of range (m) = manual integration
384613.D W020420.M Thu Feb 06 08:20:52 2020 Page 147 Page 3

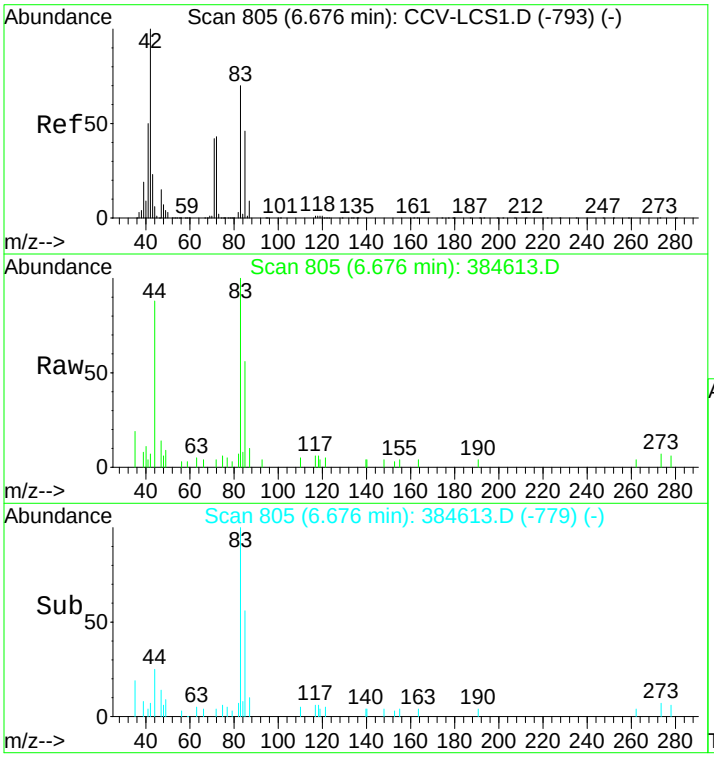
Quantitation Report (RTE)

Data File : C:\INSTARCH\DATA\FEB0520\384613.D Vial: 15
Acq On : 5 Feb 2020 14:43 Operator: RLD-DGS
Sample : 168571,384613, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:04:11 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

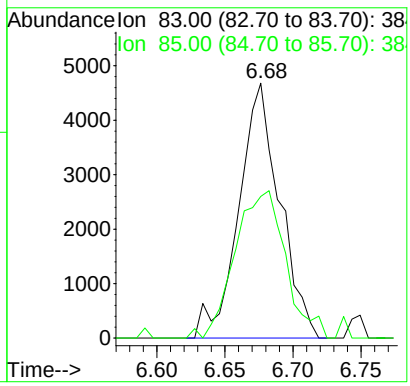


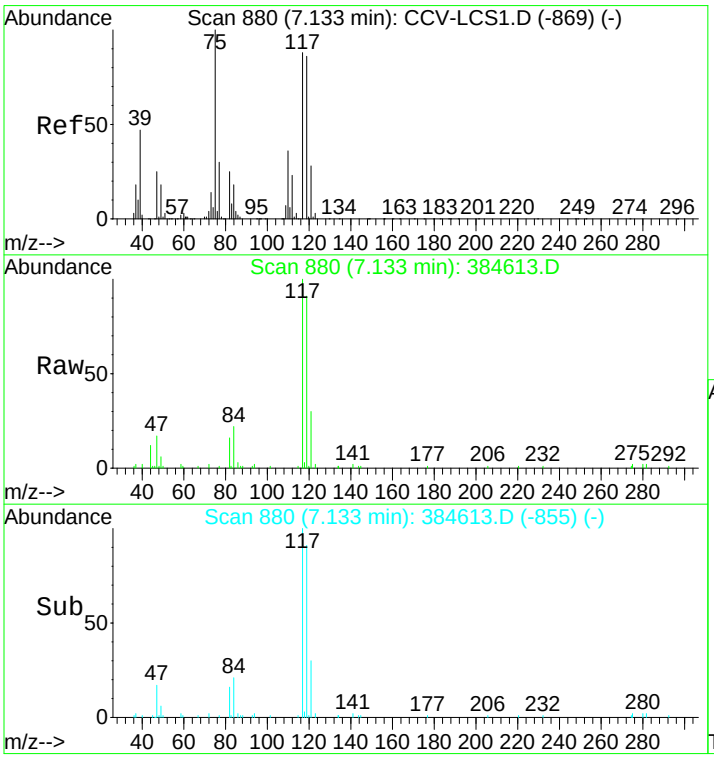


#39
Chloroform
Concen: 0.38 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 384613.D
Acq: 5 Feb 2020 14:43

Tgt Ion: 83 Resp: 9790

Ion	Ratio	Lower	Upper
83	100		
85	71.4	47.3	87.3

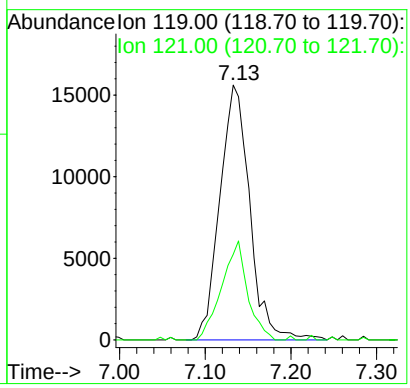




#43
Carbtetraclo
Concen: 2.49 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 384613.D
Acq: 5 Feb 2020 14:43

Tgt Ion:119 Resp: 37963

Ion	Ratio	Lower	Upper
119	100		
121	33.6	11.2	51.2



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384614.D Vial: 16
Acq On : 5 Feb 2020 15:13 Operator: RLD-DGS
Sample : 168571,384614, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:34:06 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1166895	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	845175	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	408609	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	271157	19.593	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98	%		
45) SURR12DCAd4	7.28	102	81909	19.594	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.72	98	1114703	19.670	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.26	95	439660	20.381	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.08	50	1746	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.27	101	1770	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.71	67	1117	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.09	43	6707	Below	Cal	79
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	2706	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.63	84	1398	Below	Cal #	67
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.55	63	5695	N.D.		
27) Vinylacetate	5.64	43	1462	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.24	77	1080	N.D.		
32) c12dichlorte	6.27	96	4402	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.71	42	1901	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384614.D Vial: 16
Acq On : 5 Feb 2020 15:13 Operator: RLD-DGS
Sample : 168571,384614, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:34:06 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	4032	N.D.			
40)	111trichlota	6.91	97	3271	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.14	119	17377	1.1409	ug/L		100
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	7.36	78	1111	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.19	95	18911	1.2742	ug/L		89
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.66	88	2405	Below	Cal	#	75
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	10.53	166	1790	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.63	91	2417	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	13.28	55	1041	Below	Cal	#	42
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	14.97	146	1007	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	15.47	91	2126	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384614.D Vial: 16
Acq On : 5 Feb 2020 15:13 Operator: RLD-DGS
Sample : 168571,384614, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:34:06 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

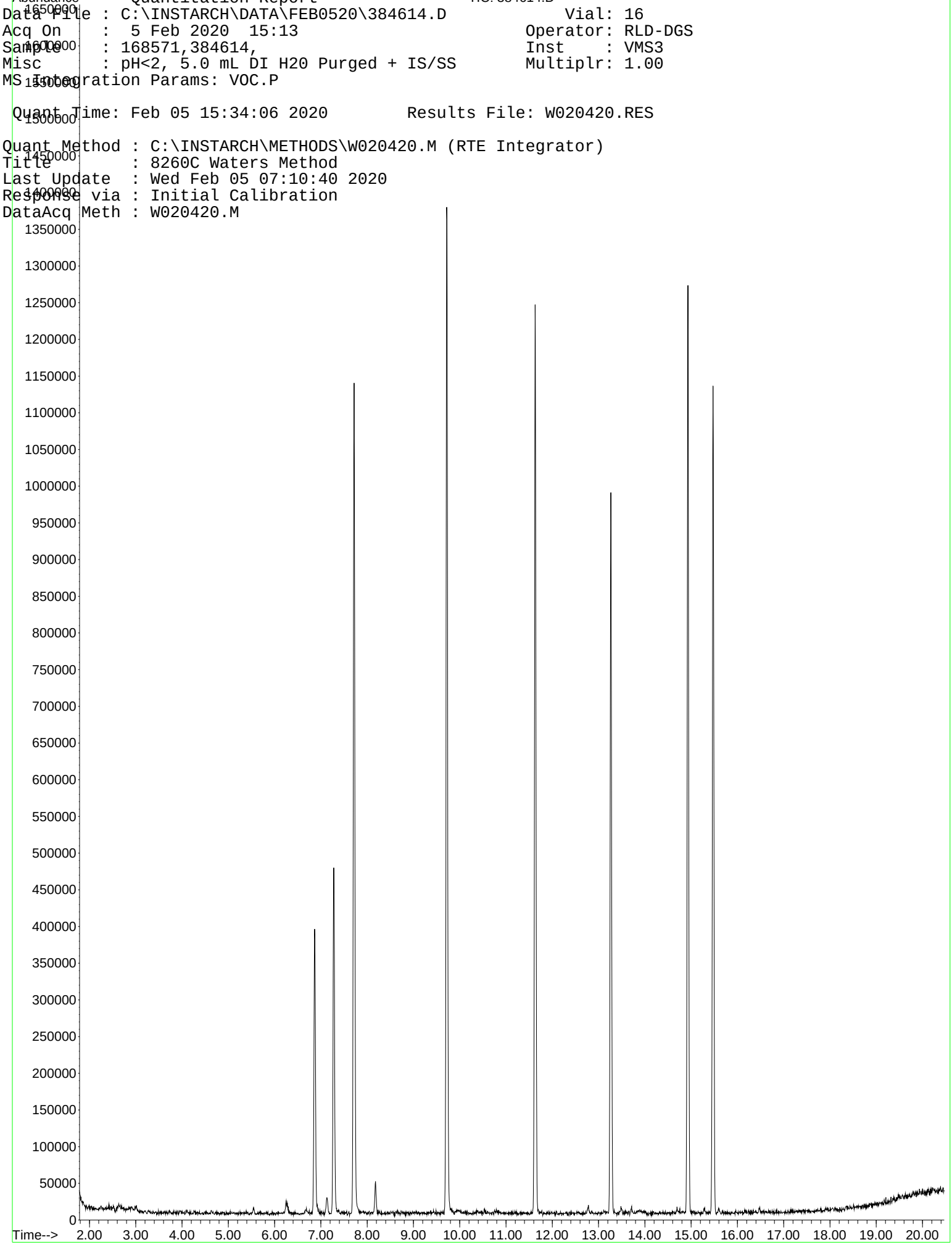
(#) = qualifier out of range (m) = manual integration

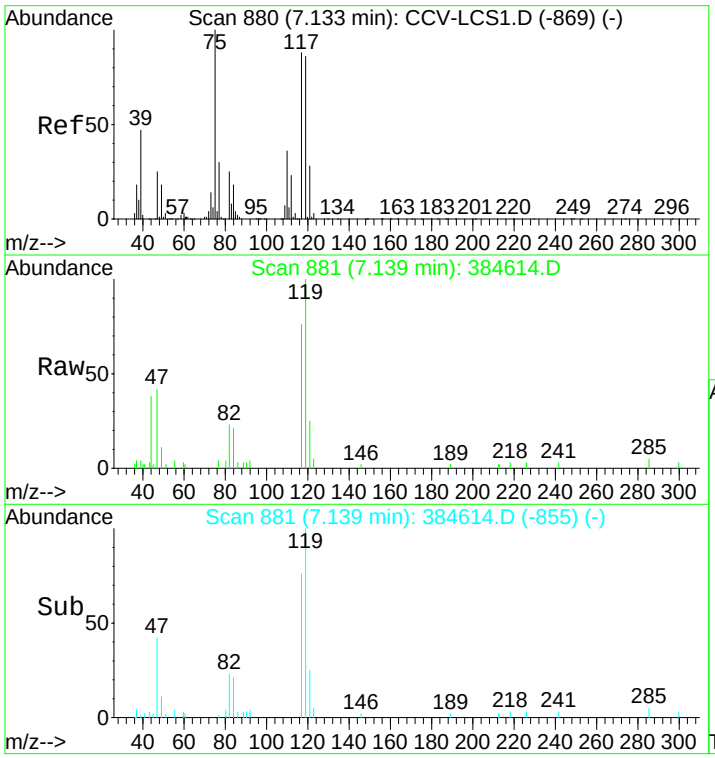
Quantitation Report (TIC: 384614.D)

Data File : C:\INSTARCH\DATA\FEB0520\384614.D Vial: 16
Acq On : 5 Feb 2020 15:13 Operator: RLD-DGS
Sample : 168571,384614, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 15:34:06 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

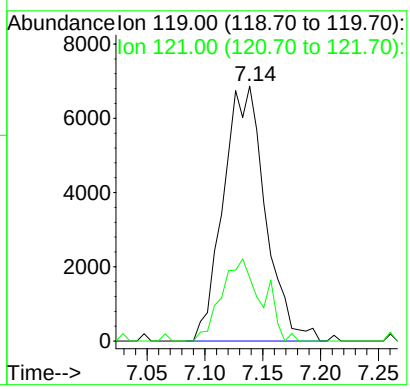


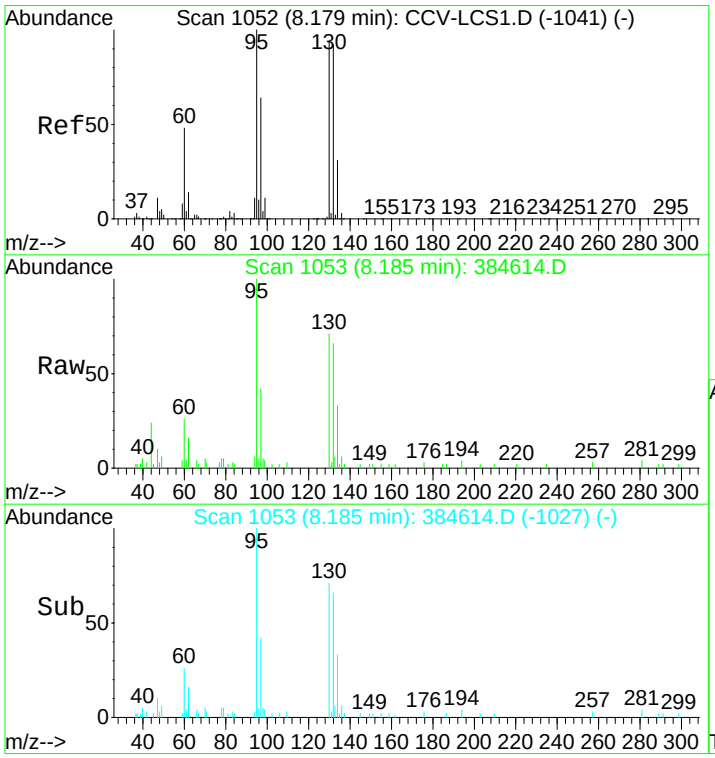


#43
Carbtetraclo
Concen: 1.14 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.01 min
Lab File: 384614.D
Acq: 5 Feb 2020 15:13

Tgt Ion:119 Resp: 17377

Ion	Ratio	Lower	Upper
119	100		
121	31.0	11.2	51.2

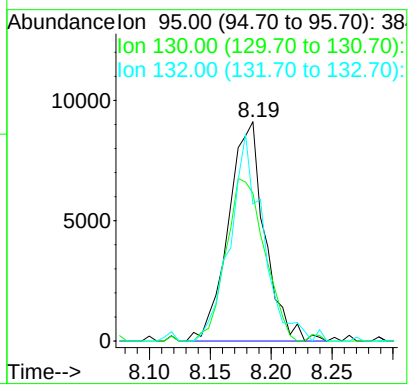




#49
trichloroete
Concen: 1.27 ug/L
RT: 8.19 min Scan# 1053
Delta R.T. 0.01 min
Lab File: 384614.D
Acq: 5 Feb 2020 15:13

Tgt Ion: 95 Resp: 18911

Ion	Ratio	Lower	Upper
95	100		
130	78.9	75.4	115.4
132	85.5	70.1	110.1



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384615.D Vial: 17
Acq On : 5 Feb 2020 15:43 Operator: RLD-DGS
Sample : 168571,384615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:03:47 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1159222	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	846192	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	411516	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	268652	19.541	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	83127	20.017	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %			
61) SURRd8Tolule	9.72	98	1109773	19.713	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	434083	19.981	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.10	50	1979	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	5191	Below	Cal	100
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	2718	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.63	84	1242	Below	Cal #	60
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.65	43	1260	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.70	42	2187	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384615.D Vial: 17
Acq On : 5 Feb 2020 15:43 Operator: RLD-DGS
Sample : 168571,384615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:03:47 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	88130	3.4616	ug/L	99
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.13	119	317580	20.9889	ug/L	97
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.37	78	2136	N.D.		
47)	12dichlorota	7.38	62	2146	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.17	95	38710	2.6256	ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	8.65	88	3539	Below	Cal #	70
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.79	43	1382	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	11.67	112	1422	N.D.		
73)	1Clhexane	11.63	91	1952	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.26	55	1568	Below	Cal #	42
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	14.97	146	1006	N.D.		
98)	12dichlorobe	15.48	146	1383	N.D.		
99)	nButylbenzen	15.46	91	2187	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\FEB0520\384615.D Vial: 17
Acq On : 5 Feb 2020 15:43 Operator: RLD-DGS
Sample : 168571,384615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:03:47 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

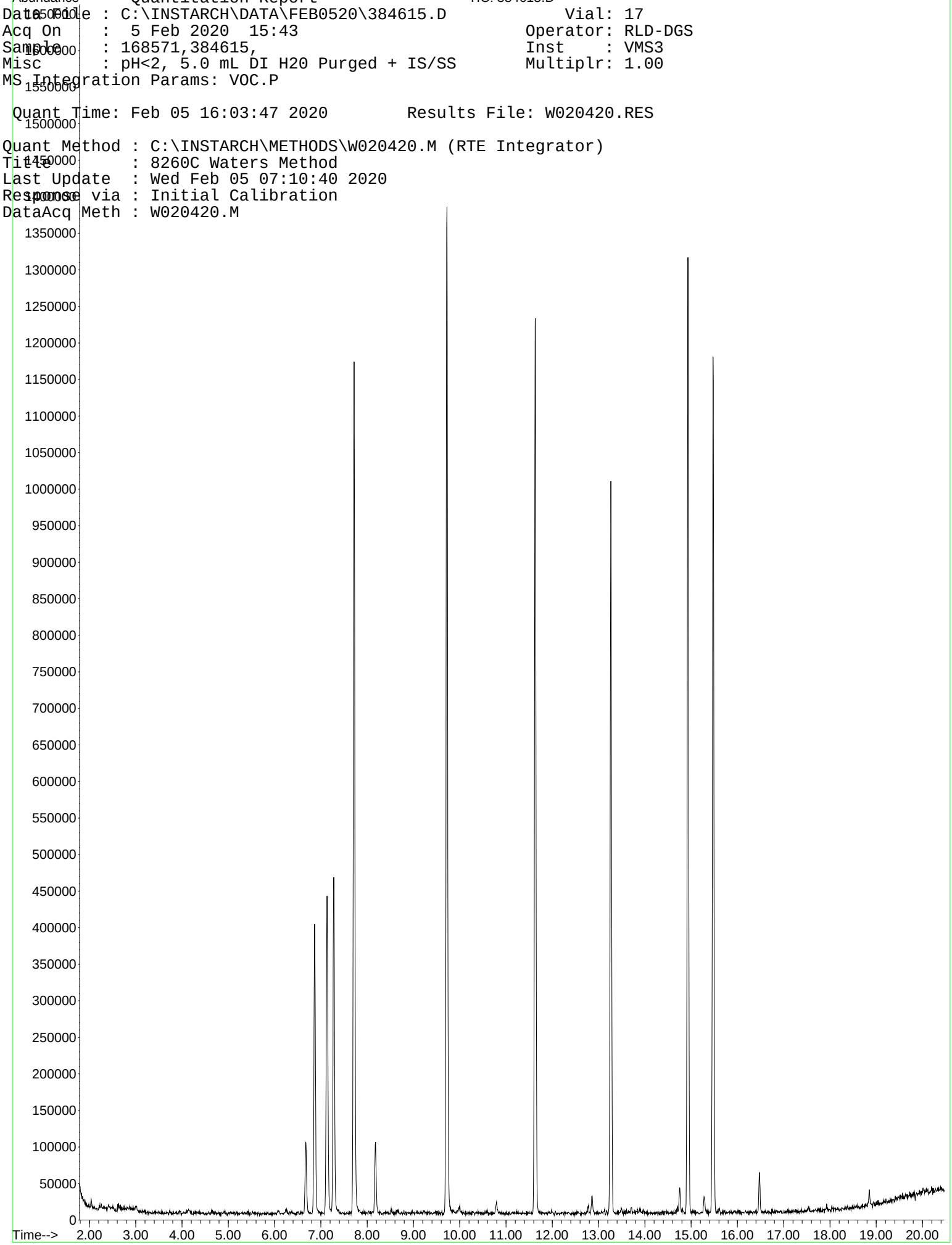
(#) = qualifier out of range (m) = manual integration

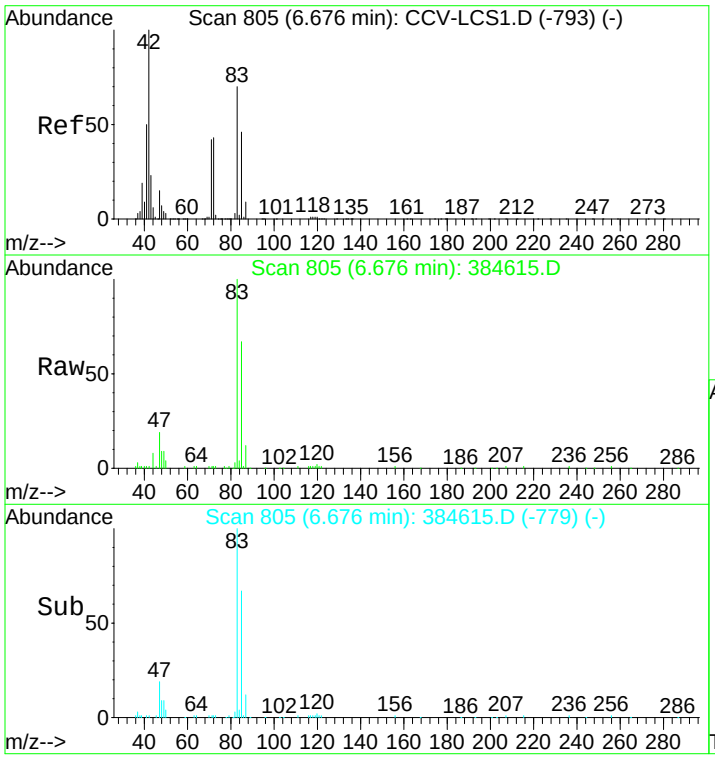
Abundance Quantitation Report TIC: 384615.D

Data File : C:\INSTARCH\DATA\FEB0520\384615.D Vial: 17
Acq On : 5 Feb 2020 15:43 Operator: RLD-DGS
Sample : 168571,384615, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:03:47 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

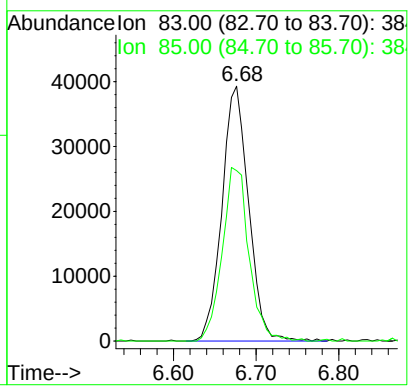


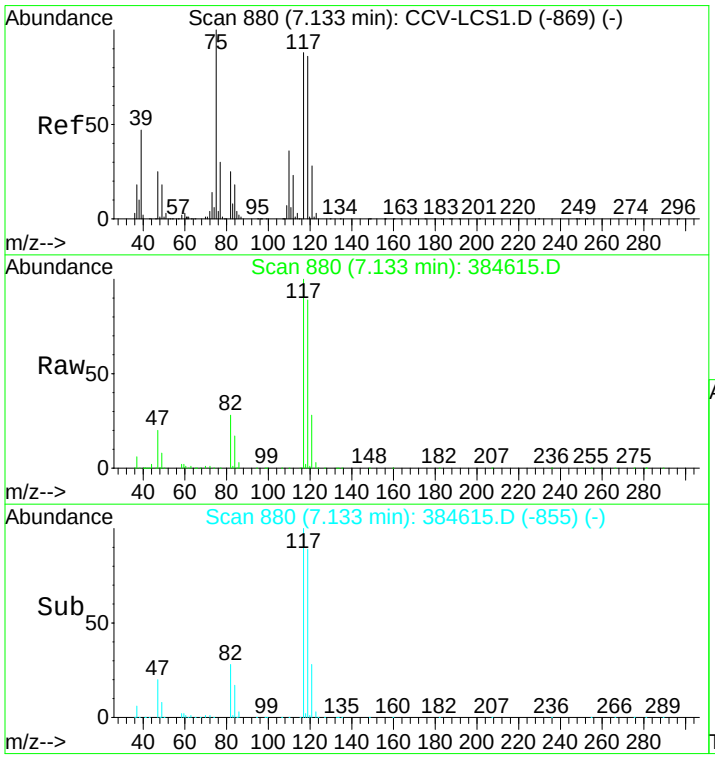


#39
Chloroform
Concen: 3.46 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 384615.D
Acq: 5 Feb 2020 15:43

Tgt Ion: 83 Resp: 88130

Ion	Ratio	Lower	Upper
83	100		
85	68.3	47.3	87.3

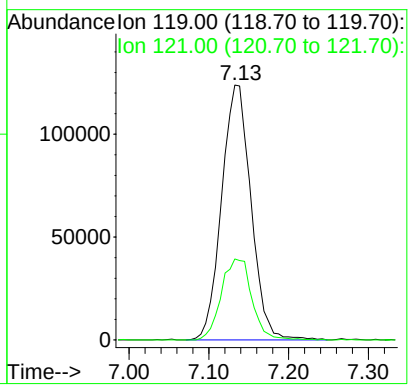


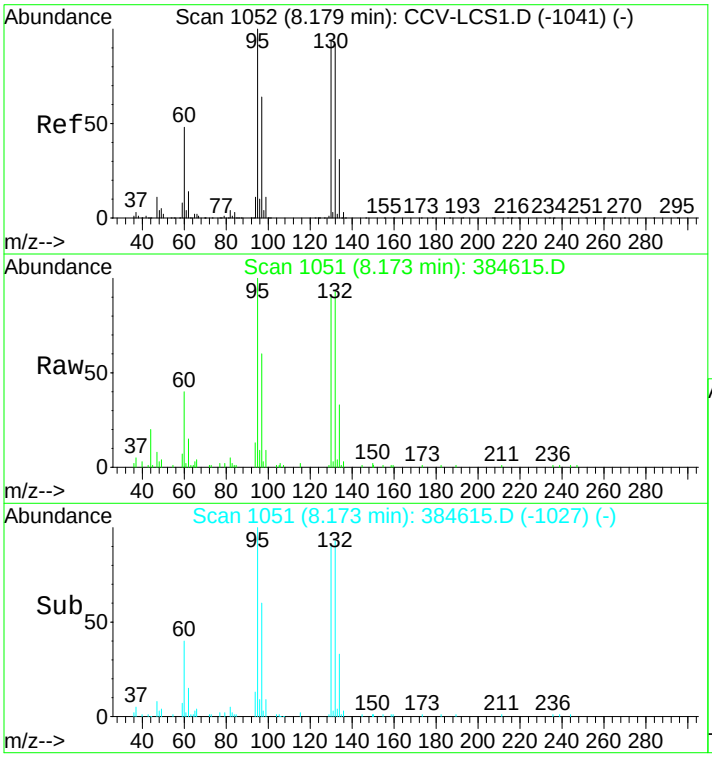


#43
Carbtetraclo
Concen: 20.99 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 384615.D
Acq: 5 Feb 2020 15:43

Tgt Ion:119 Resp: 317580

Ion	Ratio	Lower	Upper
119	100		
121	33.0	11.2	51.2

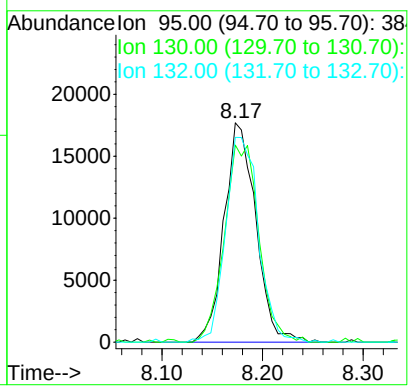




#49
trichloroete
Concen: 2.63 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 384615.D
Acq: 5 Feb 2020 15:43

Tgt Ion: 95 Resp: 38710

Ion	Ratio	Lower	Upper
95	100		
130	98.3	75.4	115.4
132	97.1	70.1	110.1



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384616.D Vial: 18
Acq On : 5 Feb 2020 16:13 Operator: RLD-DGS
Sample : 168571,384616, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:33:46 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	981349	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	709200	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	336945	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	225996	19.418	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 97 %			
45) SURR12DCAd4	7.28	102	70145	19.952	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %			
61) SURRd8Tolule	9.72	98	932806	19.573	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98 %			
83) SURR4BrFBenz	13.26	95	359446	20.207	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.09	50	1446	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.09	43	3654	Below	Cal #	37
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.26	76	2050	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.66	84	1246	Below	Cal #	71
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.65	43	1255	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	2089	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384616.D Vial: 18
Acq On : 5 Feb 2020 16:13 Operator: RLD-DGS
Sample : 168571,384616, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:33:46 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	284623	13.2057	ug/L	100
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.13	119	998279	77.9348	ug/L	95
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	7.38	62	11464	0.7058	ug/L	96
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.18	95	190308	15.2476	ug/L	100
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	8.64	88	1538	Below	Cal #	78
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.62	91	2024	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	12.55	104	1025	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.26	55	1359	Below	Cal #	42
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	13.89	105	1087	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.47	91	1753	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384616.D Vial: 18
Acq On : 5 Feb 2020 16:13 Operator: RLD-DGS
Sample : 168571,384616, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:33:46 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.04	128	1111	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

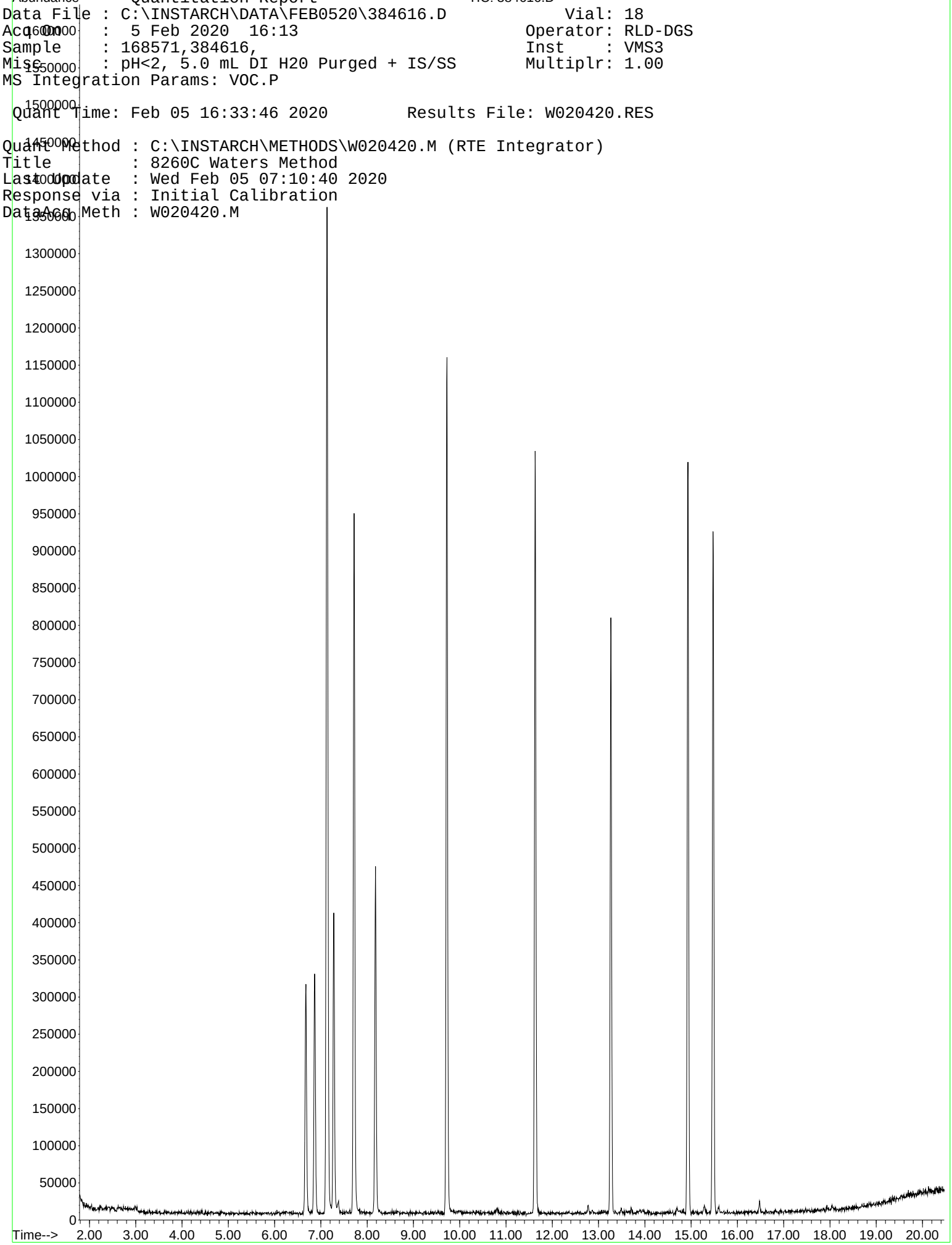
(#) = qualifier out of range (m) = manual integration

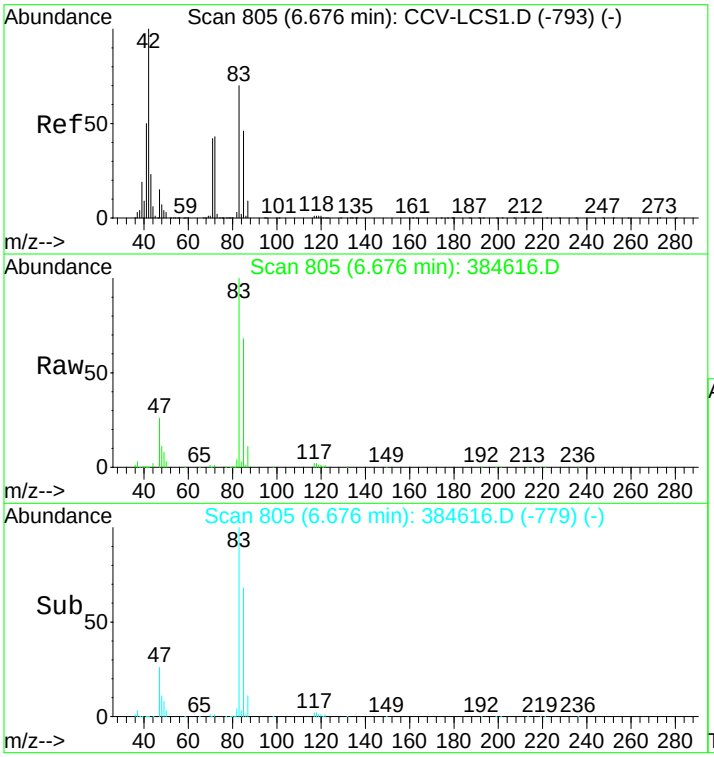
Abundance Quantitation Report TIC: 384616.D

Data File : C:\INSTARCH\DATA\FEB0520\384616.D Vial: 18
Acq On : 5 Feb 2020 16:13 Operator: RLD-DGS
Sample : 168571,384616, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 16:33:46 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

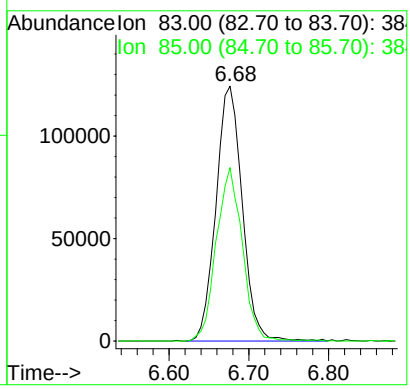


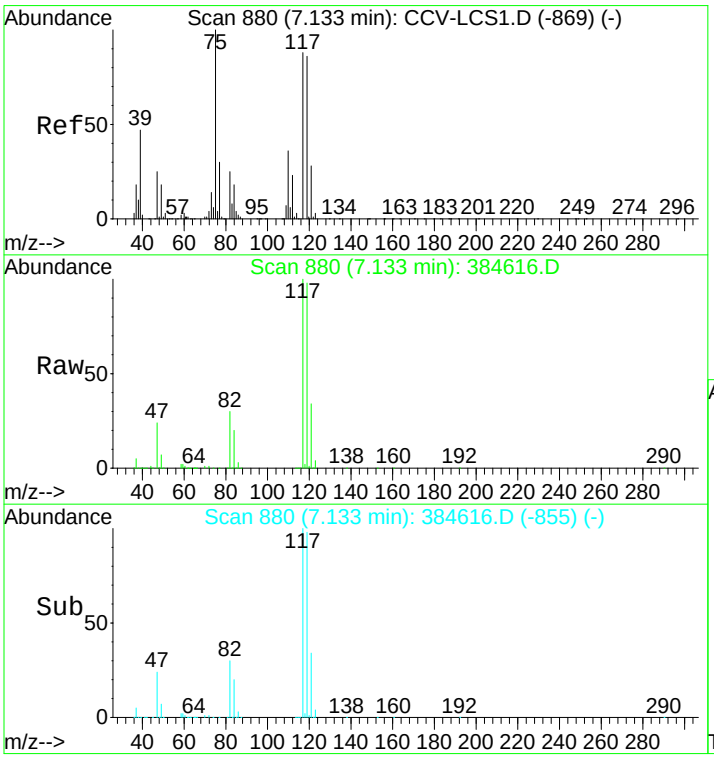


#39
Chloroform
Concen: 13.21 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 384616.D
Acq: 5 Feb 2020 16:13

Tgt Ion: 83 Resp: 284623

Ion	Ratio	Lower	Upper
83	100		
85	67.1	47.3	87.3

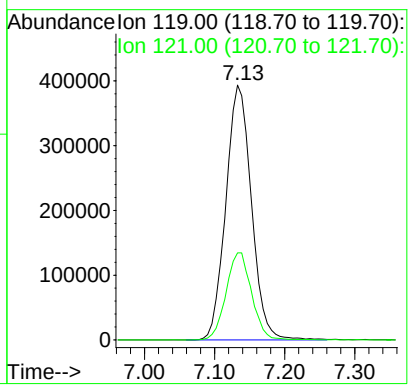


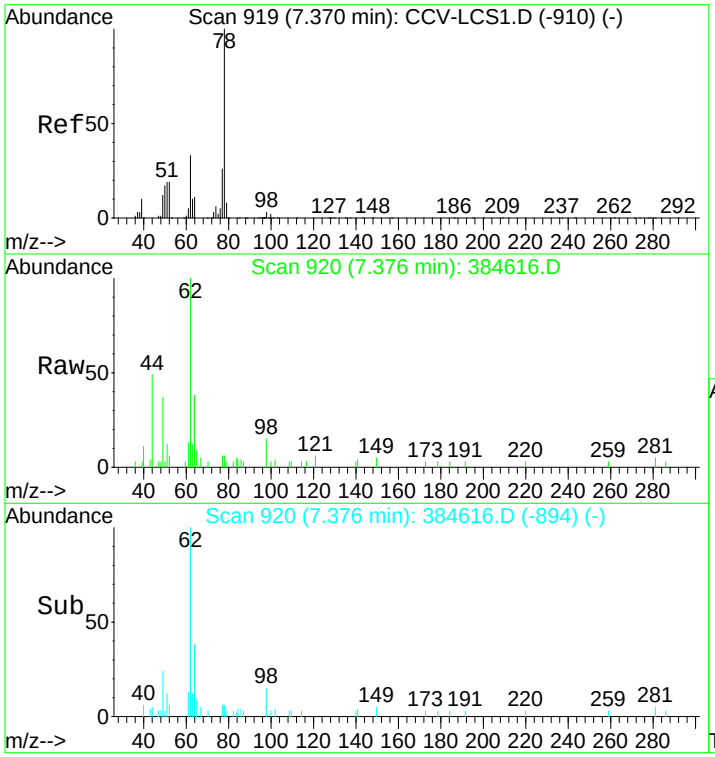


#43
Carbtetraclo
Concen: 77.93 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 384616.D
Acq: 5 Feb 2020 16:13

Tgt Ion:119 Resp: 998279

Ion	Ratio	Lower	Upper
119	100		
121	34.1	11.2	51.2

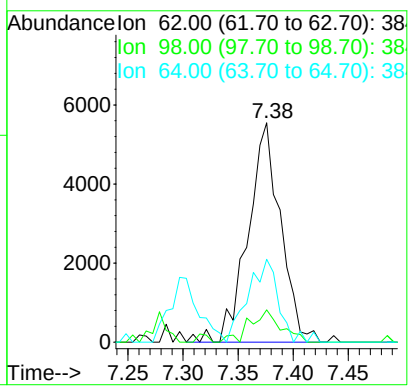


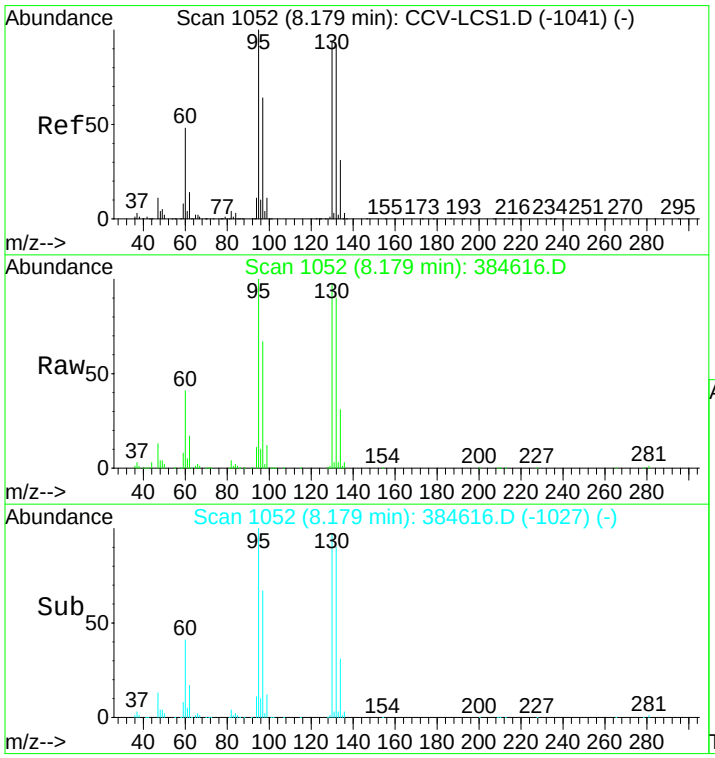


#47
12dichlorota
Concen: 0.71 ug/L
RT: 7.38 min Scan# 920
Delta R.T. 0.01 min
Lab File: 384616.D
Acq: 5 Feb 2020 16:13

Tgt Ion: 62 Resp: 11464

Ion	Ratio	Lower	Upper
62	100		
98	14.1	0.0	30.8
64	35.7	14.1	54.1

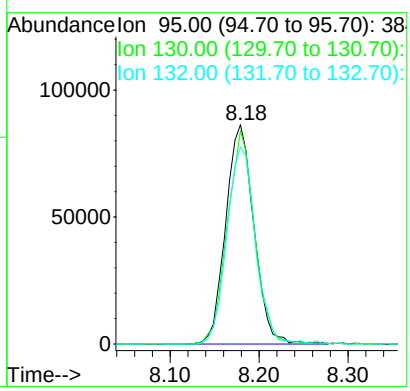




#49
trichloroete
Concen: 15.25 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. 0.00 min
Lab File: 384616.D
Acq: 5 Feb 2020 16:13

Tgt Ion: 95 Resp: 190308

Ion	Ratio	Lower	Upper
95	100		
130	94.6	75.4	115.4
132	90.1	70.1	110.1



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384617.D Vial: 19
Acq On : 5 Feb 2020 16:43 Operator: RLD-DGS
Sample : 168571,384617, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:03:42 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1034405	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	751538	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	362361	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	239429	19.517	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	73198	19.753	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %			
61) SURRd8Tolule	9.72	98	990346	19.714	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	383969	20.071	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.09	50	1729	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	3129	Below	Cal	92
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	2193	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	1461	Below	Cal #	55
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.64	43	1387	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	3042	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384617.D Vial: 19
Acq On : 5 Feb 2020 16:43 Operator: RLD-DGS
Sample : 168571,384617, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:03:42 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.68	83	287171	12.6405 ug/L	98
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.13	119	991305	73.4209 ug/L	94
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.38	78	1446	N.D.	
47) 12dichlorota	7.36	62	11069	0.6465 ug/L	94
48) TAME	0.00	73	0	N.D.	
49) trichloroete	8.17	95	187593	14.2591 ug/L	98
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.62	91	1990	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.26	55	1163	Below Cal #	42
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	14.95	146	1105	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.46	91	1080	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\384617.D Vial: 19
Acq On : 5 Feb 2020 16:43 Operator: RLD-DGS
Sample : 168571,384617, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:03:42 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

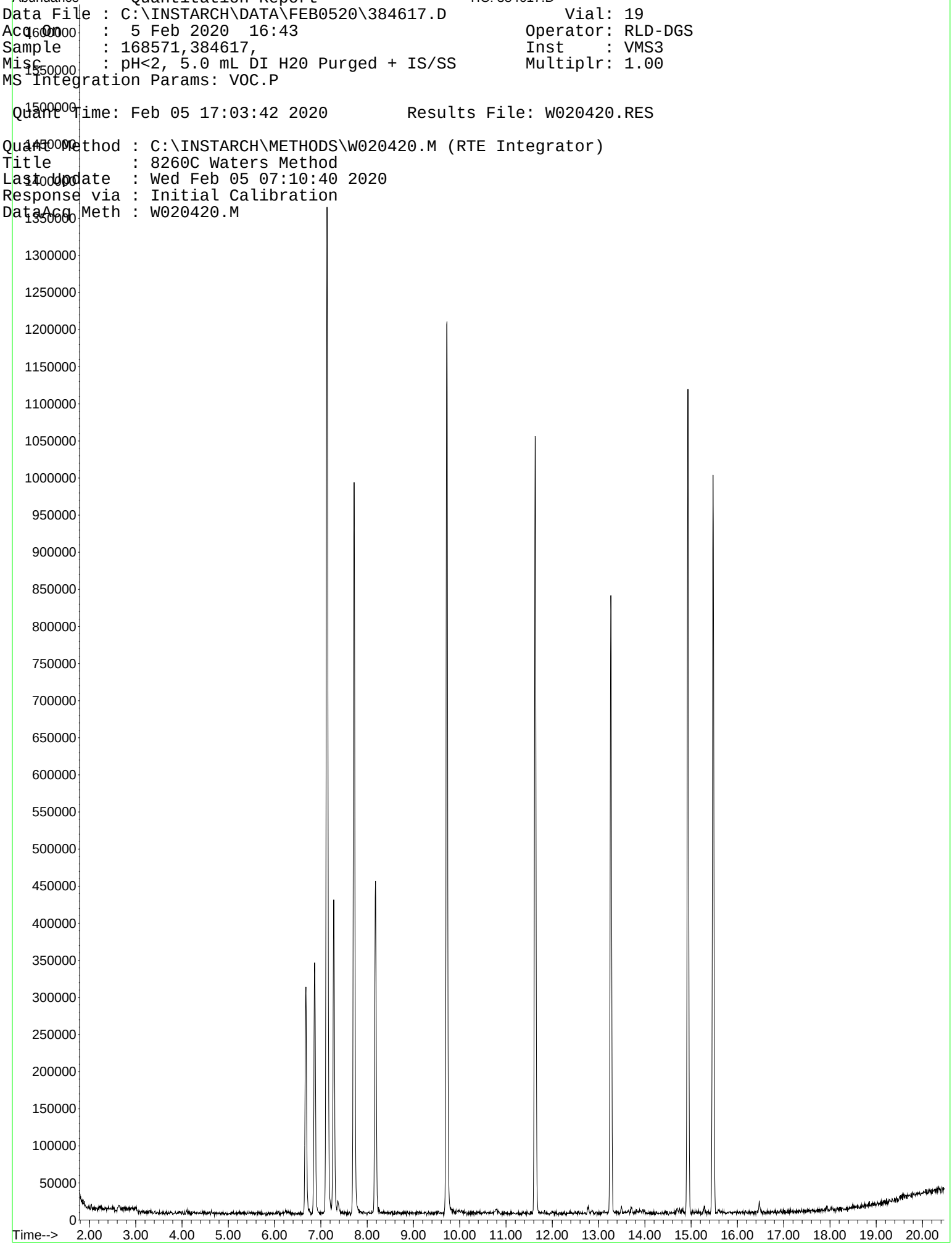
(#) = qualifier out of range (m) = manual integration

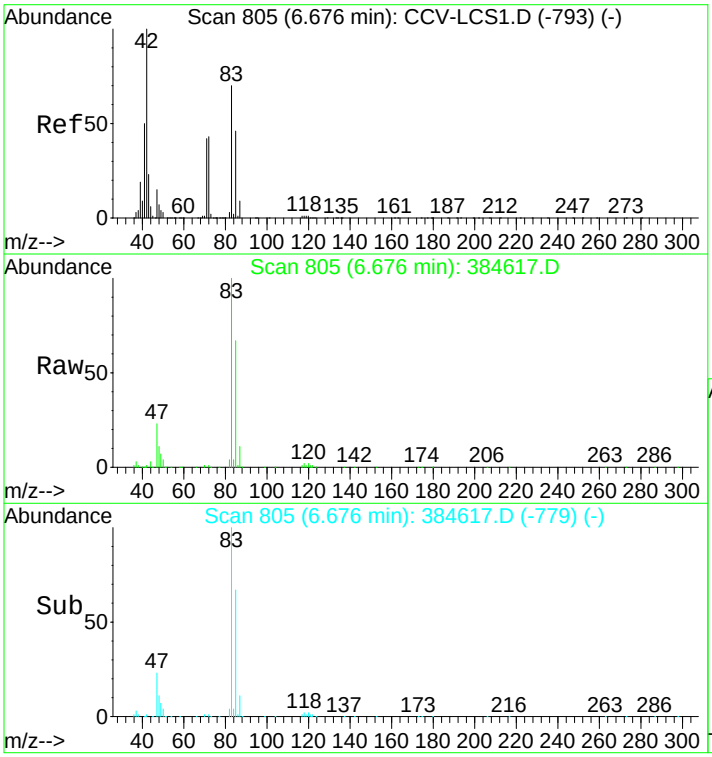
Abundance Quantitation Report TIC: 384617.D

Data File : C:\INSTARCH\DATA\FEB0520\384617.D Vial: 19
Acq On : 5 Feb 2020 16:43 Operator: RLD-DGS
Sample : 168571,384617, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:03:42 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

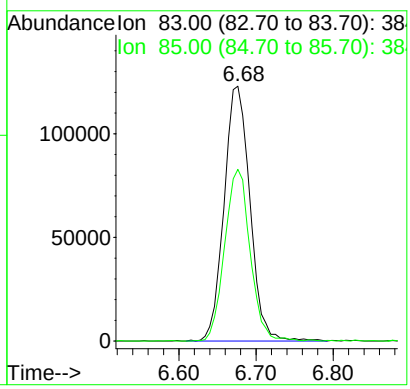


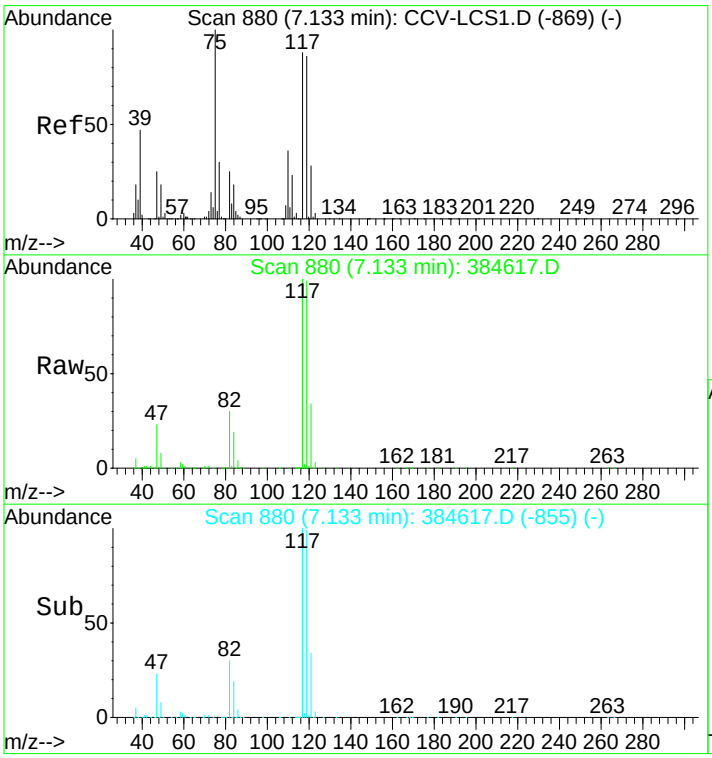


#39
Chloroform
Concen: 12.64 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 384617.D
Acq: 5 Feb 2020 16:43

Tgt Ion: 83 Resp: 287171

Ion	Ratio	Lower	Upper
83	100		
85	66.1	47.3	87.3

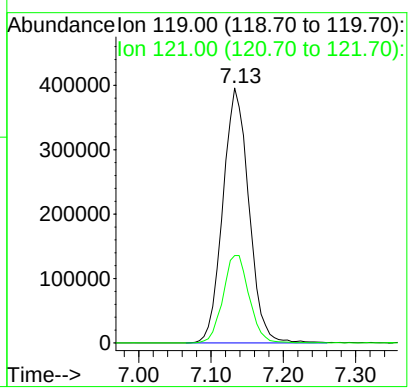


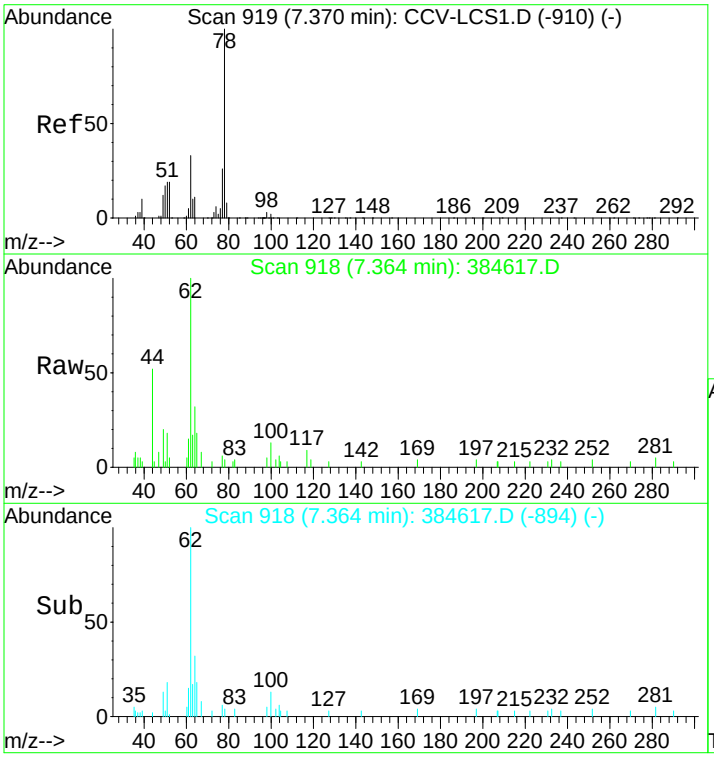


#43
Carbtetraclo
Concen: 73.42 ug/L
RT: 7.13 min Scan# 880
Delta R.T. 0.00 min
Lab File: 384617.D
Acq: 5 Feb 2020 16:43

Tgt Ion:119 Resp: 991305

Ion	Ratio	Lower	Upper
119	100		
121	34.5	11.2	51.2

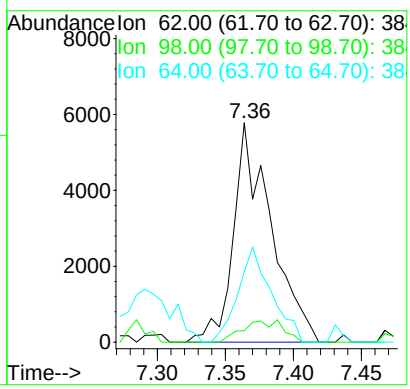


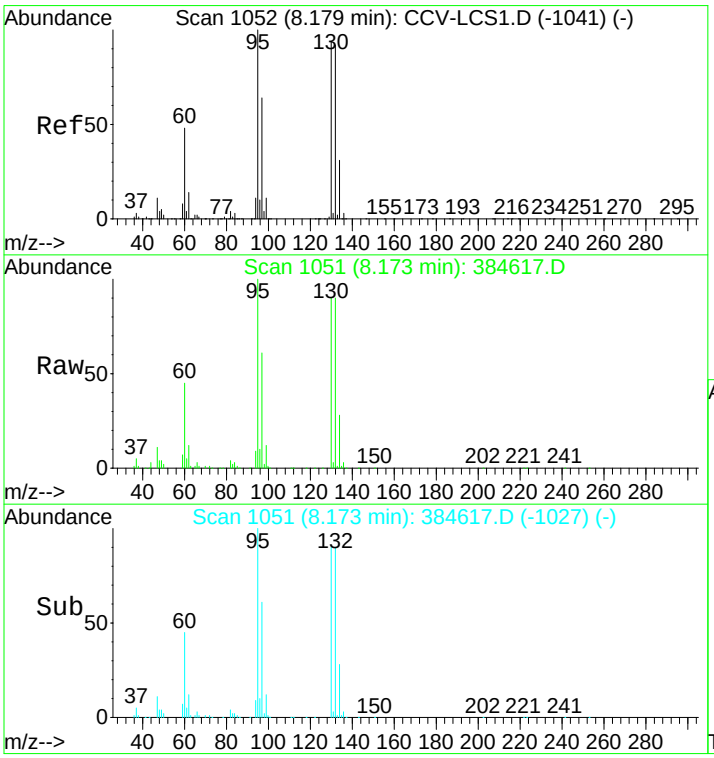


#47
12dichlorota
Concen: 0.65 ug/L
RT: 7.36 min Scan# 918
Delta R.T. -0.01 min
Lab File: 384617.D
Acq: 5 Feb 2020 16:43

Tgt Ion: 62 Resp: 11069

Ion	Ratio	Lower	Upper
62	100		
98	10.7	0.0	30.8
64	38.7	14.1	54.1

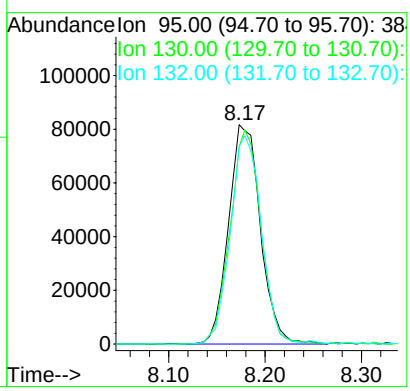




#49
trichloroete
Concen: 14.26 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 384617.D
Acq: 5 Feb 2020 16:43

Tgt Ion: 95 Resp: 187593

Ion	Ratio	Lower	Upper
95	100		
130	94.9	75.4	115.4
132	93.1	70.1	110.1



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383695.D Vial: 7
Acq On : 6 Feb 2020 10:08 Operator: RLD-DGS
Sample : 168568,383695, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:29:18 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	1004930	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1134782	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	692983	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	299796	20.370	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 102	%		
45) SURR12DCAd4	7.18	102	67870	20.451	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
61) SURRd8Tolule	9.61	98	1213961	20.338	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.16	95	538653	19.760	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.79	85	1071	N.D.		
3) Chloromethan	2.05	50	1498	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2240	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	3984	N.D.		
16) Iodomethane	4.08	127	1173	2.0053	ug/L #	47
17) Carbon Dislf	4.15	76	2044	N.D.		
18) allylchloride	4.35	41	4275	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	7962	N.D.		
21) tbutylalcohol	4.83	59	1172	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.55	43	1325	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.17	77	2016	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	3054	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383695.D Vial: 7
Acq On : 6 Feb 2020 10:08 Operator: RLD-DGS
Sample : 168568,383695, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:29:18 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.26	78	2161	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.97	43	1150	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.58	43	1704	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.51	91	2847	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	12.95	105	1326	N.D.	
81)	cyclohexanone	13.16	55	2129	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.54	91	1840	N.D.	
89)	2chlorotolue	13.54	91	1840	N.D.	
90)	4chlorotolue	13.81	91	1306	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.34	105	1443	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	14.83	146	1214	N.D.	
96)	pIsopropylto	14.80	119	1178	N.D.	
97)	14dichlorobe	14.83	146	1452	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.38	91	3295	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383695.D Vial: 7
Acq On : 6 Feb 2020 10:08 Operator: RLD-DGS
Sample : 168568,383695, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:29:18 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.95	128	2265	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

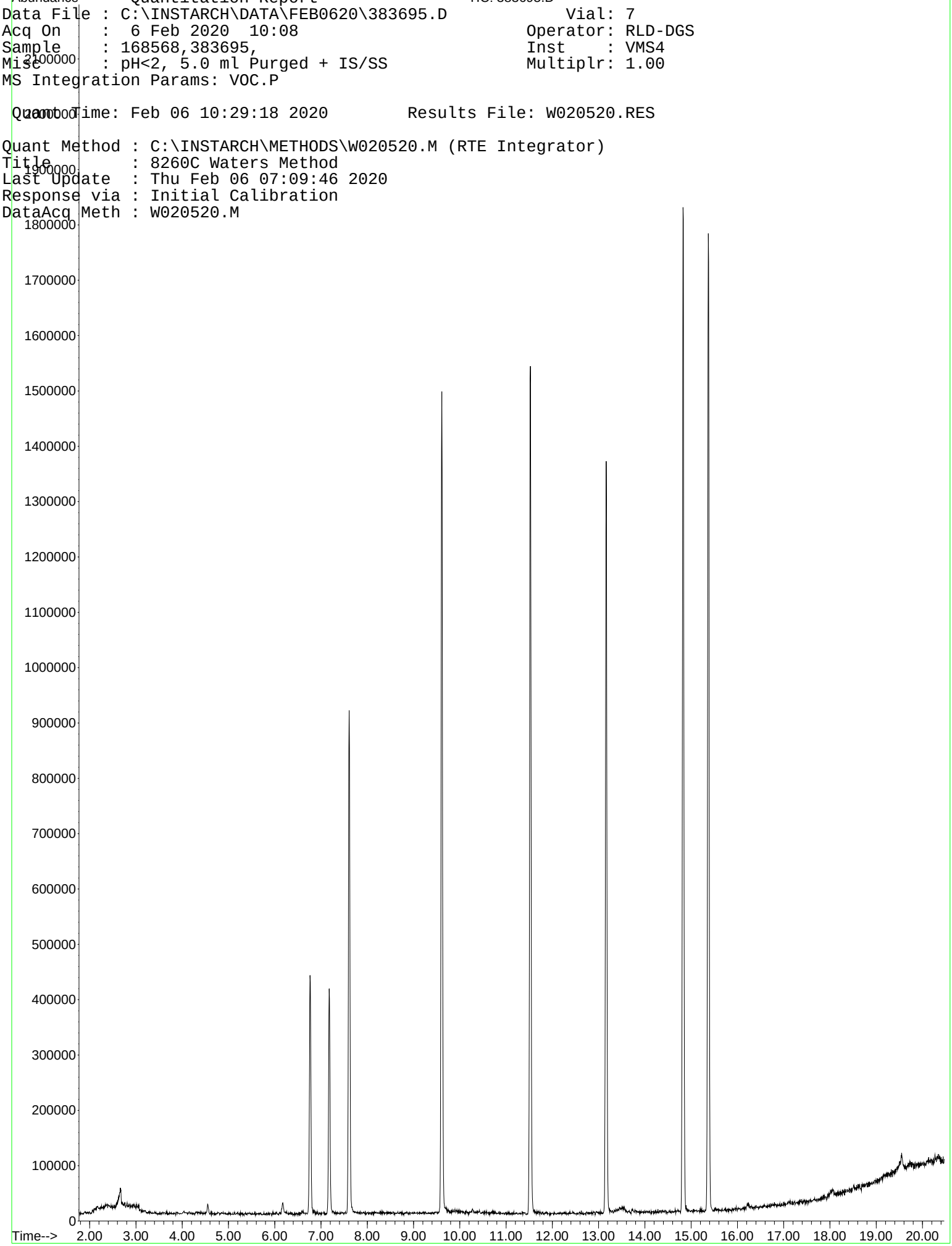
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 383695.D

Data File : C:\INSTARCH\DATA\FEB0620\383695.D Vial: 7
Acq On : 6 Feb 2020 10:08 Operator: RLD-DGS
Sample : 168568,383695, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:29:18 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384093.D Vial: 8
Acq On : 6 Feb 2020 10:37 Operator: RLD-DGS
Sample : 168568,384093, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:58:01 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	948782	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1082730	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	654267	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.77	113	279540	20.117	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101 %			
45) SURR12DCAd4	7.18	102	63102	20.139	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %			
61) SURRd8Tolule	9.61	98	1170025	20.762	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104 %			
83) SURR4BrFBenz	13.16	95	515817	20.042	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 100 %			

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	2.06	50	2059	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	2.66	94	2244	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	0.00	101	0	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	4.03	43	6203	N.D.
16) Iodomethane	0.00	127	0	N.D.
17) Carbon Dislf	4.17	76	2397	N.D.
18) allylchloride	4.37	41	1752	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	4.55	84	8246	N.D.
21) tbutylalcohol	4.83	59	1779	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	0.00	63	0	N.D.
27) Vinylacetate	5.56	43	1663	N.D.
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	6.18	77	2045	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	6.61	42	3052	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384093.D Vial: 8
Acq On : 6 Feb 2020 10:37 Operator: RLD-DGS
Sample : 168568,384093, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:58:01 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.26	78	2070	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.46	43	1497	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.52	91	2084	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	11.88	106	1014	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.17	55	2189	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	13.81	91	1267	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.34	105	1202	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.81	119	1004	N.D.	
97)	14dichlorobe	14.85	146	1018	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.38	91	3003	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384093.D Vial: 8
Acq On : 6 Feb 2020 10:37 Operator: RLD-DGS
Sample : 168568,384093, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:58:01 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.94	128	1724	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

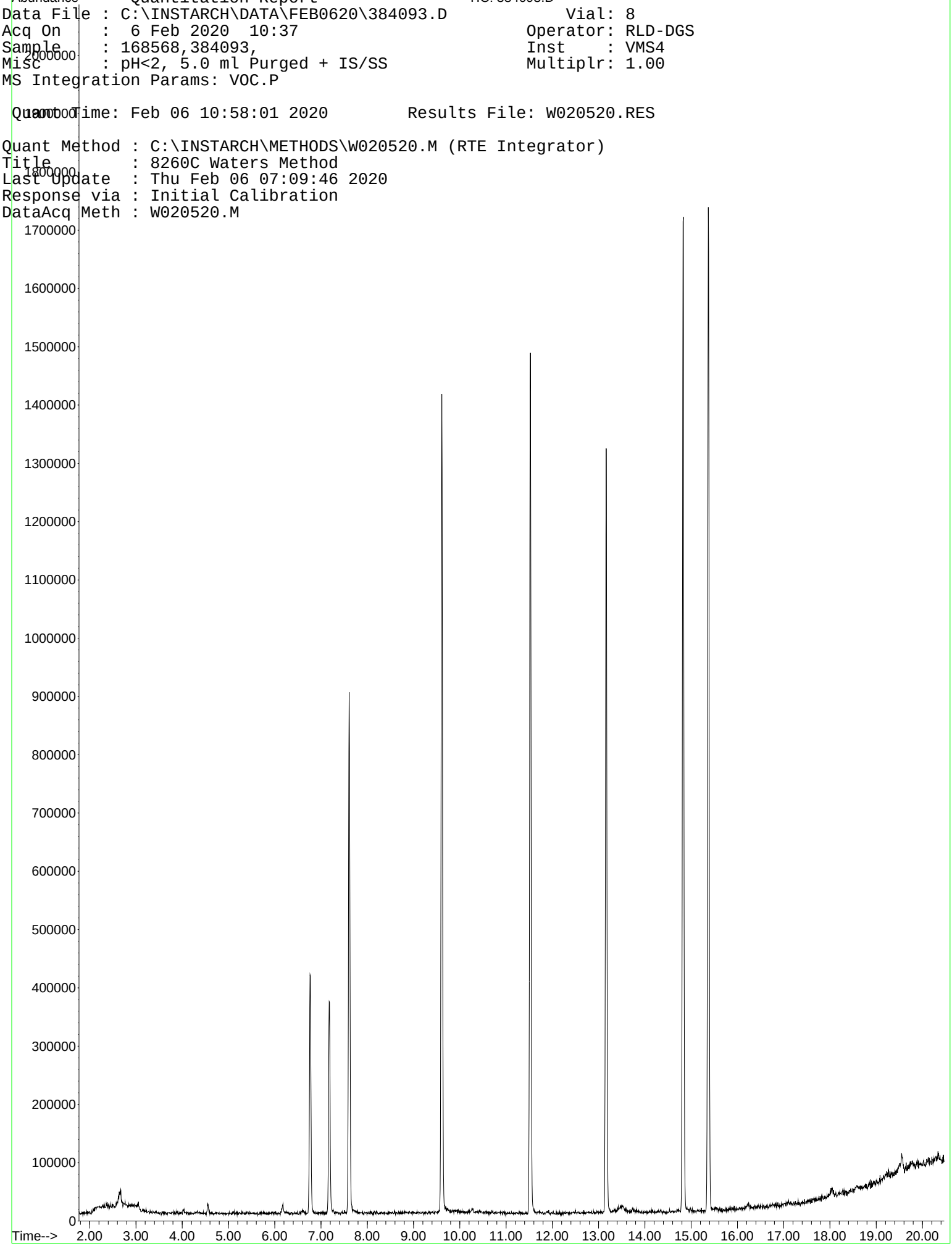
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 384093.D

Data File : C:\INSTARCH\DATA\FEB0620\384093.D Vial: 8
Acq On : 6 Feb 2020 10:37 Operator: RLD-DGS
Sample : 168568,384093, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 10:58:01 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384098.D Vial: 9
Acq On : 6 Feb 2020 11:05 Operator: RLD-DGS
Sample : 168568,384098, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:26:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	950789	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1086912	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	664805	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.77	113	279098	20.043	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	66348	21.131	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 106	%		
61) SURRd8Tolule	9.61	98	1158576	20.516	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.16	95	522680	19.987	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	1043	N.D.		
3) Chloromethan	2.05	50	2414	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2237	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	23904	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.17	76	2474	N.D.		
18) allylchloride	4.38	41	3970	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	2074	Below	Cal #	78
21) tbutylalcohol	4.82	59	3795	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.56	43	1184	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.18	77	2467	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	6.24	72	2380	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	1231	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384098.D Vial: 9
Acq On : 6 Feb 2020 11:05 Operator: RLD-DGS
Sample : 168568,384098, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:26:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.57	83	13317	0.5081 ug/L	94
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.25	78	2182	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	8.68	83	2637	N.D.	
57)	2Nitropropane	9.00	43	1705	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.49	43	1747	N.D.	
62)	Toluene	9.70	92	1726	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	2851	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.70	91	1178	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.16	55	1717	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.55	91	1157	N.D.	
89)	2chlorotolue	13.55	91	1157	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.34	105	1804	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.79	119	1150	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	15.40	146	2012	N.D.	
99)	nButylbenzen	15.38	91	2665	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384098.D Vial: 9
Acq On : 6 Feb 2020 11:05 Operator: RLD-DGS
Sample : 168568,384098, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:26:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.94	128	1694	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

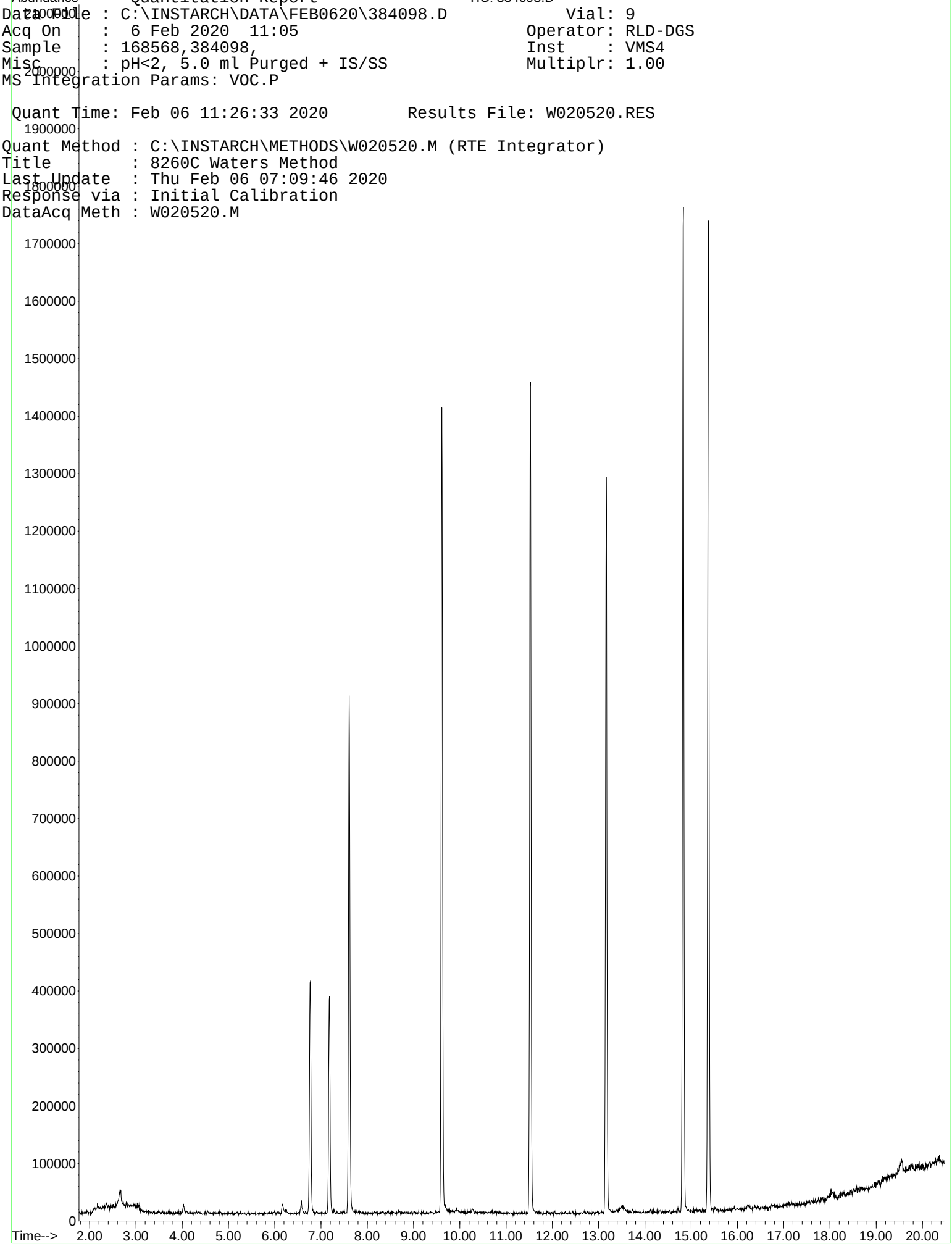
(#) = qualifier out of range (m) = manual integration

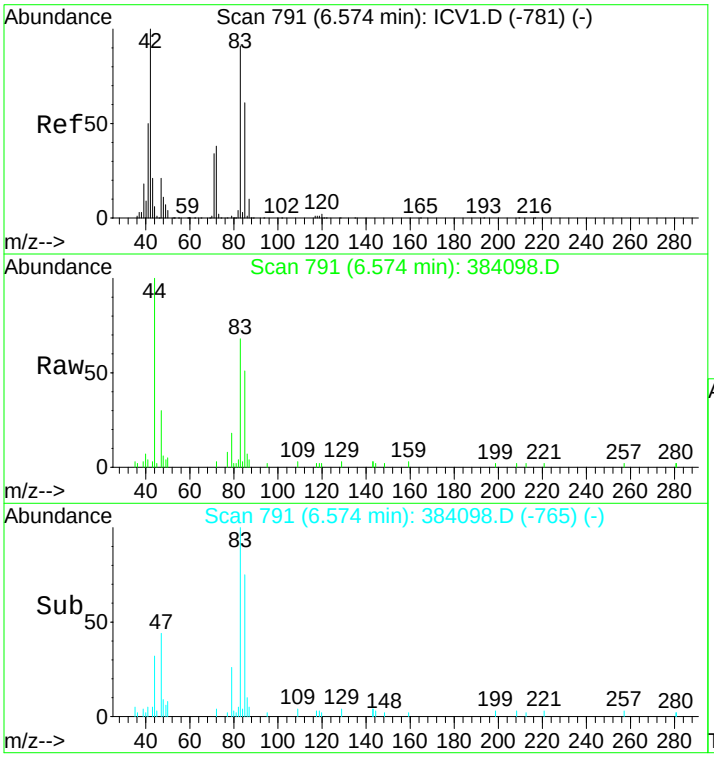
Quantitation Report (RTE)

Data File : C:\INSTARCH\DATA\FEB0620\384098.D Vial: 9
Acq On : 6 Feb 2020 11:05 Operator: RLD-DGS
Sample : 168568,384098, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:26:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

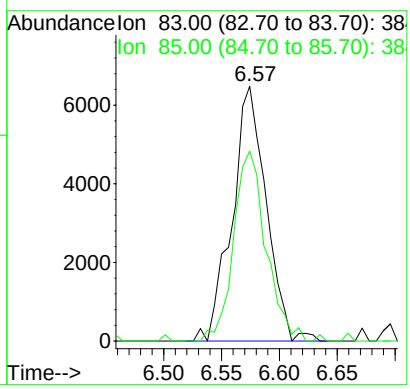




#39
Chloroform
Concen: 0.51 ug/L
RT: 6.57 min Scan# 791
Delta R.T. 0.01 min
Lab File: 384098.D
Acq: 6 Feb 2020 11:05

Tgt Ion: 83 Resp: 13317

Ion	Ratio	Lower	Upper
83	100		
85	70.5	45.5	85.5



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383696.D Vial: 10
Acq On : 6 Feb 2020 11:34 Operator: RLD-DGS
Sample : 168568,383696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:55:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	943172	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.52	117	1077104	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	659235	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	278653	20.173	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101 %			
45) SURR12DCAd4	7.18	102	64304	20.645	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103 %			
61) SURRd8Tolule	9.61	98	1148955	20.510	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %			
83) SURR4BrFBenz	13.16	95	516931	19.934	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.80	85	1039	N.D.		
3) Chloromethan	2.05	50	2180	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2527	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	4160	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.18	76	2547	N.D.		
18) allylchloride	4.35	41	2724	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	1767	Below	Cal #	76
21) tbutylalcohol	4.82	59	2041	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.54	43	1668	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.17	77	1143	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.62	42	2309	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383696.D Vial: 10
Acq On : 6 Feb 2020 11:34 Operator: RLD-DGS
Sample : 168568,383696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:55:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.27	78	2404	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.97	43	1141	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.70	92	1749	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.57	43	1104	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	11.56	112	1171	N.D.	
73)	1Clhexane	11.52	91	2145	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.72	91	2112	N.D.	
76)	m p-Xylene	11.89	106	3186	N.D.	
77)	o-Xylene	12.43	106	1045	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.10	55	1041	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.53	91	1291	N.D.	
89)	2chlorotolue	13.66	91	1178	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	13.80	105	1138	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.34	105	3473	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	14.82	146	1269	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	14.82	146	1613	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.40	91	2352	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383696.D Vial: 10
Acq On : 6 Feb 2020 11:34 Operator: RLD-DGS
Sample : 168568,383696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:55:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.95	128	2542	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

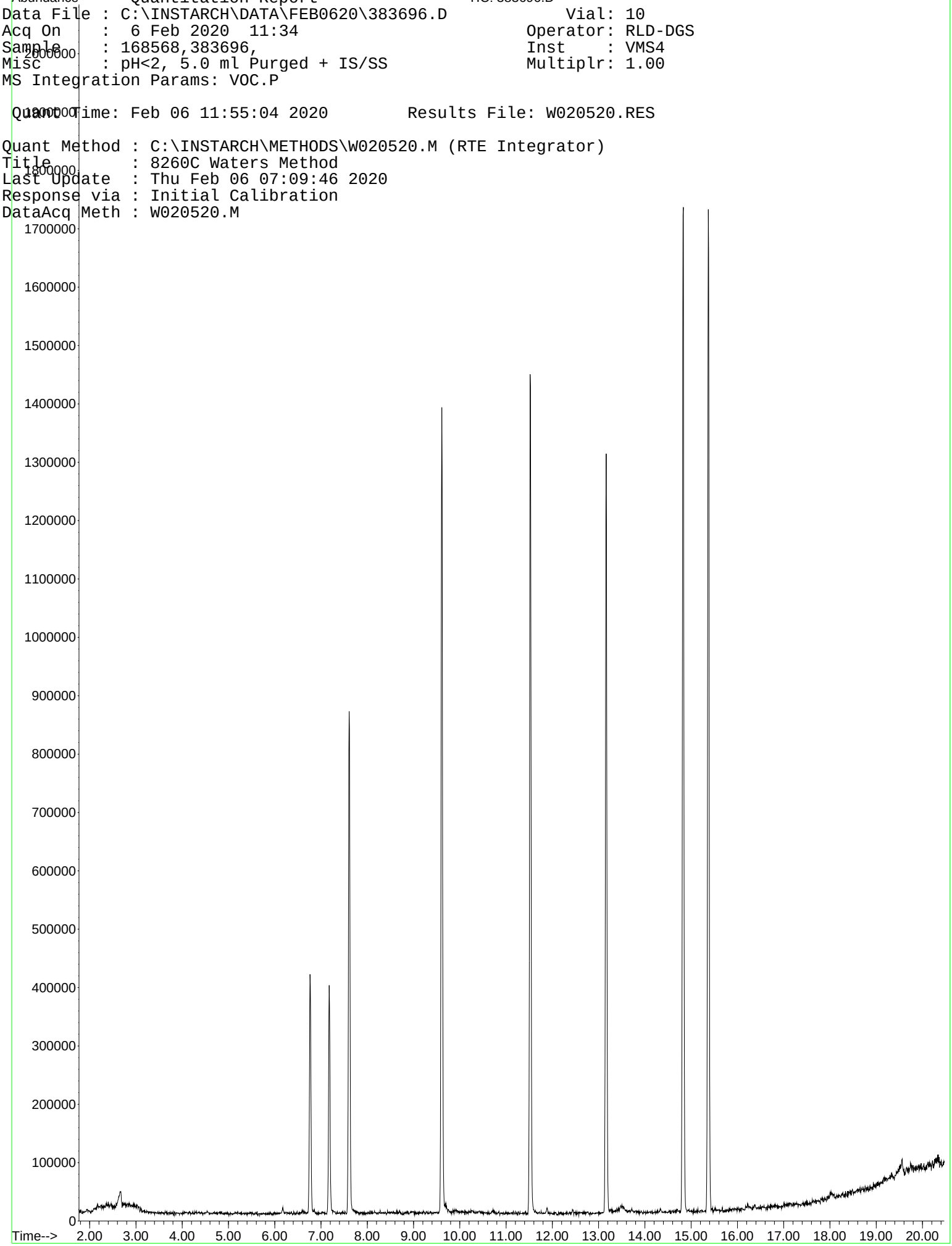
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 383696.D

Data File : C:\INSTARCH\DATA\FEB0620\383696.D Vial: 10
Acq On : 6 Feb 2020 11:34 Operator: RLD-DGS
Sample : 168568,383696, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 11:55:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383697.D Vial: 11
Acq On : 6 Feb 2020 12:03 Operator: RLD-DGS
Sample : 168568,383697, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:23:41 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	915902	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1030843	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	642649	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	264181	19.695	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 98 %			
45) SURR12DCAd4	7.18	102	62091	20.528	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103 %			
61) SURRd8Tolule	9.61	98	1095689	20.141	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.16	95	490939	19.420	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 97 %			
Target Compounds						Qvalue
2) Dichlorodi	1.80	85	1297	N.D.		
3) Chloromethan	2.05	50	1983	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2232	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	3688	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.18	76	2052	N.D.		
18) allylchloride	4.37	41	1390	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	1665	Below	Cal	88
21) tbutylalcohol	4.83	59	2338	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.19	77	1814	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.62	42	1671	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383697.D Vial: 11
Acq On : 6 Feb 2020 12:03 Operator: RLD-DGS
Sample : 168568,383697, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:23:41 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.02	119	1075	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.27	78	1655	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.07	95	1311	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.47	43	1082	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.41	166	1247	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	2888	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.16	55	2096	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.54	91	1591	N.D.	
89)	2chlorotolue	13.54	91	1591	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.37	91	2786	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383697.D Vial: 11
Acq On : 6 Feb 2020 12:03 Operator: RLD-DGS
Sample : 168568,383697, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:23:41 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

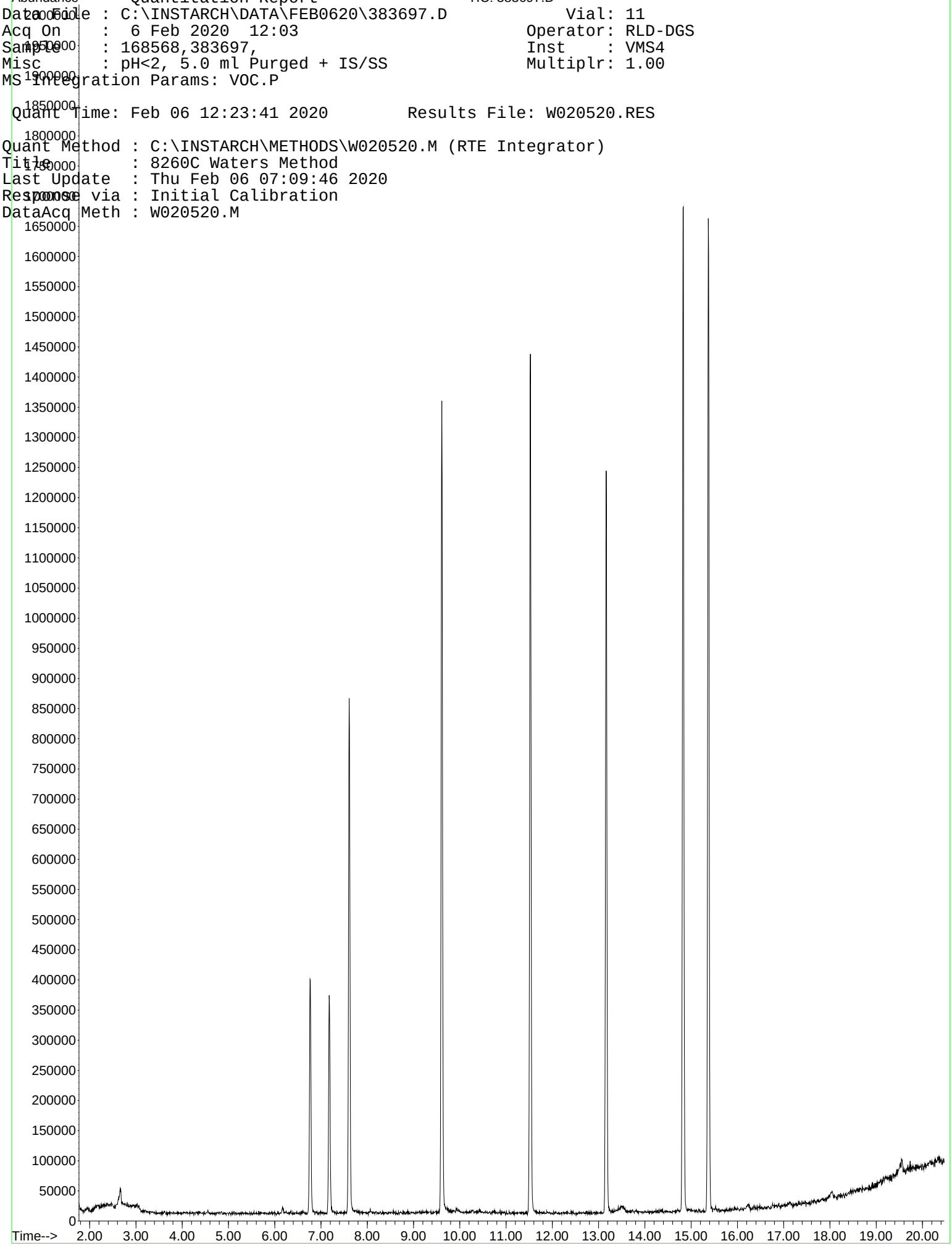
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 383697.D

Data File : C:\INSTARCH\DATA\FEB0620\383697.D Vial: 11
Acq On : 6 Feb 2020 12:03 Operator: RLD-DGS
Sample : 168568,383697, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:23:41 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383698.D Vial: 12
Acq On : 6 Feb 2020 12:31 Operator: RLD-DGS
Sample : 168568,383698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:52:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	921354	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1046715	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	644074	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	269305	19.958	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	62903	20.674	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
61) SURRd8Tolule	9.61	98	1110910	20.300	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.16	95	498253	19.666	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.05	50	2248	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2092	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.02	43	3099	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.17	76	1836	N.D.		
18) allylchloride	4.37	41	2884	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.56	84	1367	Below	Cal #	62
21) tbutylalcohol	4.83	59	2463	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.55	43	1017	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.18	77	1563	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	1847	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383698.D Vial: 12
Acq On : 6 Feb 2020 12:31 Operator: RLD-DGS
Sample : 168568,383698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:52:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.58	83	1826	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.02	119	2292	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.26	78	2090	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.06	95	12906	0.8335	ug/L	93
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	9.48	43	1000	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.60	43	1053	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.53	91	2709	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.16	55	1896	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.53	91	1003	N.D.		
89)	2chlorotolue	13.53	91	1003	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	14.81	119	1039	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	15.38	91	2824	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383698.D Vial: 12
Acq On : 6 Feb 2020 12:31 Operator: RLD-DGS
Sample : 168568,383698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:52:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.94	128	2009	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

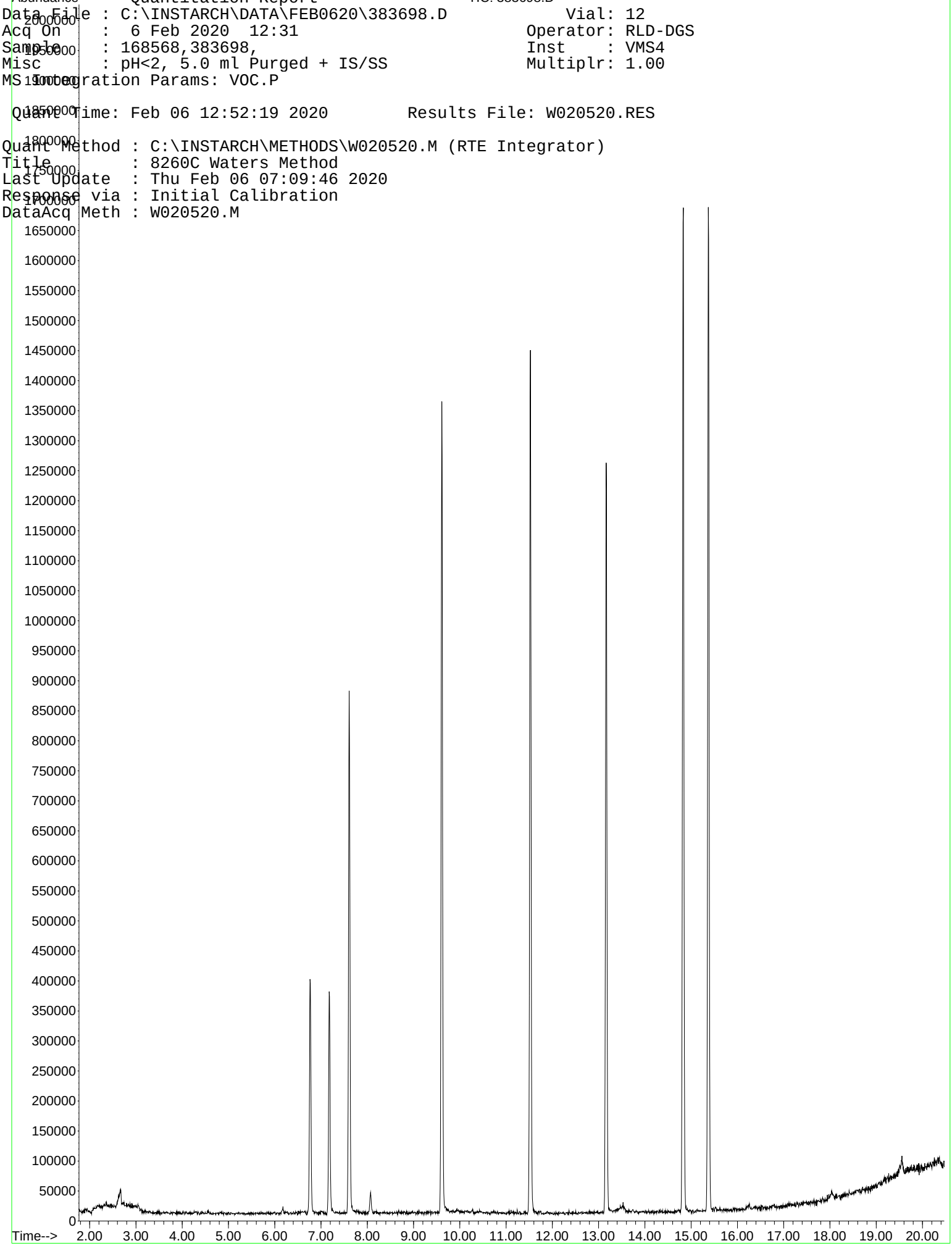
(#) = qualifier out of range (m) = manual integration

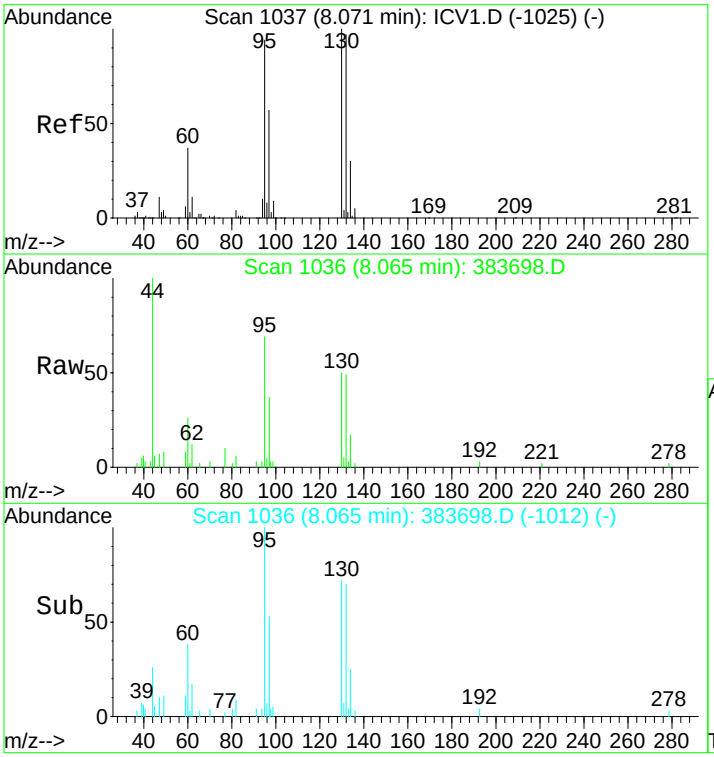
Abundance Quantitation Report TIC: 383698.D

Data File : C:\INSTARCH\DATA\FEB0620\383698.D Vial: 12
Acq On : 6 Feb 2020 12:31 Operator: RLD-DGS
Sample : 168568,383698, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 12:52:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

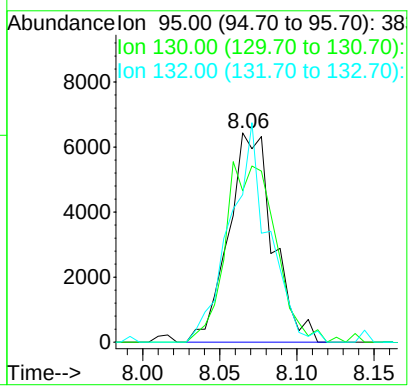




#49
trichloroete
Concen: 0.83 ug/L
RT: 8.06 min Scan# 1036
Delta R.T. -0.01 min
Lab File: 383698.D
Acq: 6 Feb 2020 12:31

Tgt Ion: 95 Resp: 12906

Ion	Ratio	Lower	Upper
95	100		
130	96.7	81.3	121.3
132	90.9	81.3	121.3



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383699.D Vial: 13
Acq On : 6 Feb 2020 13:00 Operator: RLD-DGS
Sample : 168568,383699, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:20:57 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	912594	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1052417	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	650420	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.77	113	267420	20.008	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	60513	20.079	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
61) SURRd8Tolule	9.61	98	1112271	20.520	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.16	95	498506	19.484	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	1179	N.D.		
3) Chloromethan	2.04	50	2764	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.67	94	2998	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.20	101	4673	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	3502	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.18	76	1340	N.D.		
18) allylchloride	4.38	41	2206	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	1401	Below	Cal	87
21) tbutylalcohol	4.81	59	2215	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.44	63	2662	N.D.		
27) Vinylacetate	5.56	43	1395	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.18	77	1275	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.62	42	1864	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383699.D Vial: 13
Acq On : 6 Feb 2020 13:00 Operator: RLD-DGS
Sample : 168568,383699, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:20:57 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.57	83	10385	0.4128	ug/L	98
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.02	119	78090	4.6278	ug/L	97
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.27	78	2112	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.08	95	12136	0.7913	ug/L	96
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.53	91	1812	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.71	91	1414	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.16	55	2611	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	15.37	146	1260	N.D.		
99)	nButylbenzen	15.38	91	2752	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383699.D Vial: 13
Acq On : 6 Feb 2020 13:00 Operator: RLD-DGS
Sample : 168568,383699, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:20:57 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.95	128	1540	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

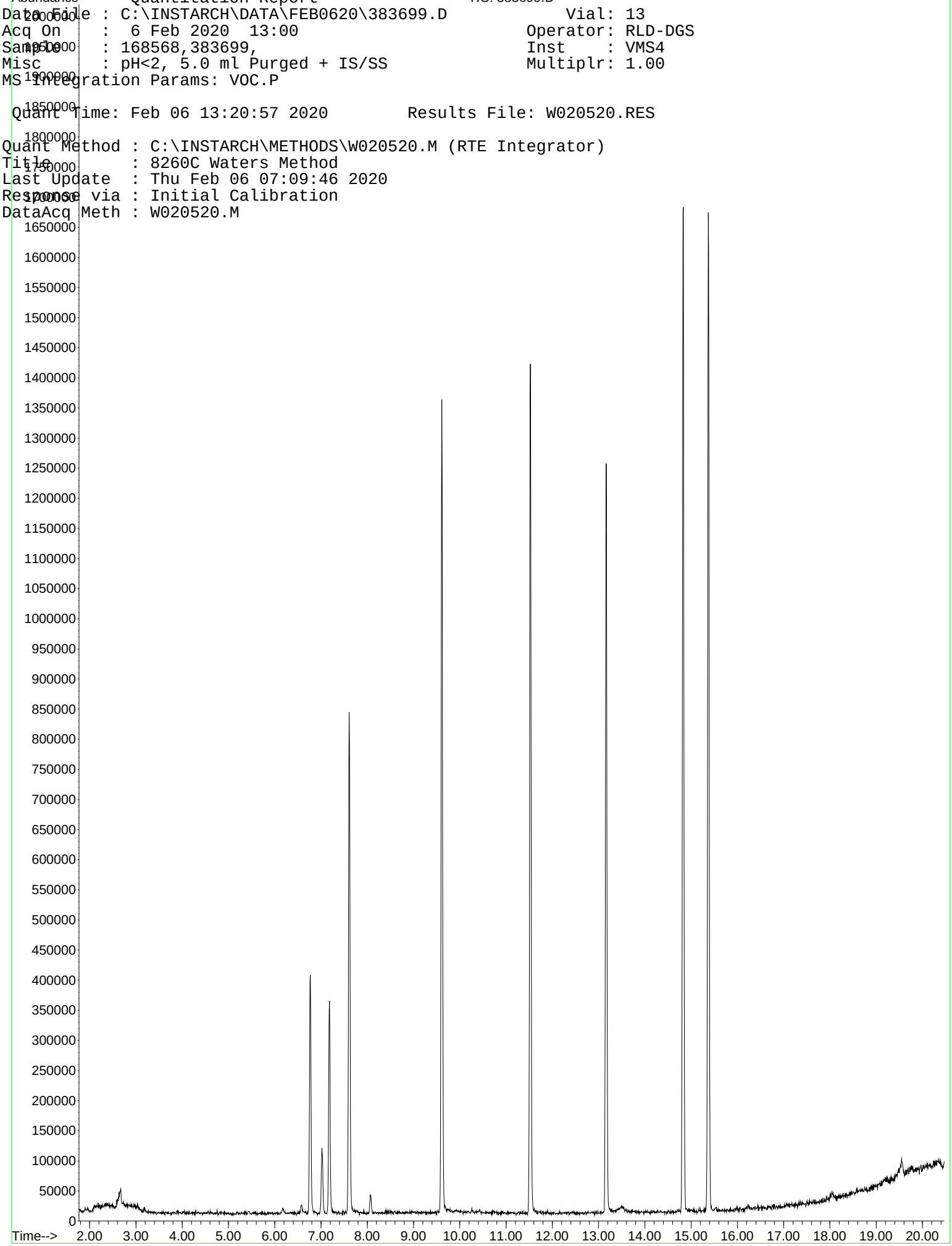
(#) = qualifier out of range (m) = manual integration

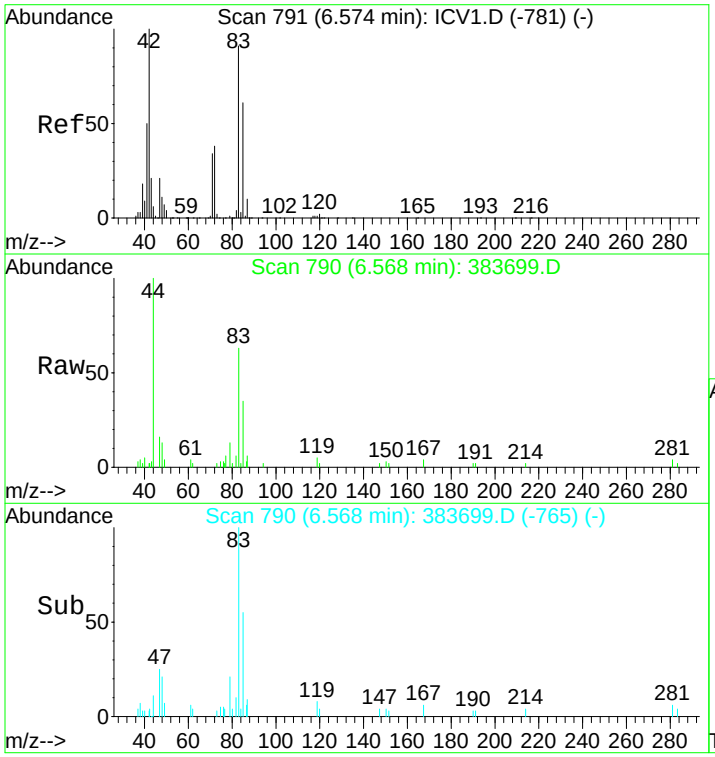
Abundance Quantitation Report TIC: 383699.D

Data File : C:\INSTARCH\DATA\FEB0620\383699.D Vial: 13
Acq On : 6 Feb 2020 13:00 Operator: RLD-DGS
Sample : 168568,383699, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:20:57 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

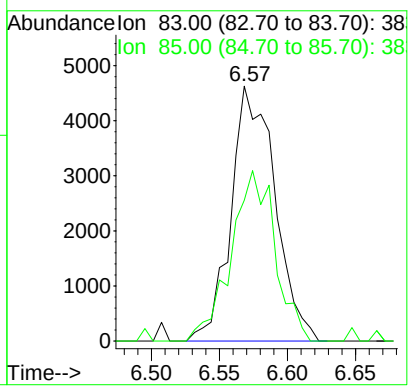


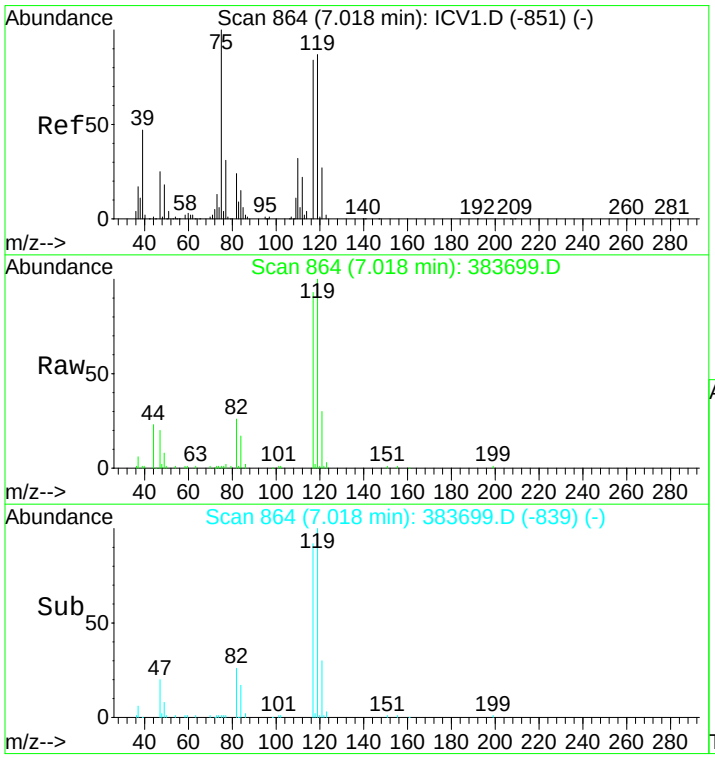


#39
Chloroform
Concen: 0.41 ug/L
RT: 6.57 min Scan# 790
Delta R.T. 0.00 min
Lab File: 383699.D
Acq: 6 Feb 2020 13:00

Tgt Ion: 83 Resp: 10385

Ion	Ratio	Lower	Upper
83	100		
85	66.9	45.5	85.5

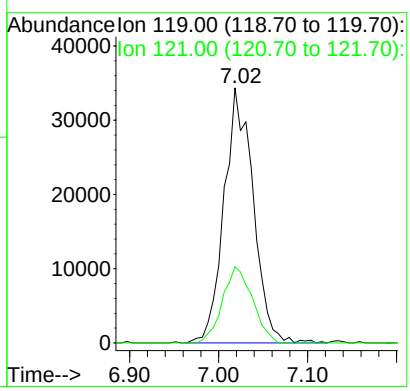


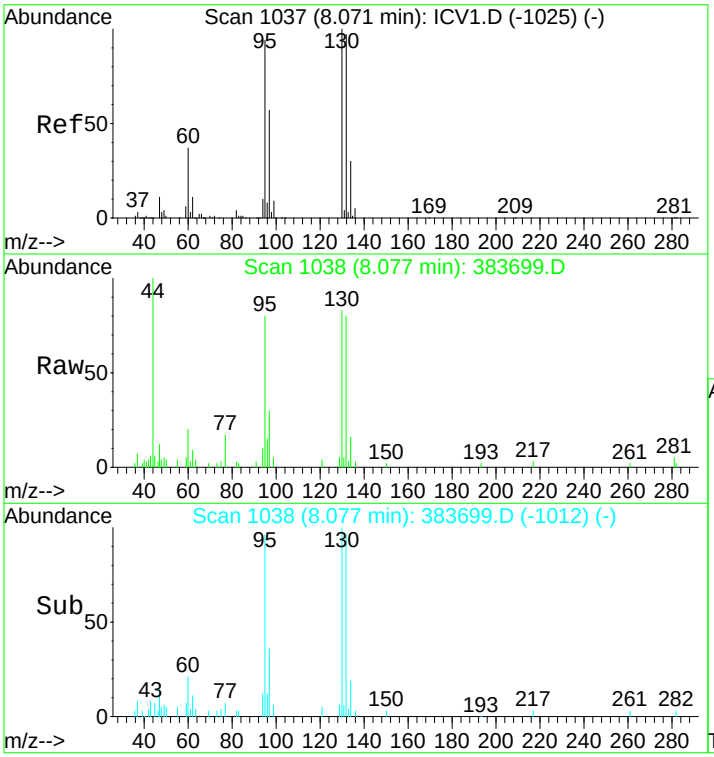


#43
Carbtetraclo
Concen: 4.63 ug/L
RT: 7.02 min Scan# 864
Delta R.T. 0.00 min
Lab File: 383699.D
Acq: 6 Feb 2020 13:00

Tgt Ion:119 Resp: 78090

Ion	Ratio	Lower	Upper
119	100		
121	30.7	12.5	52.5

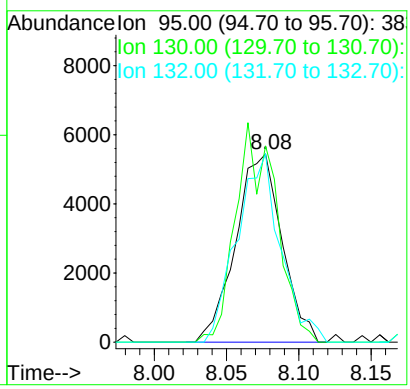




#49
trichloroete
Concen: 0.79 ug/L
RT: 8.08 min Scan# 1038
Delta R.T. 0.01 min
Lab File: 383699.D
Acq: 6 Feb 2020 13:00

Tgt Ion: 95 Resp: 12136

Ion	Ratio	Lower	Upper
95	100		
130	101.8	81.3	121.3
132	94.4	81.3	121.3



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383700.D Vial: 14
Acq On : 6 Feb 2020 13:28 Operator: RLD-DGS
Sample : 168568,383700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:49:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	899389	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1032095	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	637309	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	263001	19.967	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	60509	20.372	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
61) SURRd8Tolule	9.61	98	1099188	20.576	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.16	95	491595	19.609	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.05	50	1975	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2715	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.18	101	5560	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	3075	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.17	76	1694	N.D.		
18) allylchloride	4.37	41	2856	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	1884	Below	Cal #	73
21) tbutylalcohol	4.82	59	1341	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.44	63	2026	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	5.61	45	1282	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.20	77	1465	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	2055	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383700.D Vial: 14
Acq On : 6 Feb 2020 13:28 Operator: RLD-DGS
Sample : 168568,383700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:49:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.57	83	9361	0.3775 ug/L	86
40)	111trichlota	6.80	97	1707	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.02	119	76555	4.6034 ug/L	100
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.27	78	1998	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.08	95	10926	0.7229 ug/L	93
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.86	43	1029	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.43	166	1566	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.55	43	1133	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	2282	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.16	55	1894	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.34	105	1069	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.80	119	1315	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.37	91	2519	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383700.D Vial: 14
Acq On : 6 Feb 2020 13:28 Operator: RLD-DGS
Sample : 168568,383700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:49:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

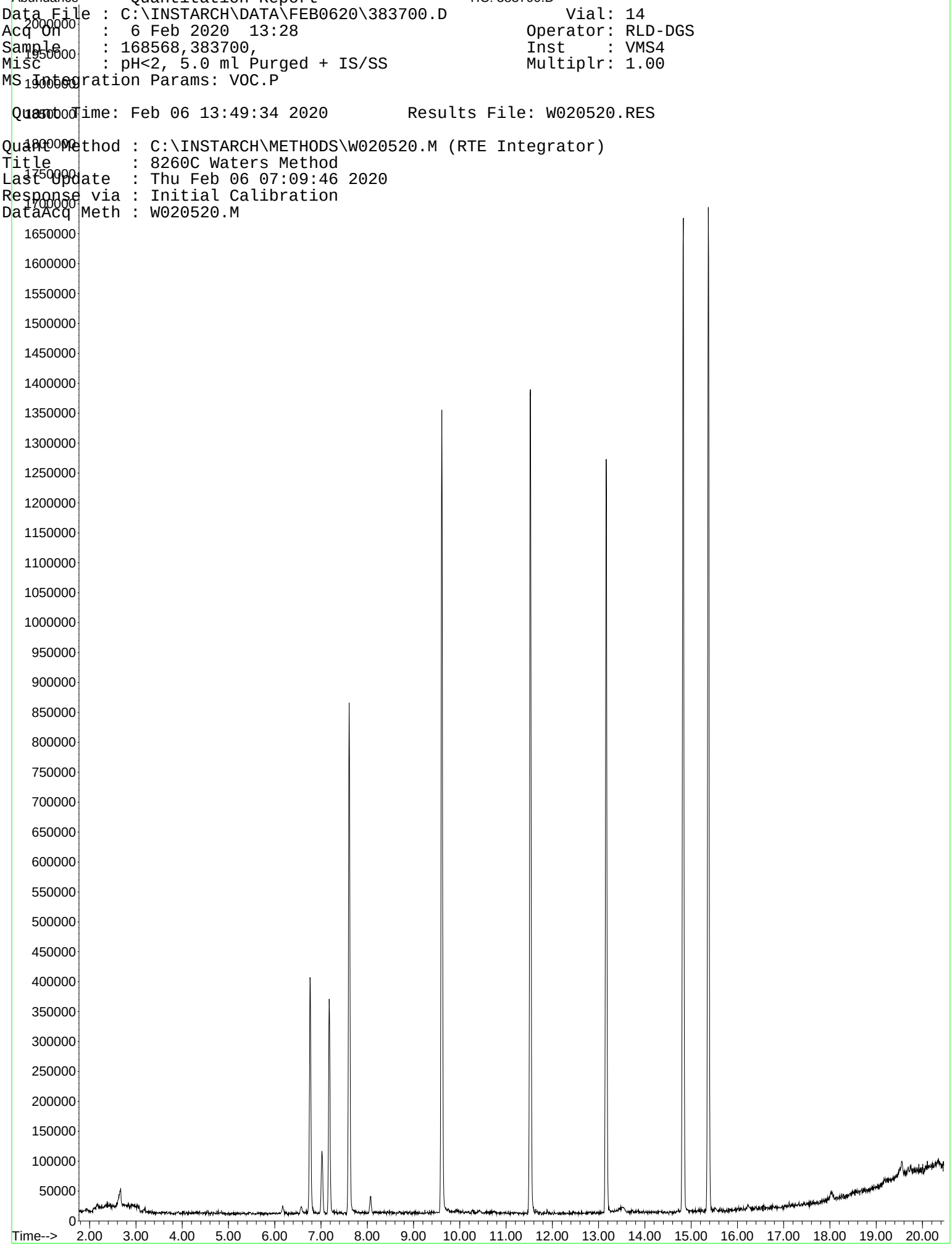
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.96	128	1625	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

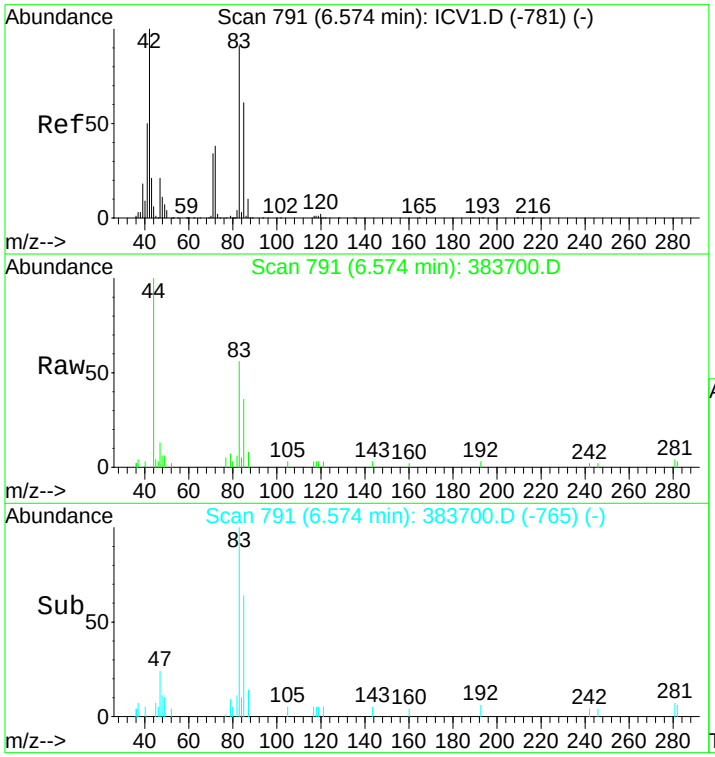
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\FEB0620\383700.D Vial: 14
Acq On : 6 Feb 2020 13:28 Operator: RLD-DGS
Sample : 168568,383700, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 13:49:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

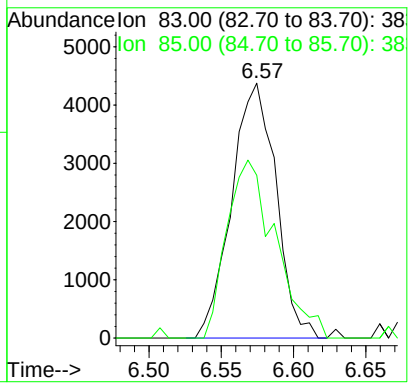


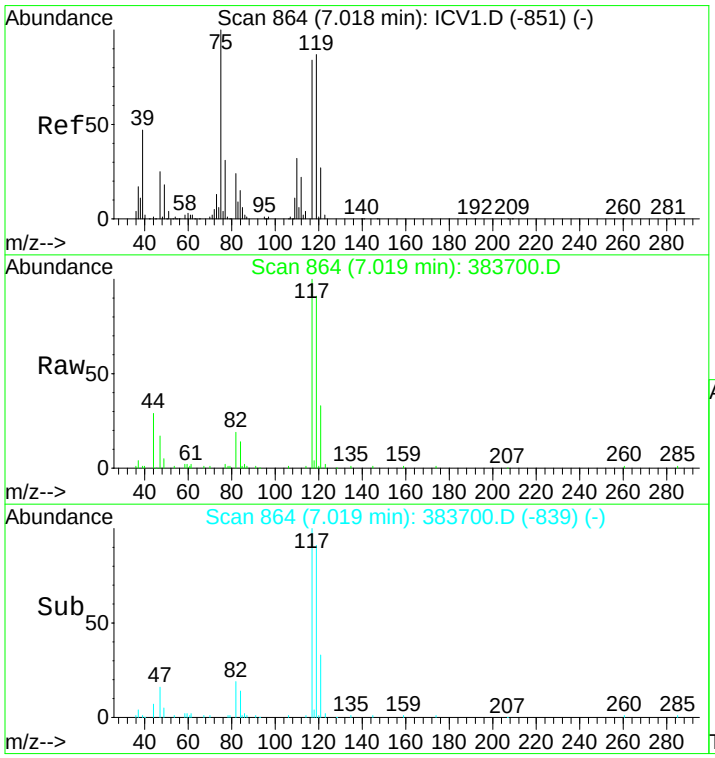


#39
Chloroform
Concen: 0.38 ug/L
RT: 6.57 min Scan# 791
Delta R.T. 0.01 min
Lab File: 383700.D
Acq: 6 Feb 2020 13:28

Tgt Ion: 83 Resp: 9361

Ion	Ratio	Lower	Upper
83	100		
85	76.5	45.5	85.5

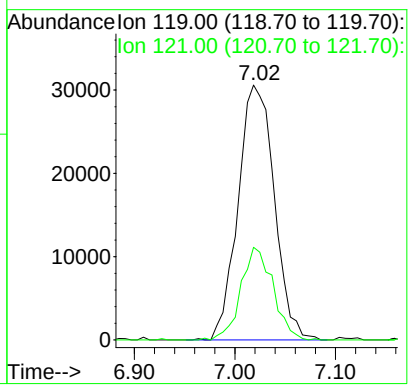


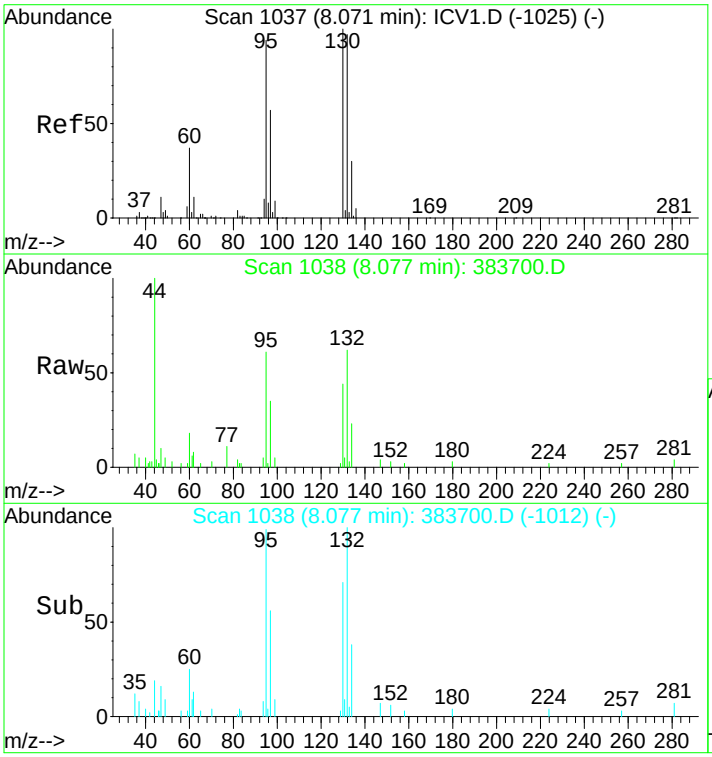


#43
Carbtetraclo
Concen: 4.60 ug/L
RT: 7.02 min Scan# 864
Delta R.T. 0.00 min
Lab File: 383700.D
Acq: 6 Feb 2020 13:28

Tgt Ion:119 Resp: 76555

Ion	Ratio	Lower	Upper
119	100		
121	32.3	12.5	52.5

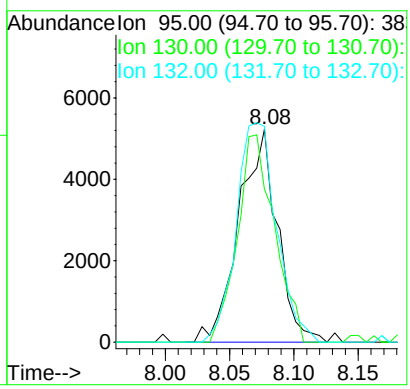




#49
trichloroete
Concen: 0.72 ug/L
RT: 8.08 min Scan# 1038
Delta R.T. 0.01 min
Lab File: 383700.D
Acq: 6 Feb 2020 13:28

Tgt Ion: 95 Resp: 10926

Ion	Ratio	Lower	Upper
95	100		
130	93.5	81.3	121.3
132	107.5	81.3	121.3



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383701.D Vial: 15
Acq On : 6 Feb 2020 13:57 Operator: RLD-DGS
Sample : 168568,383701, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:18:15 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	892598	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1033741	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	641724	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	268689	20.554	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 103	%		
45) SURR12DCAd4	7.18	102	60990	20.691	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
61) SURRd8Tolule	9.61	98	1092942	20.615	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.16	95	482141	19.100	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.06	50	3192	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2375	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.04	43	4090	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.17	76	1322	N.D.		
18) allylchloride	4.35	41	2304	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	1788	Below	Cal #	67
21) tbutylalcohol	4.83	59	1969	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.18	77	2406	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	1119	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383701.D Vial: 15
Acq On : 6 Feb 2020 13:57 Operator: RLD-DGS
Sample : 168568,383701, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:18:15 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.57	83	1476	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.02	119	9980	0.6047	ug/L	95
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.24	78	2223	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.52	91	2855	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.72	91	1025	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.16	55	2073	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	15.38	146	1147	N.D.		
99)	nButylbenzen	15.38	91	2753	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\383701.D Vial: 15
Acq On : 6 Feb 2020 13:57 Operator: RLD-DGS
Sample : 168568,383701, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:18:15 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.96	128	1694	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

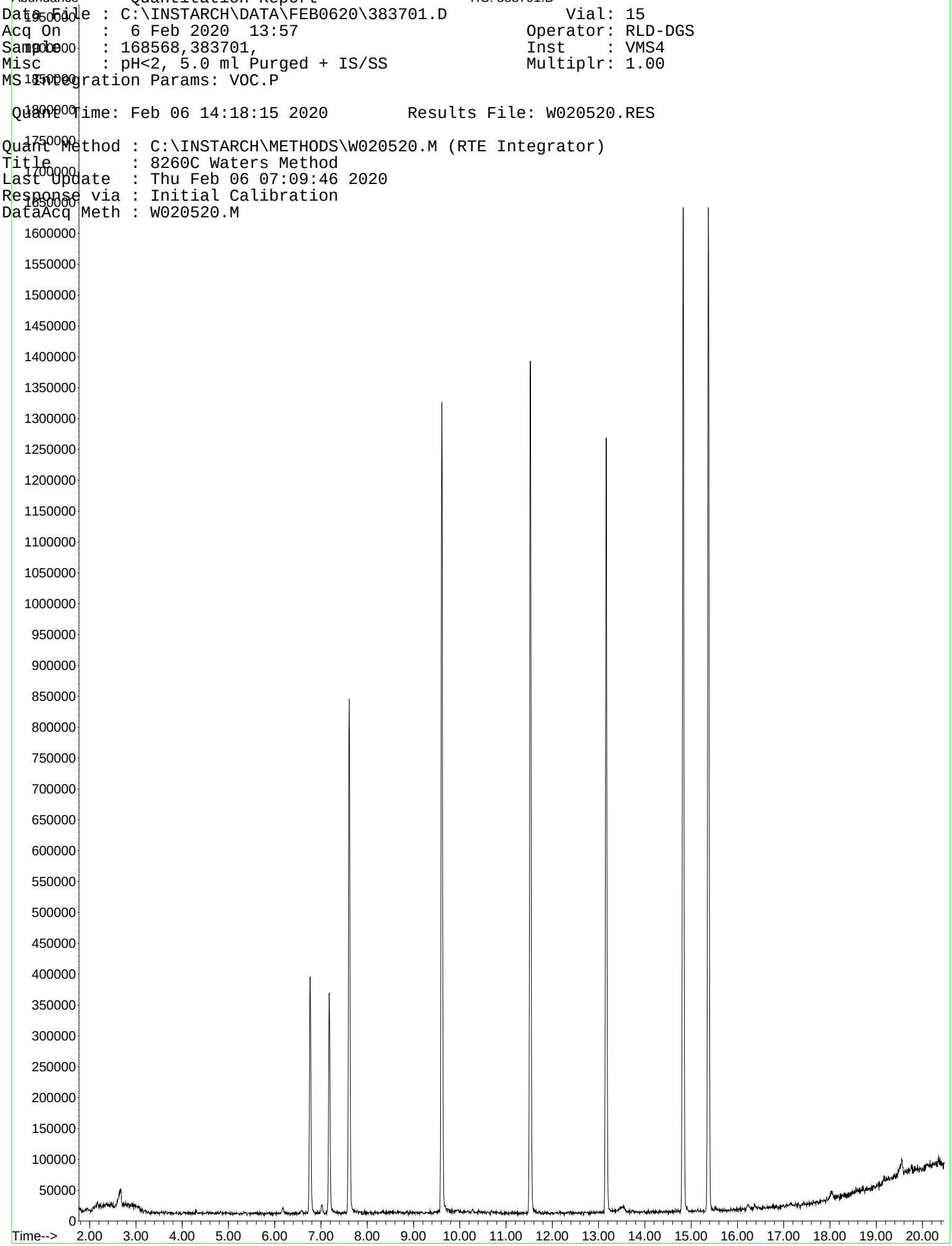
(#) = qualifier out of range (m) = manual integration

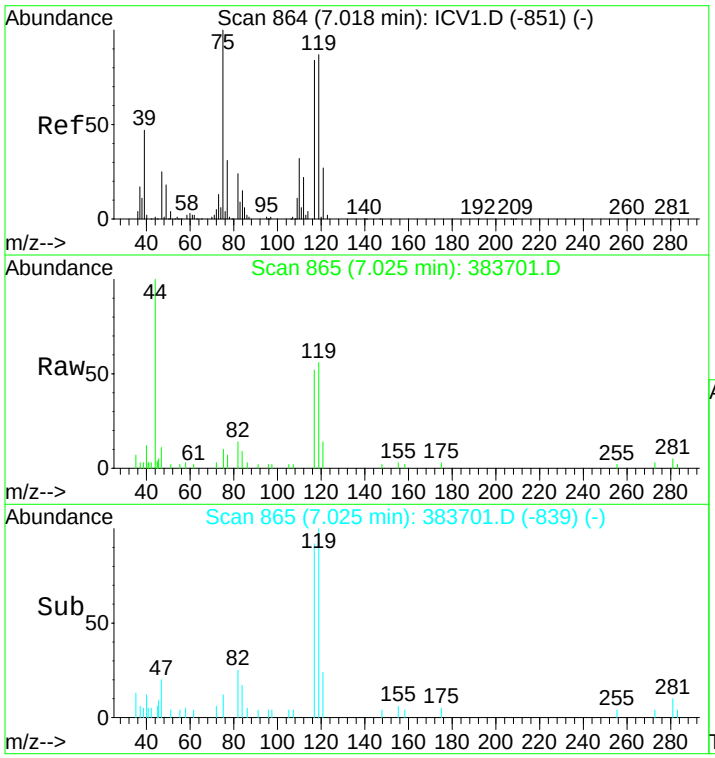
Abundance Quantitation Report TIC: 383701.D

Data File : C:\INSTARCH\DATA\FEB0620\383701.D Vial: 15
Acq On : 6 Feb 2020 13:57 Operator: RLD-DGS
Sample : 168568,383701, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:18:15 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

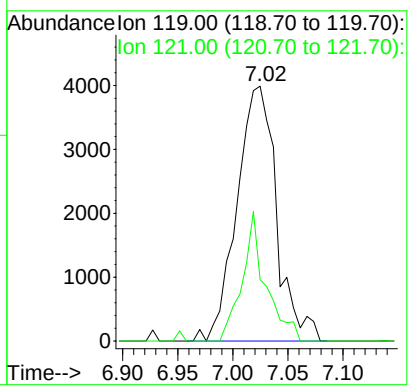




#43
Carbtetraclo
Concen: 0.60 ug/L
RT: 7.02 min Scan# 865
Delta R.T. 0.01 min
Lab File: 383701.D
Acq: 6 Feb 2020 13:57

Tgt Ion:119 Resp: 9980

Ion	Ratio	Lower	Upper
119	100		
121	29.9	12.5	52.5



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384094.D Vial: 16
Acq On : 6 Feb 2020 14:26 Operator: RLD-DGS
Sample : 168568,384094, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:47:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	924108	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1064146	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	659757	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	271542	20.064	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.17	102	62320	20.421	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
61) SURRd8Tolule	9.61	98	1115113	20.316	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 102	%		
83) SURR4BrFBenz	13.16	95	506681	19.523	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.05	50	2271	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	3046	N.D.		
6) Chloroethane	2.80	64	1013	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.64	67	2316	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	5733	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.16	76	1451	N.D.		
18) allylchloride	4.35	41	2211	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.56	84	1067	Below	Cal #	1
21) tbutylalcohol	4.83	59	2720	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	5.30	57	3591	N.D.		
26) 11dichlorota	5.45	63	35748	1.2916	ug/L	99
27) Vinylacetate	5.55	43	1551	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	6.17	59	1129	N.D.		
31) 22dichloropr	6.20	77	1291	N.D.		
32) c12dichlorte	6.18	96	38263	2.2909	ug/L #	85
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.61	42	1760	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384094.D Vial: 16
Acq On : 6 Feb 2020 14:26 Operator: RLD-DGS
Sample : 168568,384094, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:47:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	6.80	97	4587	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.26	78	5845	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.06	95	24451	1.5744	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	9.49	43	1100	N.D.		
62)	Toluene	9.69	92	3934	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	10.42	166	2870	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	10.57	43	2061	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.53	91	2865	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.73	91	2276	N.D.		
76)	m p-Xylene	11.88	106	3768	N.D.		
77)	o-Xylene	12.43	106	1444	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	13.17	55	1780	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	13.55	91	1272	N.D.		
89)	2chlorotolue	13.55	91	1272	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.34	105	4544	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	14.79	119	1527	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	15.38	146	1040	N.D.		
99)	nButylbenzen	15.40	91	2683	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384094.D Vial: 16
Acq On : 6 Feb 2020 14:26 Operator: RLD-DGS
Sample : 168568,384094, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:47:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.94	128	1928	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

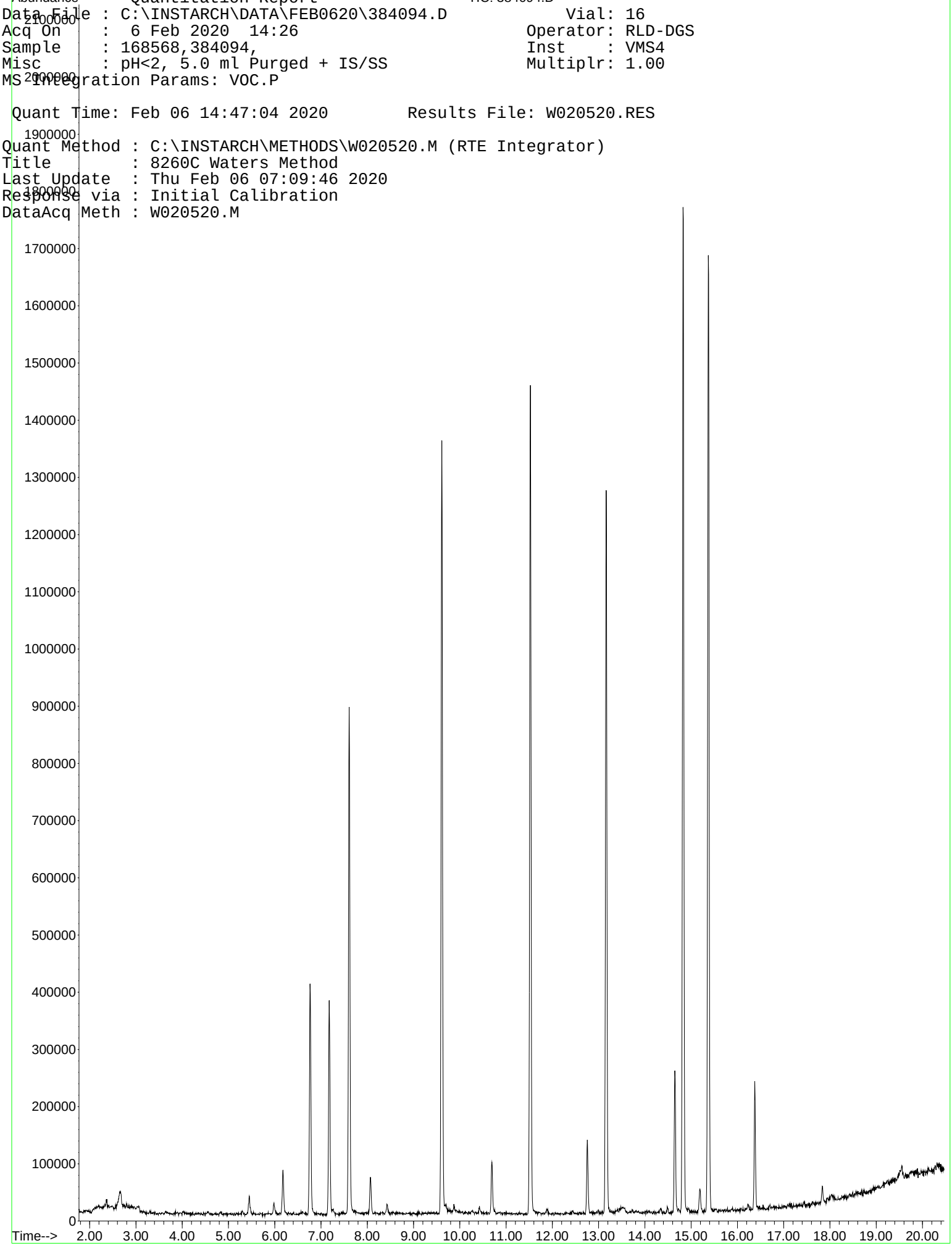
(#) = qualifier out of range (m) = manual integration

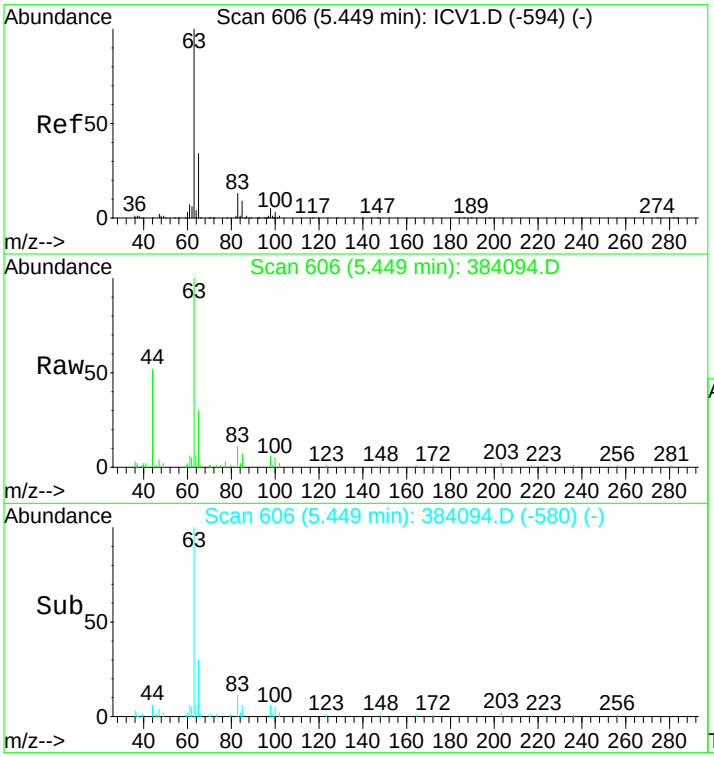
Abundance Quantitation Report TIC: 384094.D

Data File : C:\INSTARCH\DATA\FEB0620\384094.D Vial: 16
Acq On : 6 Feb 2020 14:26 Operator: RLD-DGS
Sample : 168568,384094, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 14:47:04 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

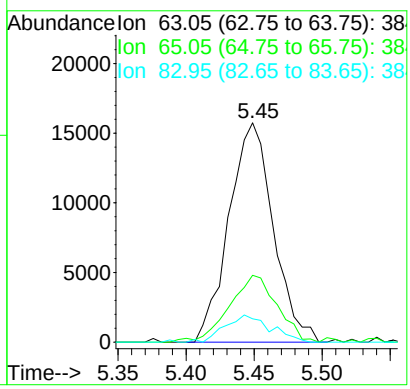


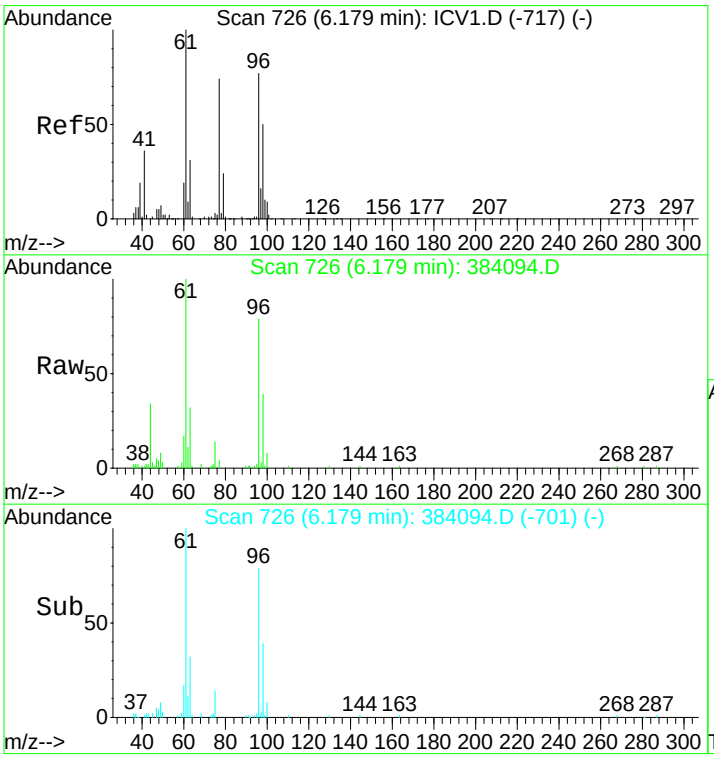


#26
11dichlorota
Concen: 1.29 ug/L
RT: 5.45 min Scan# 606
Delta R.T. 0.01 min
Lab File: 384094.D
Acq: 6 Feb 2020 14:26

Tgt Ion: 63 Resp: 35748

Ion	Ratio	Lower	Upper
63	100		
65	32.7	12.0	52.0
83	12.7	0.0	32.7

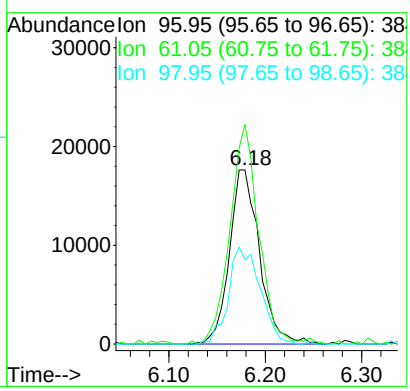


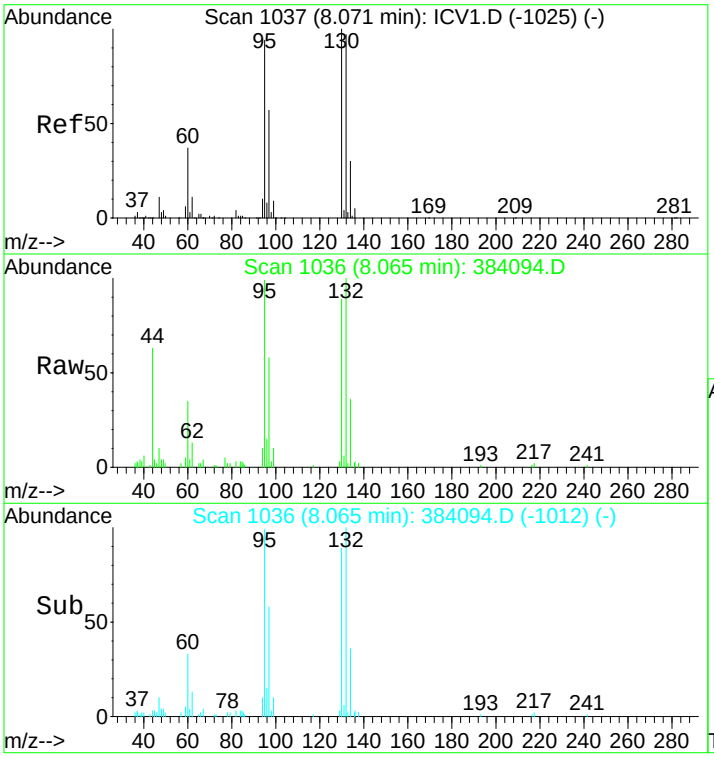


#32
c12dichlorte
Concen: 2.29 ug/L
RT: 6.18 min Scan# 726
Delta R.T. 0.00 min
Lab File: 384094.D
Acq: 6 Feb 2020 14:26

Tgt Ion: 96 Resp: 38263

Ion	Ratio	Lower	Upper
96	100		
61	121.3	123.7	163.7#
98	58.7	44.3	84.3

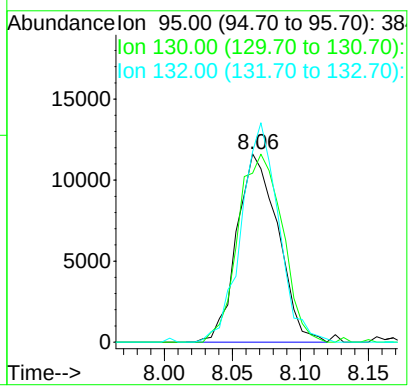




#49
trichloroete
Concen: 1.57 ug/L
RT: 8.06 min Scan# 1036
Delta R.T. -0.01 min
Lab File: 384094.D
Acq: 6 Feb 2020 14:26

Tgt Ion: 95 Resp: 24451

Ion	Ratio	Lower	Upper
95	100		
130	108.0	81.3	121.3
132	106.0	81.3	121.3



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384095.D Vial: 17
Acq On : 6 Feb 2020 14:54 Operator: RLD-DGS
Sample : 168568,384095, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:15:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	896959	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1057530	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	653997	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	264283	20.118	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101	%		
45) SURR12DCAd4	7.18	102	60462	20.412	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
61) SURRd8Tolule	9.61	98	1109072	20.818	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104	%		
83) SURR4BrFBenz	13.16	95	501275	19.485	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.82	85	1023	N.D.		
3) Chloromethan	2.06	50	3036	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2527	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	3102	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.17	76	1584	N.D.		
18) allylchloride	4.37	41	2197	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	1578	Below	Cal #	85
21) tbutylalcohol	4.82	59	1957	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.16	77	2751	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.60	42	1515	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384095.D Vial: 17
Acq On : 6 Feb 2020 14:54 Operator: RLD-DGS
Sample : 168568,384095, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:15:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.25	78	2255	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	2599	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.73	91	1114	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.16	55	1665	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.37	91	2108	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384095.D Vial: 17
Acq On : 6 Feb 2020 14:54 Operator: RLD-DGS
Sample : 168568,384095, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:15:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.94	128	1431	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

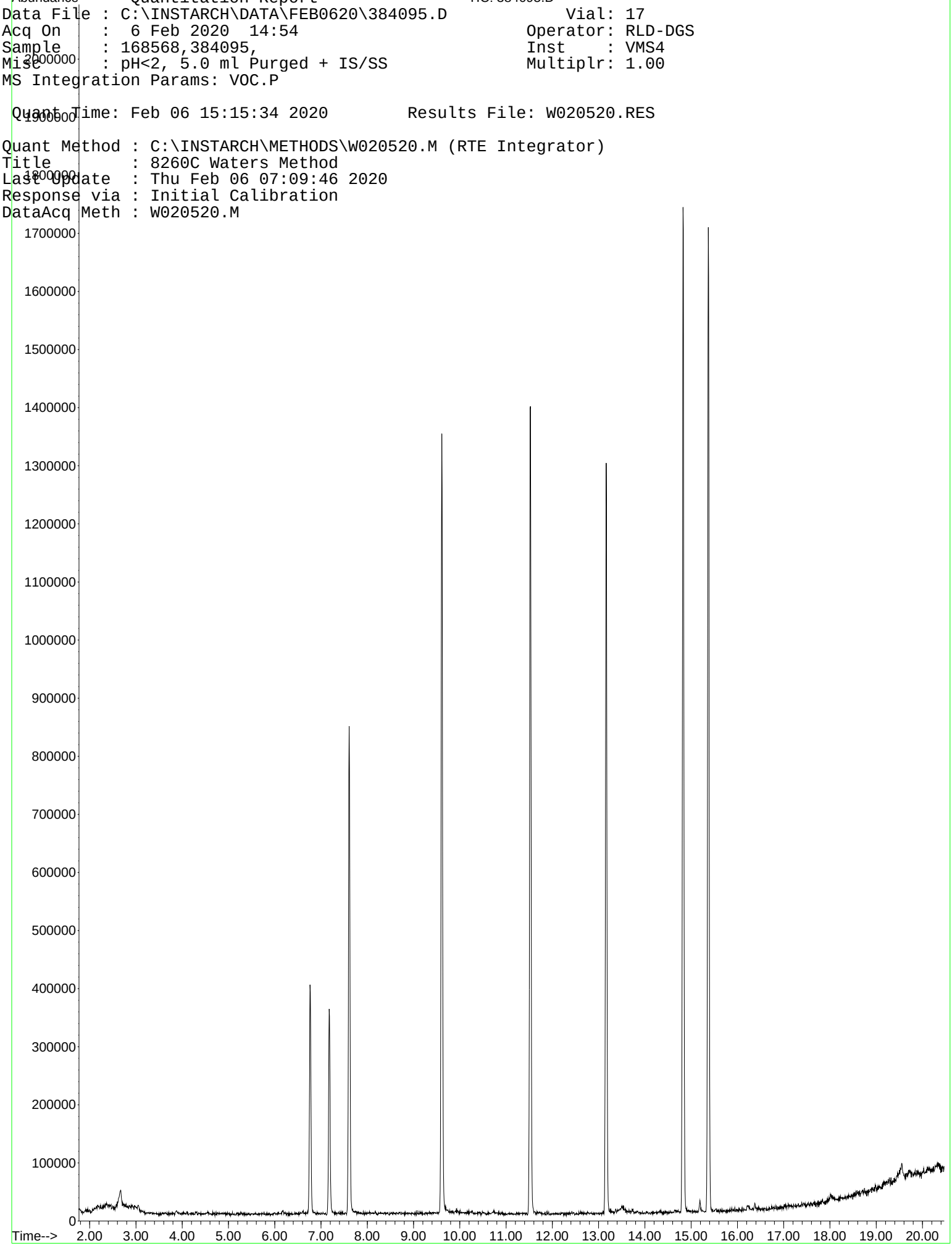
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 384095.D

Data File : C:\INSTARCH\DATA\FEB0620\384095.D Vial: 17
Acq On : 6 Feb 2020 14:54 Operator: RLD-DGS
Sample : 168568,384095, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:15:34 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384096.D Vial: 18
Acq On : 6 Feb 2020 15:23 Operator: RLD-DGS
Sample : 168568,384096, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:44:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	872820	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1002024	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	630205	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.77	113	254478	19.908	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	58360	20.247	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
61) SURRd8Tolule	9.61	98	1065113	20.545	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.16	95	474010	19.121	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 96	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.07	50	2071	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.66	94	2836	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.03	43	4274	N.D.	
16) Iodomethane	0.00	127	0	N.D.	
17) Carbon Dislf	4.17	76	1193	N.D.	
18) allylchloride	4.37	41	1859	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.55	84	1670	Below Cal # 56	
21) tbutylalcohol	4.83	59	1701	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	6.16	77	2992	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.60	42	1493	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384096.D Vial: 18
Acq On : 6 Feb 2020 15:23 Operator: RLD-DGS
Sample : 168568,384096, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:44:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.57	83	1240	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.03	119	3593	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.26	78	2128	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	9.49	43	1108	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	10.55	43	1110	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.53	91	1981	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.73	91	1044	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.16	55	1894	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.34	105	1091	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.36	91	2785	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384096.D Vial: 18
Acq On : 6 Feb 2020 15:23 Operator: RLD-DGS
Sample : 168568,384096, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:44:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.96	128	1076	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

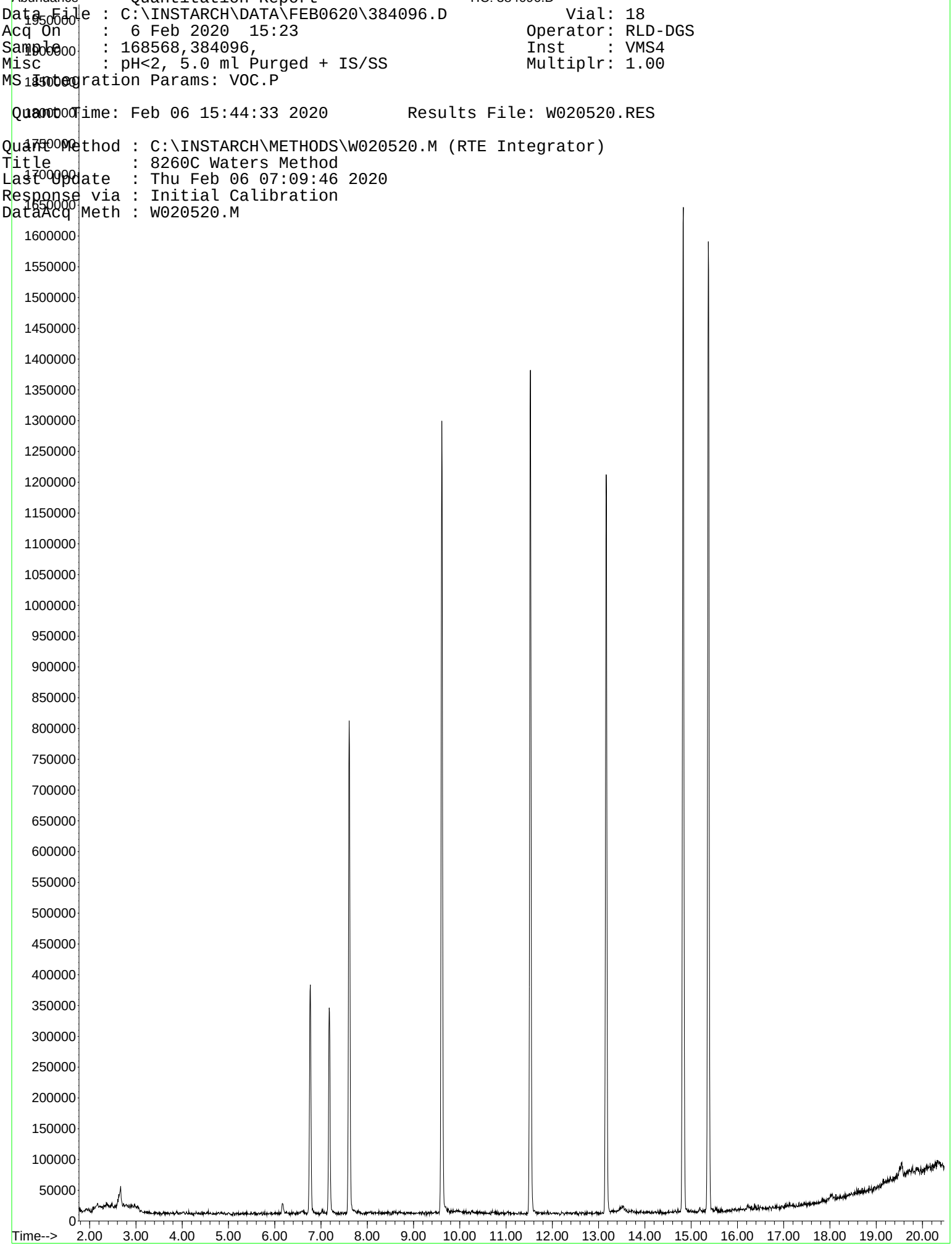
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 384096.D

Data File : C:\INSTARCH\DATA\FEB0620\384096.D Vial: 18
Acq On : 6 Feb 2020 15:23 Operator: RLD-DGS
Sample : 168568,384096, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 15:44:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384097.D Vial: 19
Acq On : 6 Feb 2020 15:52 Operator: RLD-DGS
Sample : 168568,384097, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:12:42 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	860514	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1002607	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	619904	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	253356	20.103	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101	%		
45) SURR12DCAd4	7.18	102	58882	20.720	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
61) SURRd8Tolule	9.61	98	1057647	20.693	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103	%		
83) SURR4BrFBenz	13.16	95	469144	19.239	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	3370	N.D.		
3) Chloromethan	2.05	50	2336	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	2263	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	3.13	67	4919	N.D.		
8) Trichlorofma	3.20	101	4673	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	3788	N.D.		
16) Iodomethane	0.00	127	0	N.D.		
17) Carbon Dislf	4.17	76	1175	N.D.		
18) allylchloride	4.35	41	1424	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	3265	Below	Cal	83
21) tbutylalcohol	4.77	59	2696	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.46	63	2581	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	5.67	45	1043	N.D.		
30) ETBE	6.15	59	1099	N.D.		
31) 22dichloropr	6.18	77	5701	0.3044	ug/L #	46
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384097.D Vial: 19
Acq On : 6 Feb 2020 15:52 Operator: RLD-DGS
Sample : 168568,384097, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:12:42 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.02	119	2218	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.26	78	1535	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.70	92	5260	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	10.42	166	2099	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.52	91	2393	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.73	91	2870	N.D.	
76)	m p-Xylene	11.89	106	3773	N.D.	
77)	o-Xylene	12.43	106	1426	N.D.	
78)	Styrene	12.45	104	1021	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.17	55	1444	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.55	91	1283	N.D.	
89)	2chlorotolue	13.55	91	1283	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	13.82	105	1114	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.33	105	3590	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.38	91	2829	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384097.D Vial: 19
Acq On : 6 Feb 2020 15:52 Operator: RLD-DGS
Sample : 168568,384097, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:12:42 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	17.95	128	2684	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

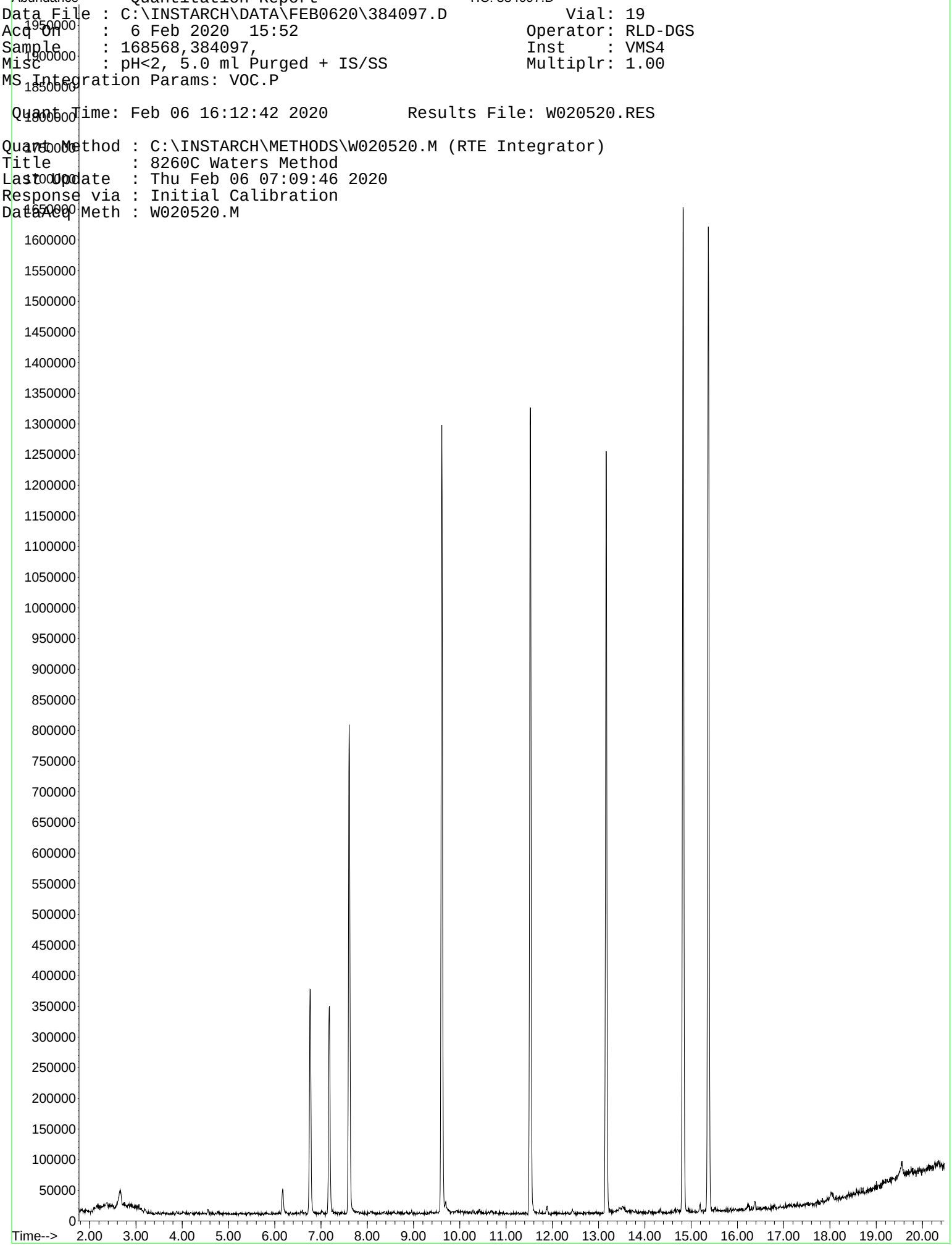
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 384097.D

Data File : C:\INSTARCH\DATA\FEB0620\384097.D Vial: 19
Acq On : 6 Feb 2020 15:52 Operator: RLD-DGS
Sample : 168568,384097, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:12:42 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384099.D Vial: 20
Acq On : 6 Feb 2020 16:20 Operator: RLD-DGS
Sample : 168568,384099, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:41:10 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	861159	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	995959	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	634375	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	258101	20.464	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 102	%		
45) SURR12DCAd4	7.18	102	56053	19.710	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99	%		
61) SURRd8Tolule	9.61	98	1061853	20.760	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104	%		
83) SURR4BrFBenz	13.16	95	468148	18.760	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 94	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	2.05	50	2168	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	2.66	94	1985	N.D.	
6) Chloroethane	2.70	64	1419	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.03	43	5485	N.D.	
16) Iodomethane	0.00	127	0	N.D.	
17) Carbon Dislf	4.18	76	1748	N.D.	
18) allylchloride	4.36	41	1559	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.83	59	1468	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	6.15	77	2031	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.62	42	1146	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384099.D Vial: 20
Acq On : 6 Feb 2020 16:20 Operator: RLD-DGS
Sample : 168568,384099, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:41:10 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.27	78	2443	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.89	43	1073	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.70	92	5739	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.69	43	4996	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	2450	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.72	91	2796	N.D.	
76)	m p-Xylene	11.89	106	4629	N.D.	
77)	o-Xylene	12.43	106	1822	N.D.	
78)	Styrene	12.46	104	1595	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.16	55	1313	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.33	105	1794	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.40	91	2736	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384099.D Vial: 20
Acq On : 6 Feb 2020 16:20 Operator: RLD-DGS
Sample : 168568,384099, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:41:10 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.95	128	1727	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

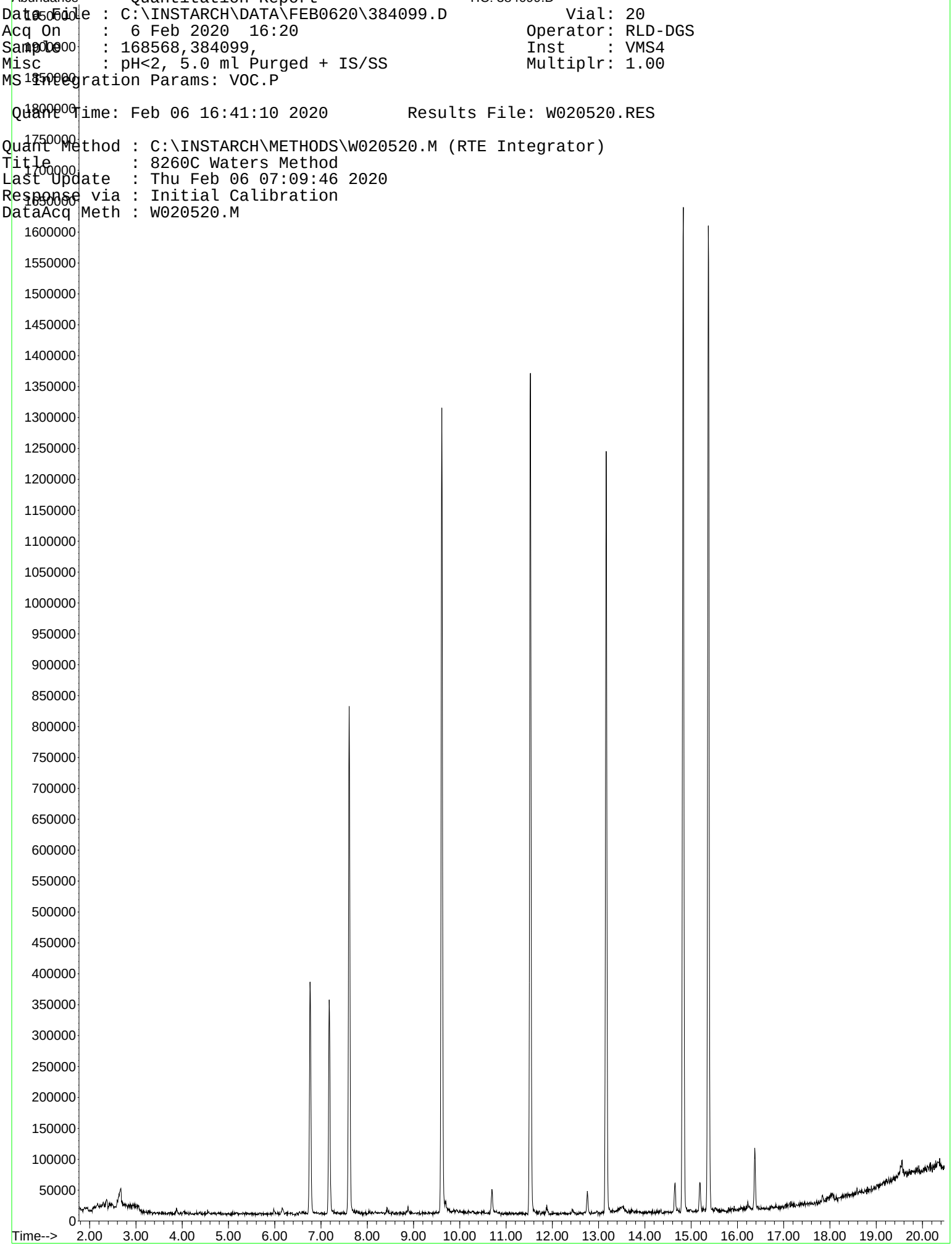
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 384099.D

Data File : C:\INSTARCH\DATA\FEB0620\384099.D Vial: 20
Acq On : 6 Feb 2020 16:20 Operator: RLD-DGS
Sample : 168568,384099, Inst : VMS4
Misc : pH<2, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 16:41:10 2020 Results File: W020520.RES

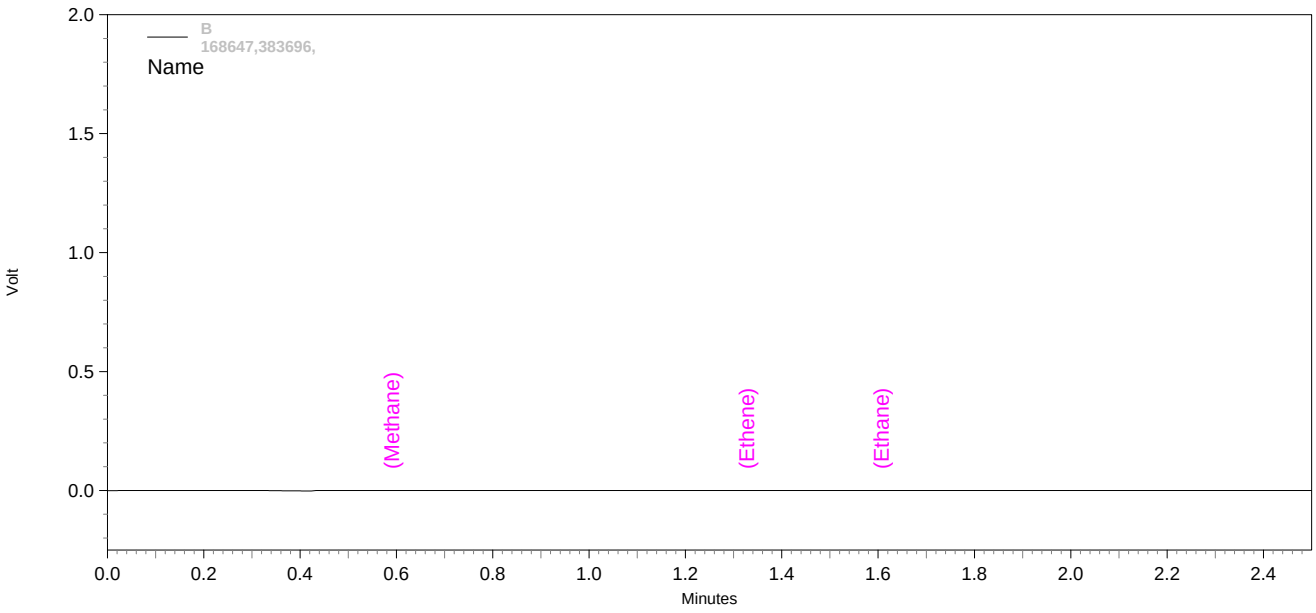
Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,383696,
Acquired: Feb 06, 2020 08:50:03
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



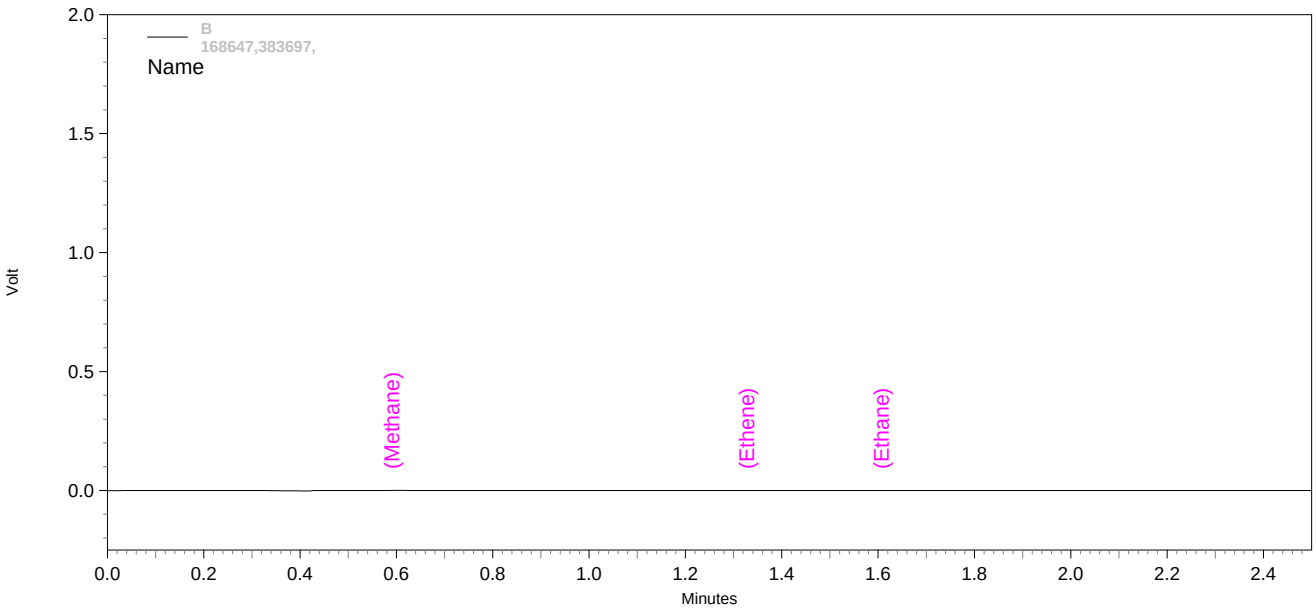
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,383697,
Acquired: Feb 06, 2020 08:53:23
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



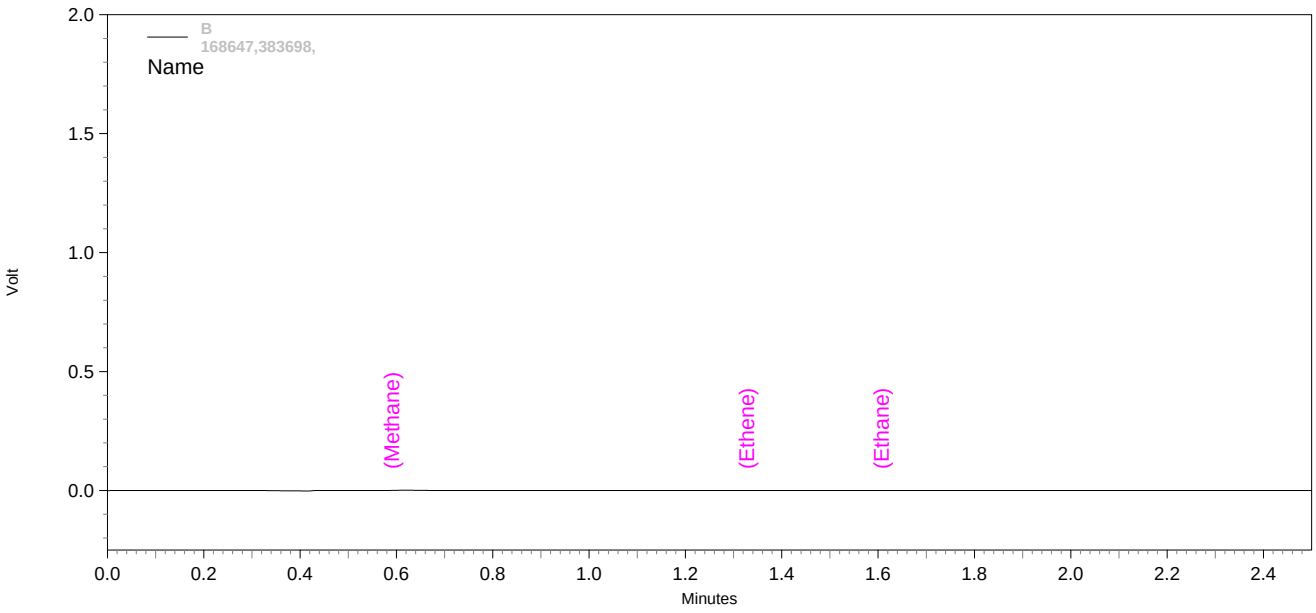
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,383698,
Acquired: Feb 06, 2020 08:58:18
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



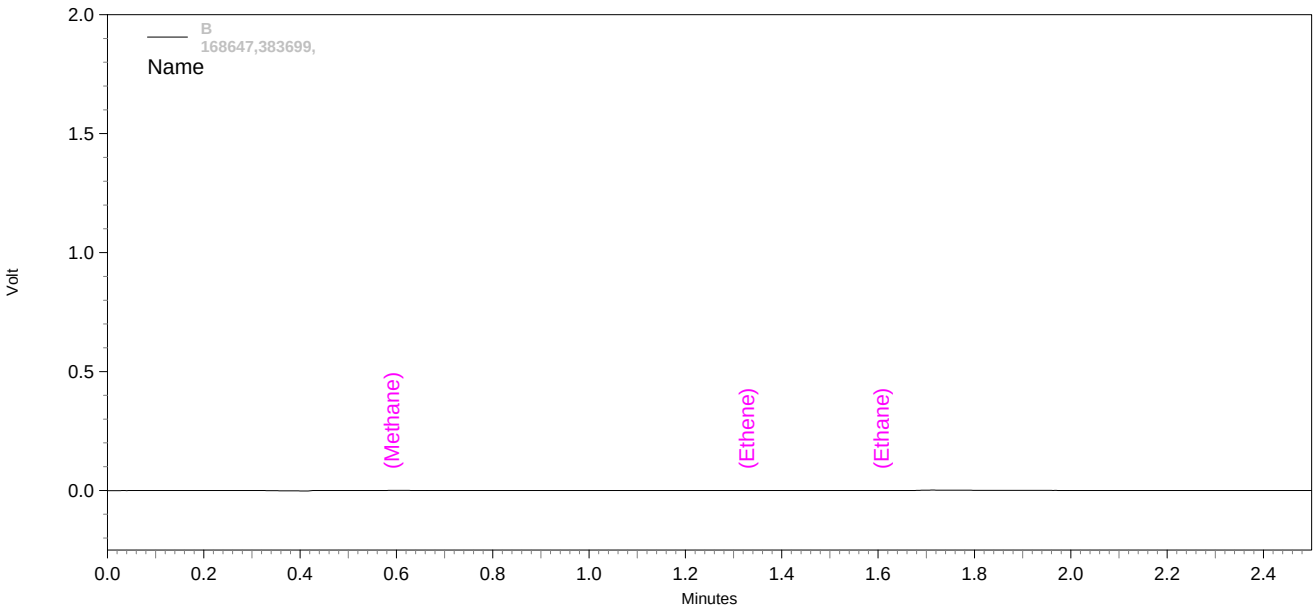
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,383699,
Acquired: Feb 06, 2020 09:01:35
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



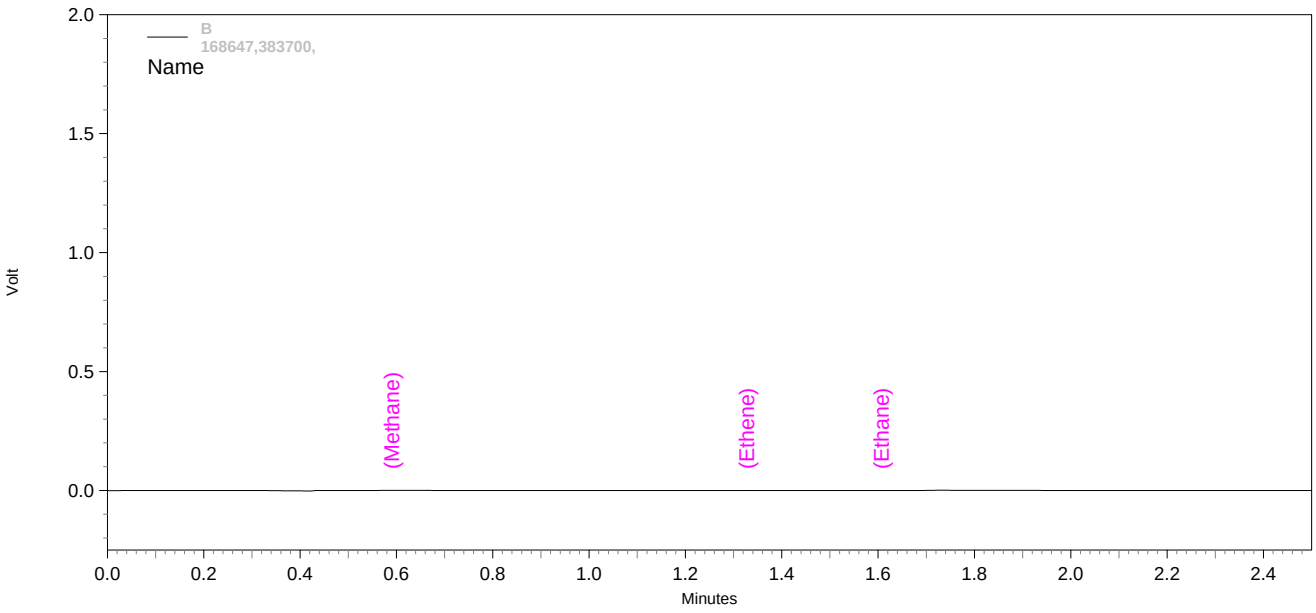
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,383700,
Acquired: Feb 06, 2020 09:05:43
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



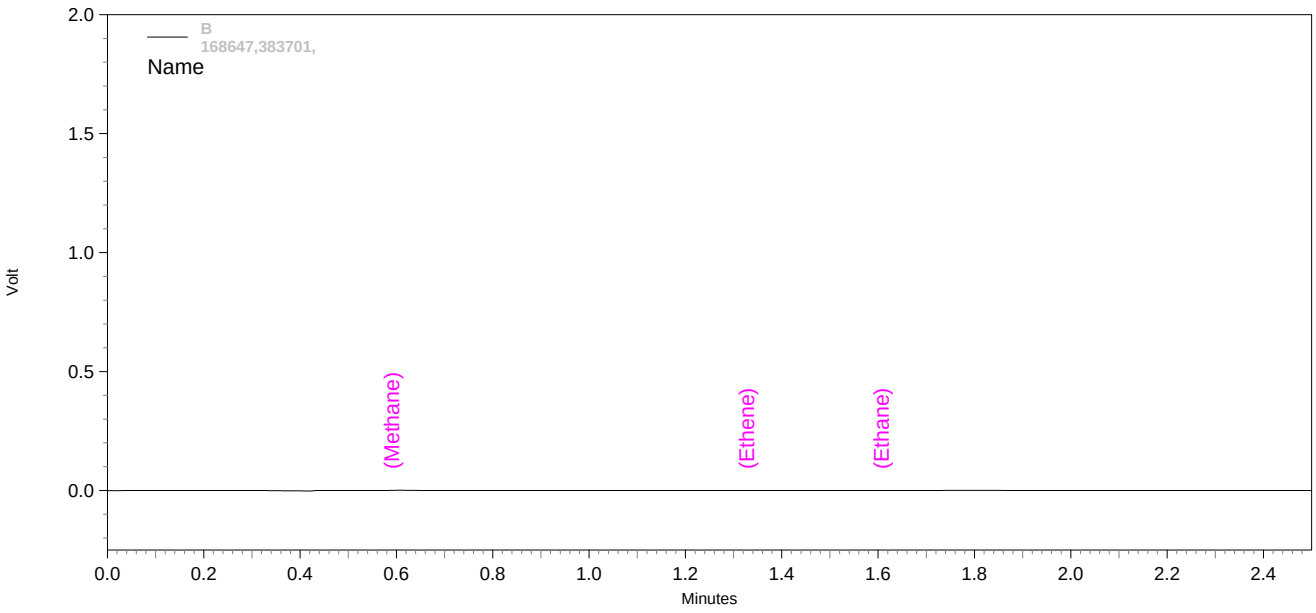
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,383701,
Acquired: Feb 06, 2020 09:10:24
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



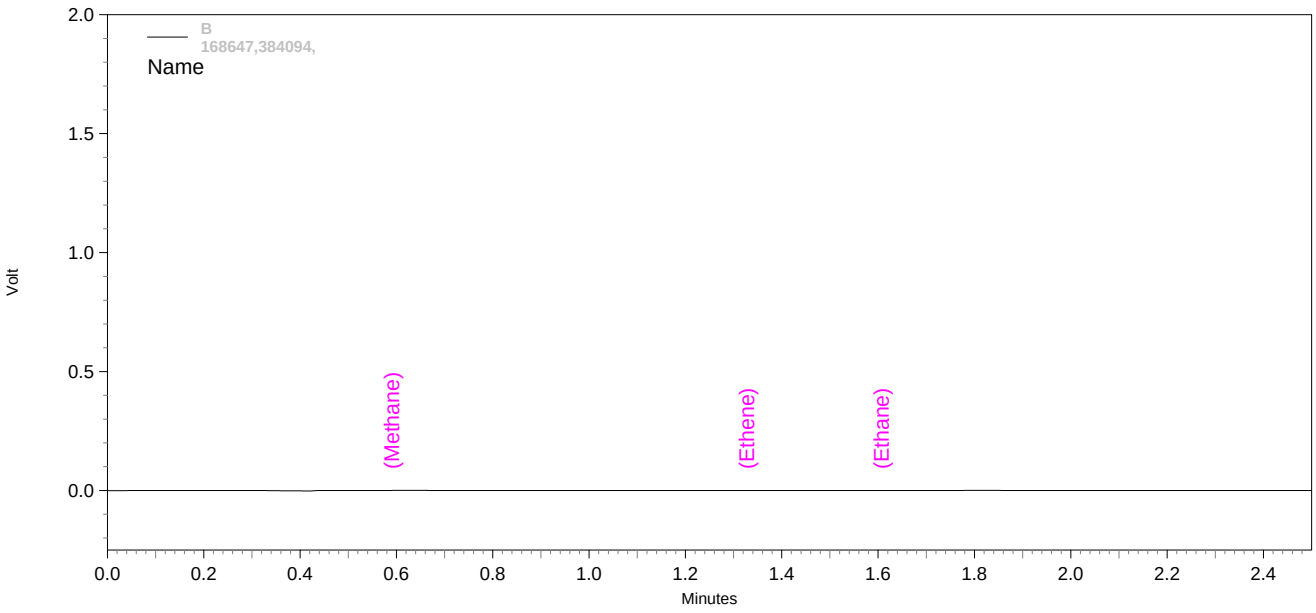
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384094,
Acquired: Feb 06, 2020 09:16:18
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



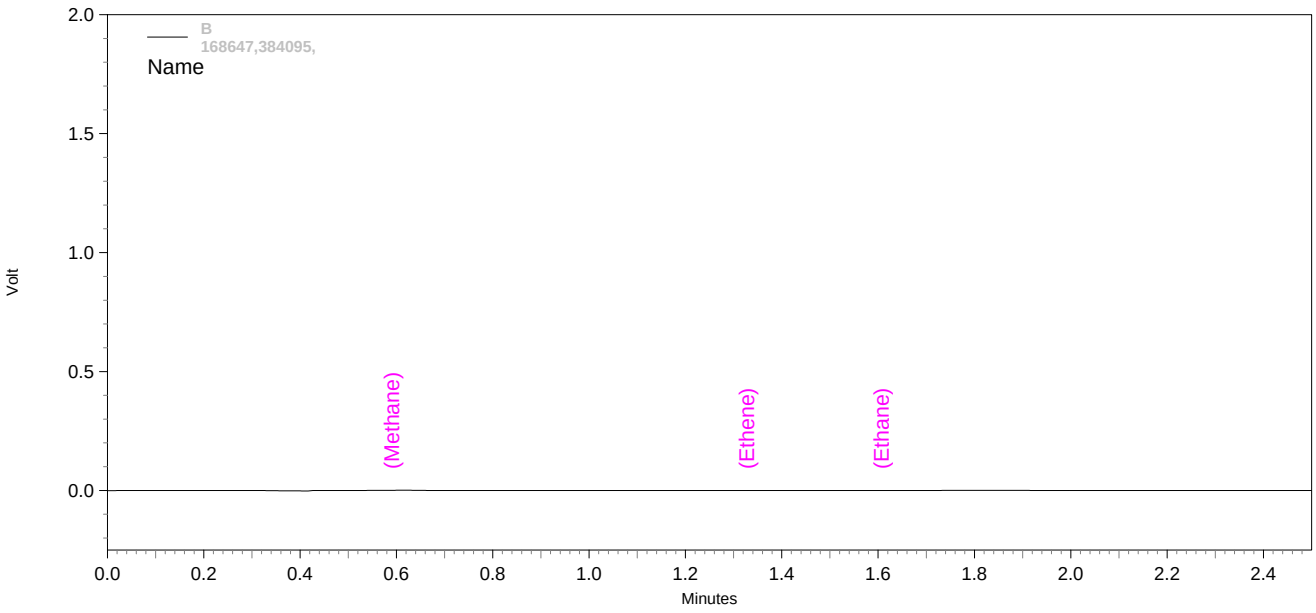
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384095,
Acquired: Feb 06, 2020 09:19:46
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



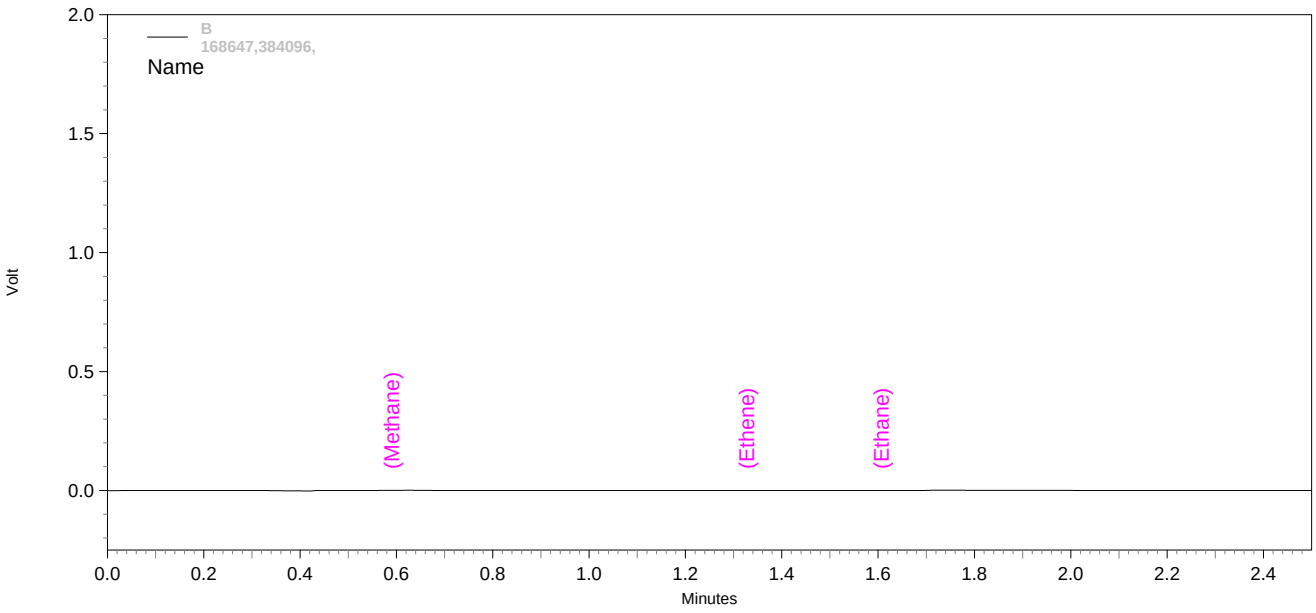
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384096,
Acquired: Feb 06, 2020 09:27:50
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



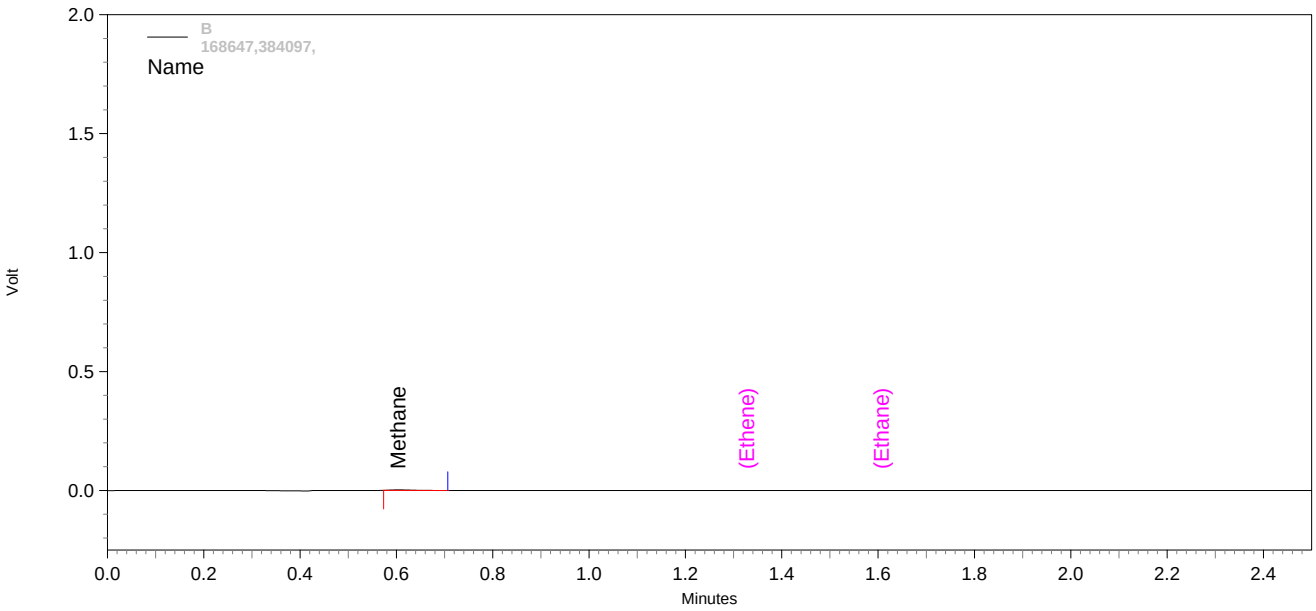
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384097,
Acquired: Feb 06, 2020 09:40:44
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



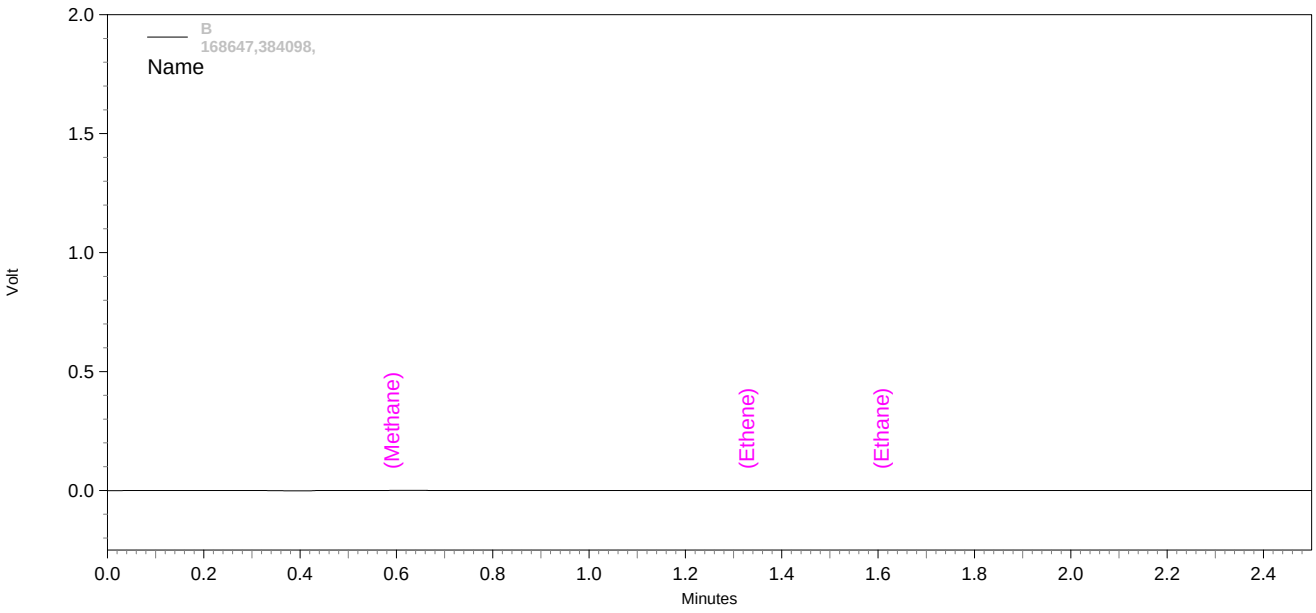
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.603**	**0.590**	**6245**	**0.951**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384098,
Acquired: Feb 06, 2020 09:53:32
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



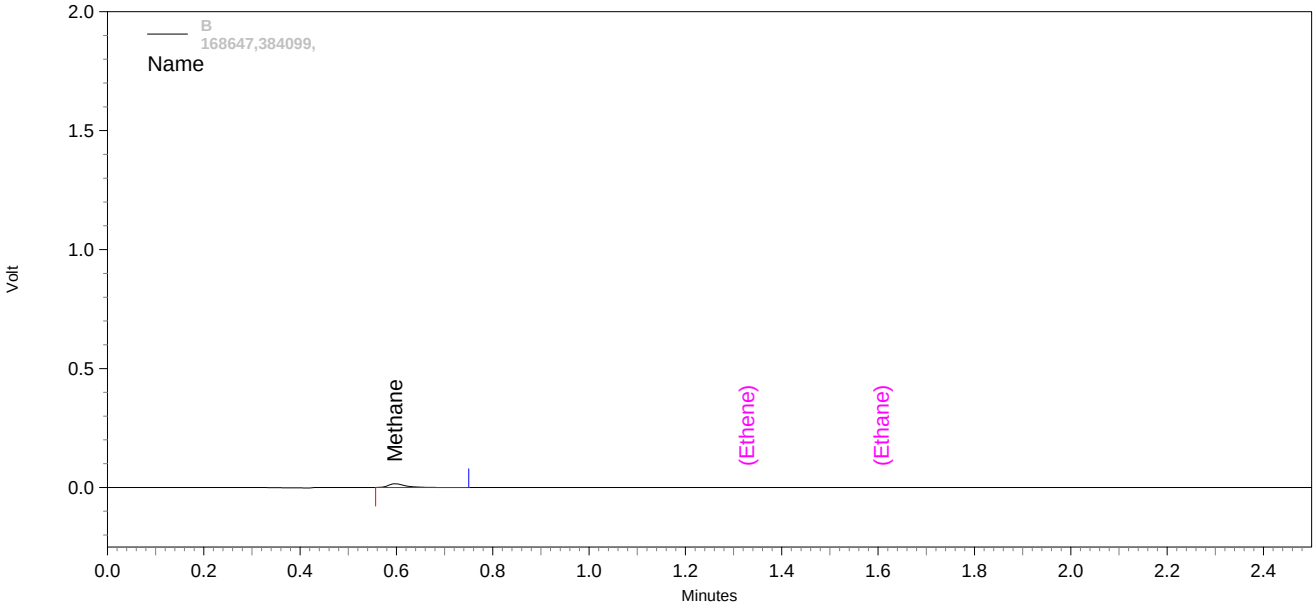
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384099,
Acquired: Feb 06, 2020 09:57:18
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



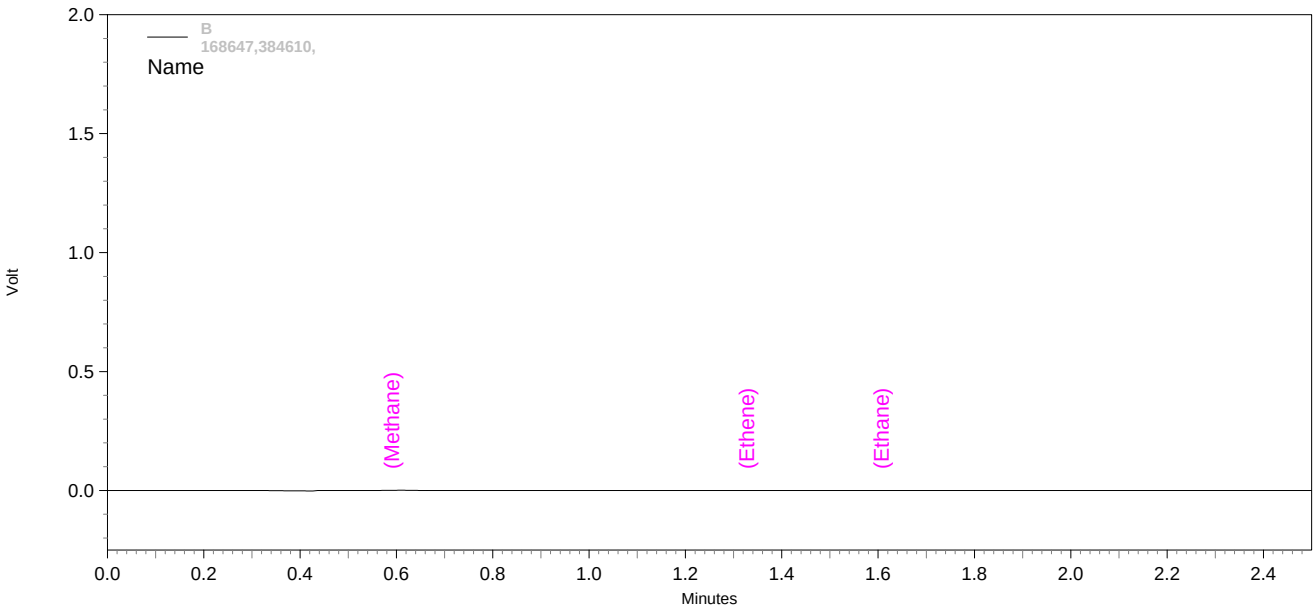
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.590**	**37275**	**9.511**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384610,
Acquired: Feb 06, 2020 10:00:40
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



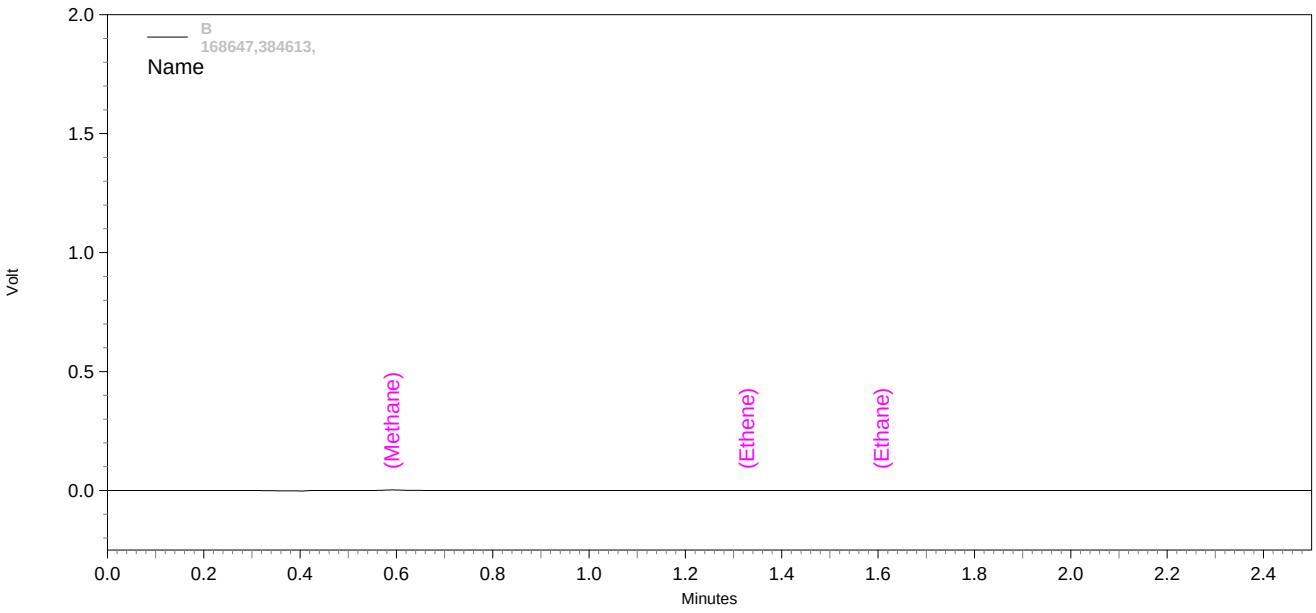
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384613,
Acquired: Feb 06, 2020 10:06:47
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



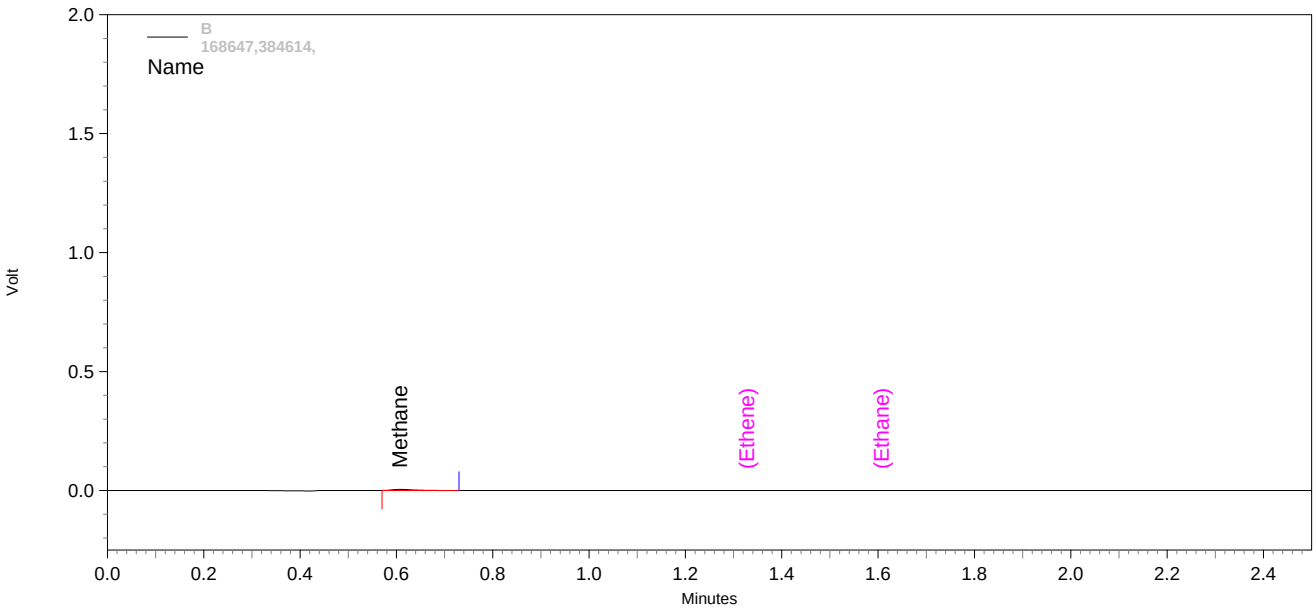
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384614,
Acquired: Feb 06, 2020 10:10:41
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



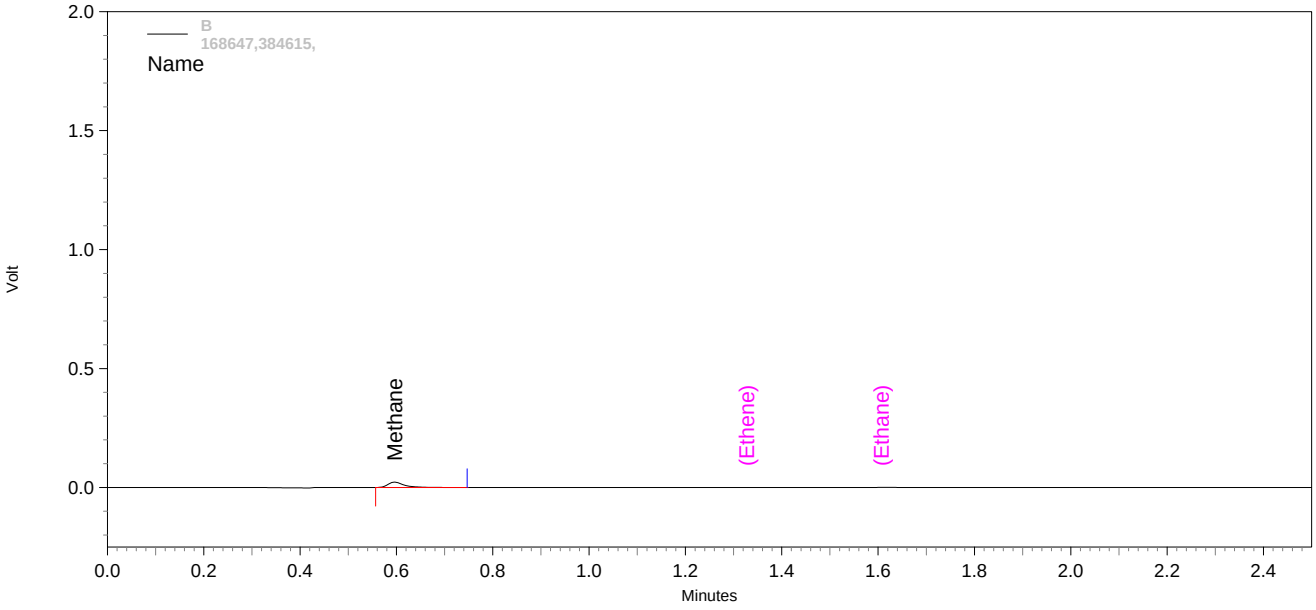
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.607**	**0.590**	**13712**	**3.011**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384615,
Acquired: Feb 06, 2020 10:14:04
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



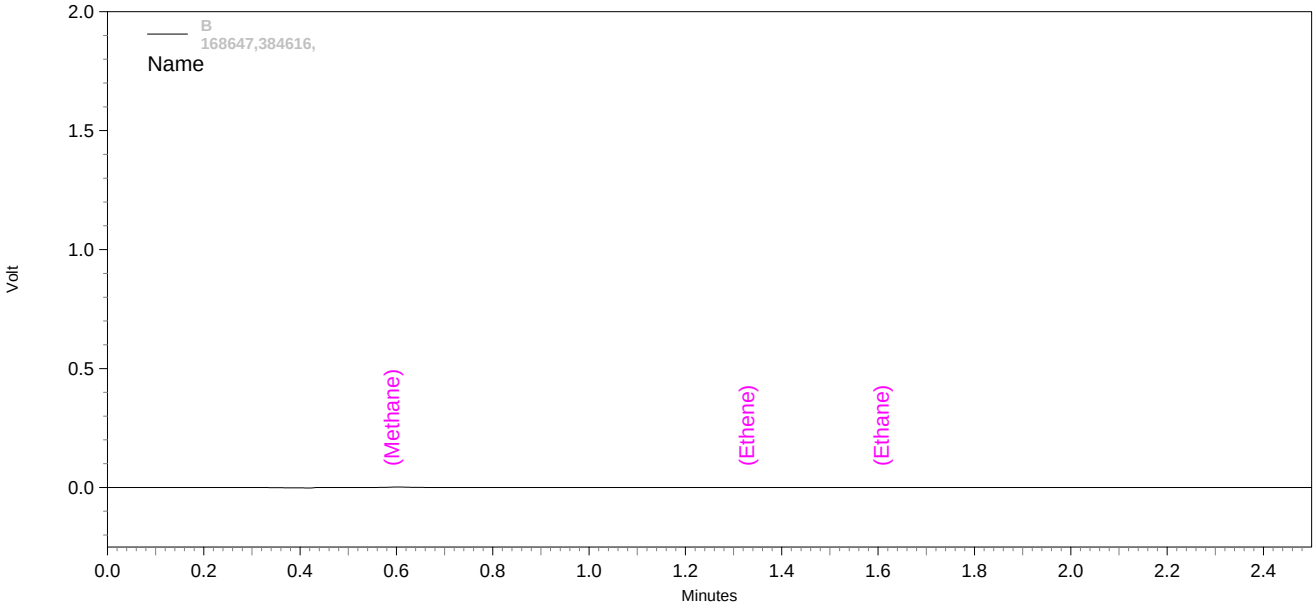
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.590**	**52340**	**13.667**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\025.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384616,
Acquired: Feb 06, 2020 10:17:31
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



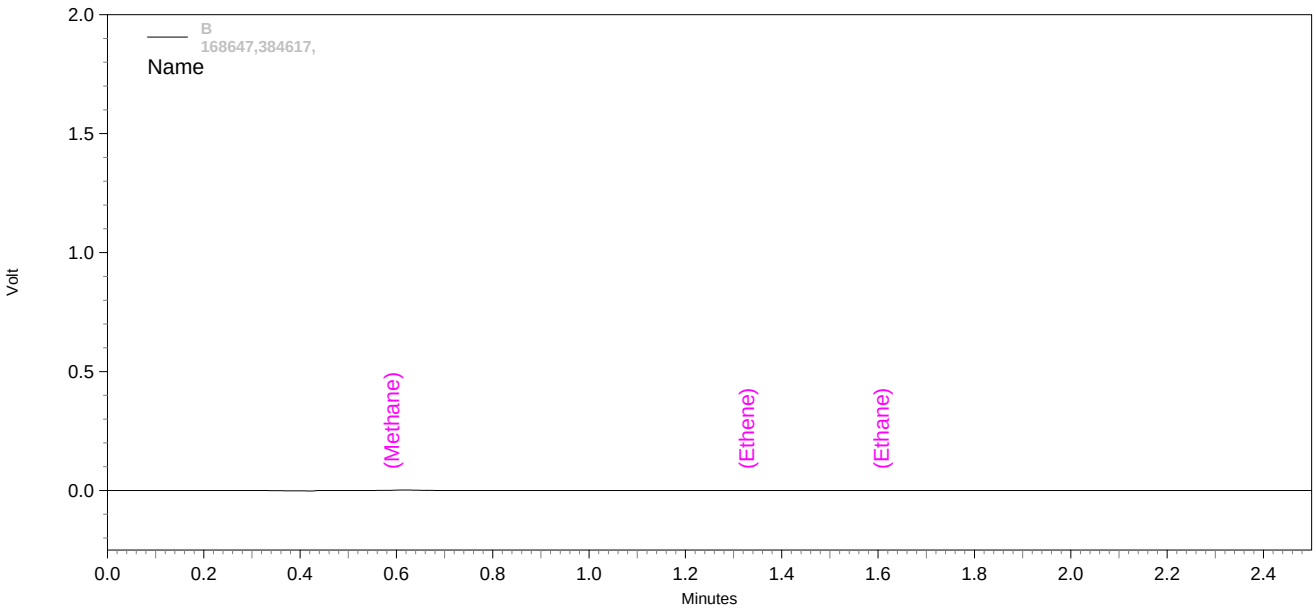
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\026.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,384617,
Acquired: Feb 06, 2020 10:22:01
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W020420.M
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response Via : Initial Calibration

RJ02/06/2020

Calibration Files
1 0.50/5.00 =WCAL1.D 2 1.00/10.00 =WCAL2.D 3 2.00/20.00 =WCAL3.D
4 5.00/50.00 =WCAL4.D 5 10.00/100.00 =WCAL5.D 6 20.00/200.00 =WCAL6.D
7 30.00/300.00 =WCAL7.D 8 40.00/400.00 =WCAL8.D 9 80.00/800.00 =WCAL9.D

		Compound	1	2	3	4	5	6	7	Avg	%RSD
			8	9							
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------								
2)	PT	Dichlorodi	0.219	0.216	0.196	0.215	0.220	0.232	0.231	0.218	5.62
			0.229	0.204							
3)	PT	Chloromethan	0.331	0.320	0.294	0.309	0.309	0.298	0.285	0.297	8.32
			0.279	0.248							
4)	PT	VinylChlorid	0.291	0.268	0.264	0.284	0.278	0.283	0.284	0.277	4.49
			0.286	0.253							
5)	PT	Bromomethane		0.160	0.152	0.163	0.152	0.141	0.139	0.148	6.40
			0.140	0.141							
6)	PT	Chloroethane		0.169	0.145	0.159	0.163	0.162	0.165	0.161	4.69
			0.167	0.156							
7)	T	Dichloroflmetha	0.507	0.450	0.414	0.424	0.416	0.402	0.394	0.415	11.05
			0.382	0.343							
8)	PT	Trichlorofma	0.291	0.282	0.281	0.305	0.299	0.316	0.316	0.299	4.67
			0.312	0.290							
9)	T	Ethylether	0.279	0.247	0.241	0.246	0.251	0.230	0.231	0.240	7.79
			0.226	0.213							
10)	T	dichlorotfluoro	0.259	0.237	0.251	0.237	0.256	0.260	0.263	0.251	4.13
			0.257	0.239							
11)	T	propyleneoxide		0.056	0.050	0.054	0.050	0.045	0.048	0.049	10.35
			0.044	0.041							
12)	T	Acrolein		0.052	0.042	0.049	0.049	0.042	0.045	0.046	8.17
			0.043	0.044							
13)	PT	11dichlorthe	0.225	0.196	0.185	0.198	0.202	0.218	0.212	0.206	6.09
			0.215	0.204							
14)	PT	Trichlorotfluor	0.192	0.171	0.172	0.187	0.188	0.204	0.207	0.190	6.78
			0.202	0.187							
15)	PT	Acetone	0.080	0.077	0.064	0.072	0.063	0.052	0.056	-----	#
			0.050	0.047							
								Q	A= -0.000 R=0.998		
									B= 0.056		
									C= 0.018		
16)	T	Iodomethane		0.131	0.127	0.152	0.182	0.215	0.225	-----	
			0.235	0.213							
								Q	A= -0.004 R=0.999		
									B= 0.253		
									C= -0.038		
17)	PT	Carbon Dislf	0.773	0.713	0.664	0.670	0.661	0.626	0.586	0.655	10.78
			0.547								
18)	T	allylchloride	0.483	0.451	0.410	0.428	0.423	0.399	0.384	0.406	12.67
			0.369	0.304							
19)	PT	methylacetate		0.067	0.062	0.073	0.064	0.060	0.067	0.065#	6.22
			0.064	0.067							
20)	PT	Methylchlorid	0.407	0.359	0.298	0.289	0.287	0.263	0.263	-----	
			0.259	0.240							
								Q	A= -0.008 R=1.000		
									B= 0.272		
									C= 0.004		
21)	T	tbutylalcohol	0.018	0.018	0.015	0.020	0.017	0.013	0.014	-----	#
			0.012	0.012							
								Q	A= -0.000 R=0.997		
									B= 0.014		

C= 0.031

22)	T	Acrylonitrile		0.110	0.100	0.108	0.100	0.091	0.097	0.097	9.85
			0.089	0.083							
23)	PT	t12dichlorte	0.266	0.267	0.255	0.256	0.255	0.241	0.245	0.251	5.05
			0.243	0.228							
24)	PT	MtBE	0.829	0.796	0.738	0.746	0.741	0.674	0.682	0.715	10.72
			0.653	0.578							
25)	T	Hexane	0.394	0.367	0.355	0.384	0.393	0.415	0.411	0.381	7.65
			0.389	0.321							
26)	PT	11dichlorota	0.465	0.515	0.448	0.478	0.484	0.463	0.456	0.461	6.90
			0.443	0.399							
27)	T	Vinylacetate	0.622	0.601	0.563	0.555	0.493	0.372	0.310	-----	
			0.258								

Q A= -0.012 R=0.997
B= 0.492
C= 0.116

28)	T	chloroprene	0.396	0.366	0.342	0.371	0.377	0.375	0.366	0.360	8.34
			0.352	0.291							
29)	T	Diisopether	0.896	0.940	0.868	0.894	0.896	0.824	0.792	0.834	11.14
			0.760	0.639							
30)	T	ETBE	0.811	0.864	0.777	0.818	0.827	0.771	0.750	0.775	8.78
			0.729	0.632							
31)	T	22dichloropr	0.401	0.396	0.345	0.355	0.349	0.351	0.348	0.357	7.10
			0.348	0.322							
32)	PT	c12dichlorte	0.266	0.308	0.286	0.282	0.289	0.273	0.275	0.278	5.45
			0.271	0.255							
33)	PT	2Butanone		0.033	0.030	0.033	0.032	0.027	0.031	0.030#	7.39
			0.028	0.028							
34)	T	propionitrile		0.036	0.032	0.038	0.035	0.030	0.033	0.033	9.35
			0.030	0.030							
35)	T	Ethylacetate		0.013	0.012	0.013	0.012	0.012	0.013	0.012#	5.07
			0.011	0.012							
36)	T	methacrylonitri		0.146	0.119	0.136	0.125	0.120	0.128	0.127	7.45
			0.122	0.121							
37)	T	Bromochlorma	0.117	0.125	0.113	0.119	0.114	0.114	0.117	0.116	4.15
			0.115	0.108							
38)	T	Tetrahydofur	0.089	0.084	0.074	0.085	0.079	0.069	0.072	0.075	13.26
			0.065	0.059							
39)	PT	Chloroform	0.472	0.486	0.444	0.456	0.451	0.425	0.425	0.439	7.41
			0.416	0.378							
40)	PT	111trichlota	0.348	0.350	0.329	0.336	0.349	0.354	0.361	0.346	3.29
			0.353	0.330							
41)	S	SURRDibrflma	0.235	0.234	0.234	0.241	0.238	0.233	0.243	0.237	1.69
			0.234	0.242							
42)	PT	Cyclohexane	0.443	0.378	0.375	0.423	0.429	0.474	0.472	0.432	8.59
			0.467	0.428							
43)	PT	Carbtetraclo	0.259	0.226	0.224	0.257	0.266	0.280	0.282	0.261	8.67
			0.284	0.272							
44)	T	11dicloprope		0.111	0.097	0.122	0.116	0.122	0.128	0.118	8.53
			0.125	0.125							
45)	S	SURR12DCAd4	0.071	0.072	0.074	0.072	0.070	0.072	0.072	0.072	1.63
			0.071	0.073							
46)	PT	Benzene	1.155	1.157	1.092	1.141	1.085	1.004	0.960	1.024	14.14
			0.903	0.721							
47)	PT	12dichlorota	0.364	0.353	0.337	0.329	0.346	0.321	0.319	0.331	6.43
			0.314	0.295							
48)	T	TAME	0.759	0.798	0.737	0.774	0.776	0.721	0.718	0.731	7.94
			0.687	0.607							
49)	PT	trichloroete	0.292	0.247	0.240	0.250	0.264	0.254	0.254	0.254	6.40
			0.253	0.236							
50)	PT	methylcyclohexa	0.447	0.419	0.379	0.450	0.466	0.514	0.516	0.462	9.89
			0.508	0.462							
51)	PT	12dicloropra	0.315	0.305	0.308	0.323	0.326	0.306	0.305	0.309	3.94
			0.307	0.284							
52)	T	23Dicl1propene		0.455	0.425	0.443	0.455	0.433	0.432	0.432	5.00
			0.424	0.388							
53)	T	Dibromometha		0.165	0.134	0.151	0.163	0.154	0.153	0.152	6.19
			0.151	0.149							
54)	T	methylmethacryl		0.220	0.182	0.213	0.213	0.198	0.216	0.208	5.80
			0.208	0.211							

```
55) T   14dioxane             0.001 0.001 0.001 0.001 0.001 0.001 ----- #
                    0.001 0.001
                                                    Q  A=  0.000 R=0.994
                                                       B=  0.001
                                                       C=  0.005
56) PT  Bromodiclrma    0.376 0.368 0.316 0.343 0.358 0.332 0.333 0.340   6.79
                    0.332 0.306
57) T   2Nitropropane   0.063 0.068 0.060 0.072 0.071 0.064 0.068 0.065   7.82
                    0.063 0.057
58) T   2CLEVE               0.183 0.182 0.193 0.190 0.171 0.171 0.172  12.23
                    0.157 0.129
59) PT  c13dicloproe    0.493 0.481 0.452 0.456 0.468 0.444 0.439 0.450   6.82
                    0.429 0.389
60) PT  4Meth2Pentan    0.251 0.265 0.242 0.257 0.237 0.192 0.180 -----
                    0.153
                                                    Q  A= -0.005 R=0.998
                                                       B=  0.246
                                                       C=  0.019
61) S   SURRd8Tolule    0.957 0.974 0.963 0.969 0.982 0.960 0.987 0.971   1.10
                    0.966 0.983
62) PT  Toluene         0.775 0.743 0.714 0.706 0.715 0.664 0.648 0.680  10.82
                    0.625 0.529
63) PT  t13Dicloprop    0.402 0.408 0.377 0.381 0.394 0.378 0.377 0.382   4.81
                    0.372 0.346
64) T   ethylmethacryla       0.339 0.324 0.371 0.383 0.356 0.355 0.344   8.63
                    0.337 0.287
65) PT  112Triclotha          0.220 0.207 0.217 0.208 0.203 0.207 0.207   3.88
                    0.200 0.197
66) PT  Tetrachlorte    0.274 0.247 0.234 0.235 0.246 0.247 0.249 0.246   5.11
                    0.247 0.232
67) T   13Diclorpropa  0.498 0.450 0.427 0.448 0.456 0.421 0.421 0.434   7.83
                    0.409 0.378

68) I   d5-CHLOROBENZENE**IST ----------------ISTD--------------------
69) PT  2Hexanone             0.248 0.240 0.257 0.242 0.202 0.194 0.222  14.94
                    0.169
70) PT  Clorodibrmta    0.319 0.290 0.277 0.307 0.320 0.302 0.310 0.305   4.56
                    0.315 0.304
71) PT  12Dibrometha    0.329 0.336 0.311 0.321 0.330 0.312 0.323 0.320   3.25
                    0.314 0.304
72) PT  Chlorobenzen    1.066 1.083 0.937 0.964 0.982 0.890 0.861 0.926  12.53
                    0.842 0.711
73) T   1Clhexane       0.565 0.490 0.471 0.493 0.507 0.541 0.533 0.513   6.26
                    0.535 0.479
74) T   1112Tetclota           0.323 0.280 0.318 0.323 0.303 0.308 0.308   4.73
                    0.314 0.299
75) PT  Ethylbenzene    1.693 1.714 1.558 1.639 1.643 1.530 1.439 1.513  14.10
                    1.365 1.035
76) PT  m p-Xylene      0.673 0.677 0.616 0.645 0.638 0.609 0.579 0.606  11.40
                    0.557 0.455
77) PT  o-Xylene        0.648 0.610 0.604 0.624 0.640 0.622 0.613 0.613   5.04
                    0.614 0.539
78) PT  Styrene         0.883 1.006 0.901 0.994 1.039 0.996 0.967 0.947   8.09
                    0.945 0.793
79) PT  Bromoform             0.192 0.174 0.194 0.197 0.193 0.204 0.196   5.73
                    0.206 0.210
80) PT  Isopropylben    1.512 1.512 1.437 1.519 1.516 1.467 1.384 1.409  11.49
                    1.318 1.019
81) T   cyclohexanone        0.007 0.006 0.008 0.006 0.005 0.006 ----- #
                    0.005 0.006
                                                    Q  A=  0.000 R=0.998
                                                       B=  0.005
                                                       C=  0.007

82) I   d4-1,4-DICHLOROBENZEN ----------------ISTD--------------------
83) S   SURR4BrFBenz    1.076 1.041 1.076 1.046 1.045 1.055 1.064 1.056   1.24
                    1.053 1.047
84) T   Bromobenzene    0.943 0.812 0.740 0.783 0.763 0.747 0.715 0.764  10.54
                    0.720 0.654
85) PT  1122Tetrclta    1.097 1.006 0.898 0.952 0.899 0.848 0.852 0.908  10.73
```

			0.833	0.782							
86)	T	123Triclproa		1.170	1.140	1.237	1.202	1.116	1.159	1.155	4.17
			1.129	1.087							
87)	T	14dichloro2bute		0.315	0.287	0.294	0.288	0.265	0.282	0.286	5.11
			0.278	0.279							
88)	T	n-Propylbenz	3.714	3.672	3.621	3.740	3.666	3.432	3.122	3.484	8.90
			2.906								
89)	T	2chlorotolue	2.266	2.345	2.131	2.310	2.266	2.114	1.993	2.103	11.81
			1.950	1.553							
90)	T	4chlorotolue	2.878	2.778	2.610	2.731	2.604	2.435	2.279	2.470	14.66
			2.194	1.716							
91)	T	135Trimebenz	2.545	2.377	2.397	2.567	2.521	2.408	2.265	2.329	11.54
			2.185	1.696							
92)	T	tbutylbenzen	2.100	1.951	1.852	2.043	2.045	1.975	1.894	1.914	9.13
			1.852	1.511							
93)	T	124Trimetben	2.573	2.424	2.345	2.623	2.557	2.417	2.273	2.345	11.93
			2.192	1.703							
94)	T	sbutylbenzen	2.974	2.784	2.793	3.077	3.051	3.000	2.797	2.787	12.16
			2.629	1.975							
95)	PT	13Diclorbenz	1.570	1.387	1.311	1.391	1.373	1.324	1.240	1.321	10.57
			1.227	1.063							
96)	T	pIsopropylto	2.388	2.203	2.219	2.428	2.471	2.407	2.273	2.255	10.16
			2.199	1.711							
97)	PT	14dichlorobe	1.671	1.561	1.443	1.429	1.395	1.345	1.284	1.384	12.60
			1.255	1.074							
98)	PT	12dichlorobe	1.351	1.349	1.261	1.289	1.263	1.215	1.162	1.223	9.68
			1.141	0.974							
99)	T	nButylbenzen	2.708	2.260	2.199	2.405	2.363	2.394	2.249	2.269	12.02
			2.160	1.684							
100)	PT	12dibromo3cl		0.167	0.137	0.162	0.134	0.128	0.142	0.144	9.64
			0.135	0.146							
101)	T	135Trichloroben	0.991	0.865	0.878	0.961	0.959	0.941	0.931	0.917	6.27
			0.920	0.806							
102)	PT	124Trichlobe	0.842	0.771	0.719	0.710	0.738	0.730	0.736	0.739	6.39
			0.735	0.670							
103)	T	Hexachlorobu	0.344	0.256	0.314	0.314	0.325	0.349	0.352	0.327	9.55
			0.361	0.328							
104)	T	Naphthalene	1.644	1.584	1.513	1.679	1.703	1.646	1.680	1.595	7.47
			1.587	1.319							
105)	T	123Trichlben	0.640	0.697	0.585	0.634	0.657	0.655	0.658	0.644	5.14
			0.666	0.606							

Total Average %RSD 7.88

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W020420.M Thu Feb 06 10:14:47 2020

BFB

Data File : c:\instarch\data\feb0420b\BFB1.D Vial: 1
Acq On : 4 Feb 2020 14:44 Operator: RLD-DGS
Sample : 165564,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020420.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.675 to 4.681 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.8	19782	PASS
75	95	30	60	49.0	48997	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.9	6856	PASS
173	174	0.00	2	0.7	540	PASS
174	95	50	100	73.3	73250	PASS
175	174	5	9	8.1	5908	PASS
176	174	95	101	100.7	73795	PASS
177	176	5	9	6.6	4840	PASS

W020420.M Thu Feb 06 10:12:56 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL1.D Vial: 5
Acq On : 4 Feb 2020 16:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:01:34 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:00:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1328726	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	964631	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	467174	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	312557	19.834	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	94220	19.794	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %			
61) SURRd8Tolule	9.72	98	1271833	19.710	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	502698	20.382	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	7291	0.5032	ug/L	80
3) Chloromethan	2.09	50	11000	N.D.		
4) VinylChlorid	2.25	62	9673	0.5264	ug/L	83
5) Bromomethane	2.73	94	6198	N.D.		
6) Chloroethane	2.89	64	5878	0.5501	ug/L	94
7) Dichloroflmethane	3.20	67	16850	0.6116	ug/L	99
8) Trichlorofma	3.28	101	9652	0.4854	ug/L	84
9) Ethylether	3.73	59	9266	0.5801	ug/L	95
10) dichlorotfluoroethan	3.73	67	8602	0.5159	ug/L	92
11) propyleneoxide	3.79	58	18869	5.8513	ug/L	91
12) Acrolein	3.86	56	7689	2.5263	ug/L	93
13) 11dichlorthe	4.00	96	7464	0.5452	ug/L	88
14) Trichlorotfluoroeth	4.04	101	12725	1.0082	ug/L	93
15) Acetone	4.10	43	26490	6.4945	ug/L	97
16) Iodomethane	4.18	142	9036	N.D.		
17) Carbon Dislf	4.27	76	51371	1.2392	ug/L	98
18) allylchloride	4.49	41	32119	1.1914	ug/L	93
19) methylacetate	4.56	74	2643	0.6080	ug/L #	36
20) Methylchlorid	4.64	84	13512	0.6946	ug/L	100
21) tbutylalcohol	4.88	59	30573	29.7560	ug/L	99
22) Acrylonitrile	4.96	53	19129	2.9630	ug/L	91
23) t12dichlorte	5.02	96	8842	0.5309	ug/L	98
24) MtBE	5.08	73	27524	0.5792	ug/L	91
25) Hexane	5.42	57	26143	1.0332	ug/L	97
26) 11dichlorota	5.55	63	15461	0.5045	ug/L	100
27) Vinylacetate	5.64	43	206779	7.1000	ug/L	92
28) chloroprene	5.68	53	26326	1.1020	ug/L	94
29) Diisopether	5.72	45	29749	0.5367	ug/L	100
30) ETBE	6.17	59	26924	0.5227	ug/L	92
31) 22dichloropr	6.29	77	13332	0.5615	ug/L	96
32) c12dichlorte	6.29	96	8843	0.4784	ug/L #	78
33) 2Butanone	6.32	72	10540	5.2236	ug/L	92
34) propionitrile	6.35	54	12503	5.7087	ug/L	95
35) Ethylacetate	6.41	88	2521	3.0916	ug/L #	74
36) methacrylonitrile	6.55	67	8704	1.0304	ug/L	95
37) Bromochlorma	6.56	128	3902	0.5067	ug/L	95
38) Tetrahydofur	6.70	42	29480	5.9039	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL1.D Vial: 5
Acq On : 4 Feb 2020 16:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:01:34 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:00:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.67	83	15684	0.5374	ug/L		100
40)	111trichlota	6.93	97	11572	0.5037	ug/L		94
42)	Cyclohexane	7.02	56	14727	0.5129	ug/L		98
43)	Carbtetraclo	7.13	119	8599	0.4958	ug/L		94
44)	11dicloprope	7.14	110	4622	0.5884	ug/L	#	80
46)	Benzene	7.38	78	38355	0.5637	ug/L		96
47)	12dichlorota	7.37	62	12095	0.5499	ug/L	#	87
48)	TAME	7.56	73	25228	0.5195	ug/L		100
49)	trichloroete	8.17	95	9697	0.5738	ug/L		96
50)	methylcyclohexane	8.44	83	14833	0.4830	ug/L		95
51)	12dicloropra	8.44	63	10453	0.5097	ug/L		81
52)	23Dicl1propene	8.50	75	13402	0.4670	ug/L		81
53)	Dibromometha	8.58	93	6203	0.6125	ug/L		95
54)	methylmethacrylate	8.62	69	7444	0.5395	ug/L		91
55)	14dioxane	8.65	88	1212	N.D.			
56)	Bromodiclrma	8.78	83	12474	0.5518	ug/L		93
57)	2Nitropropane	9.06	43	20934	4.8468	ug/L		88
58)	2CLEVE	9.17	63	31270	N.D.			
59)	c13dicloproe	9.36	75	16362	0.5473	ug/L		94
60)	4Meth2Pentan	9.58	43	83362	5.9936	ug/L		95
62)	Toluene	9.81	92	25735	0.5697	ug/L		100
63)	t13Dicloprop	10.07	75	13355	0.5268	ug/L		96
64)	ethylmethacrylate	10.22	69	21880	0.9572	ug/L		99
65)	112Triclotha	10.30	83	6929	0.5031	ug/L		94
66)	Tetrachlorte	10.54	166	9110	0.5581	ug/L		92
67)	13Diclorpropa	10.53	76	16558	0.5739	ug/L		100
69)	2Hexanone	10.67	43	58382	5.7771	ug/L		93
70)	Clorodibrmta	10.83	129	7697	0.5236	ug/L		96
71)	12Dibrometha	10.99	107	7936	0.5140	ug/L		99
72)	Chlorobenzen	11.67	112	25711	0.5755	ug/L	#	70
73)	1Clhexane	11.65	91	13617	0.5507	ug/L	#	36
74)	1112Tetclota	11.77	131	7056	0.4742	ug/L		94
75)	Ethylbenzene	11.83	91	40826	0.5595	ug/L		98
76)	m p-Xylene	11.99	106	32441	1.1108	ug/L		94
77)	o-Xylene	12.54	106	15623	0.5286	ug/L		97
78)	Styrene	12.56	104	21302	0.4663	ug/L		97
79)	Bromoform	12.79	173	4109	0.4341	ug/L		87
80)	Isopropylben	13.07	105	36451	0.5363	ug/L		94
81)	cyclohexanone	13.17	55	4687	16.2470	ug/L	#	94
84)	Bromobenzene	13.48	156	11011	0.6170	ug/L		89
85)	1122Tetrclta	13.45	83	12817	0.6046	ug/L		87
86)	123Triclproa	13.51	75	16125	0.5977	ug/L		100
87)	14dichloro2butene	13.54	53	3705	0.5547	ug/L	#	67
88)	n-Propylbenz	13.65	91	43372	0.5576	ug/L		98
89)	2chlorotolue	13.76	91	26461	0.5386	ug/L		93
90)	4chlorotolue	13.92	91	33617	0.5827	ug/L		99
91)	135Trimebenz	13.91	105	29723	0.5464	ug/L		96
92)	tbutylbenzen	14.38	119	24530	0.5488	ug/L		94
93)	124Trimetben	14.45	105	30052	0.5486	ug/L		100
94)	sbutylbenzen	14.70	105	34729	0.5336	ug/L		99
95)	13Diclorbenz	14.84	146	18339	0.5945	ug/L		100
96)	pIsopropylto	14.91	119	27885	0.5293	ug/L	#	95
97)	14dichlorobe	14.97	146	19517	0.6036	ug/L	#	78
98)	12dichlorobe	15.51	146	15784	0.5527	ug/L	#	56
99)	nButylbenzen	15.51	91	31622	0.5966	ug/L		89
100)	12dibromo3cl	16.60	157	1667	0.4959	ug/L	#	72
101)	135Trichlorobenzene	16.93	180	11578	0.5406	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL1.D Vial: 5
Acq On : 4 Feb 2020 16:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:01:34 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:00:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	9838	0.5699	ug/L	99
103) Hexachlorobu	17.98	225	4020	0.5263	ug/L	96
104) Naphthalene	18.04	128	19206	0.5155	ug/L	95
105) 123Trichlben	18.34	180	7470	0.4964	ug/L	84

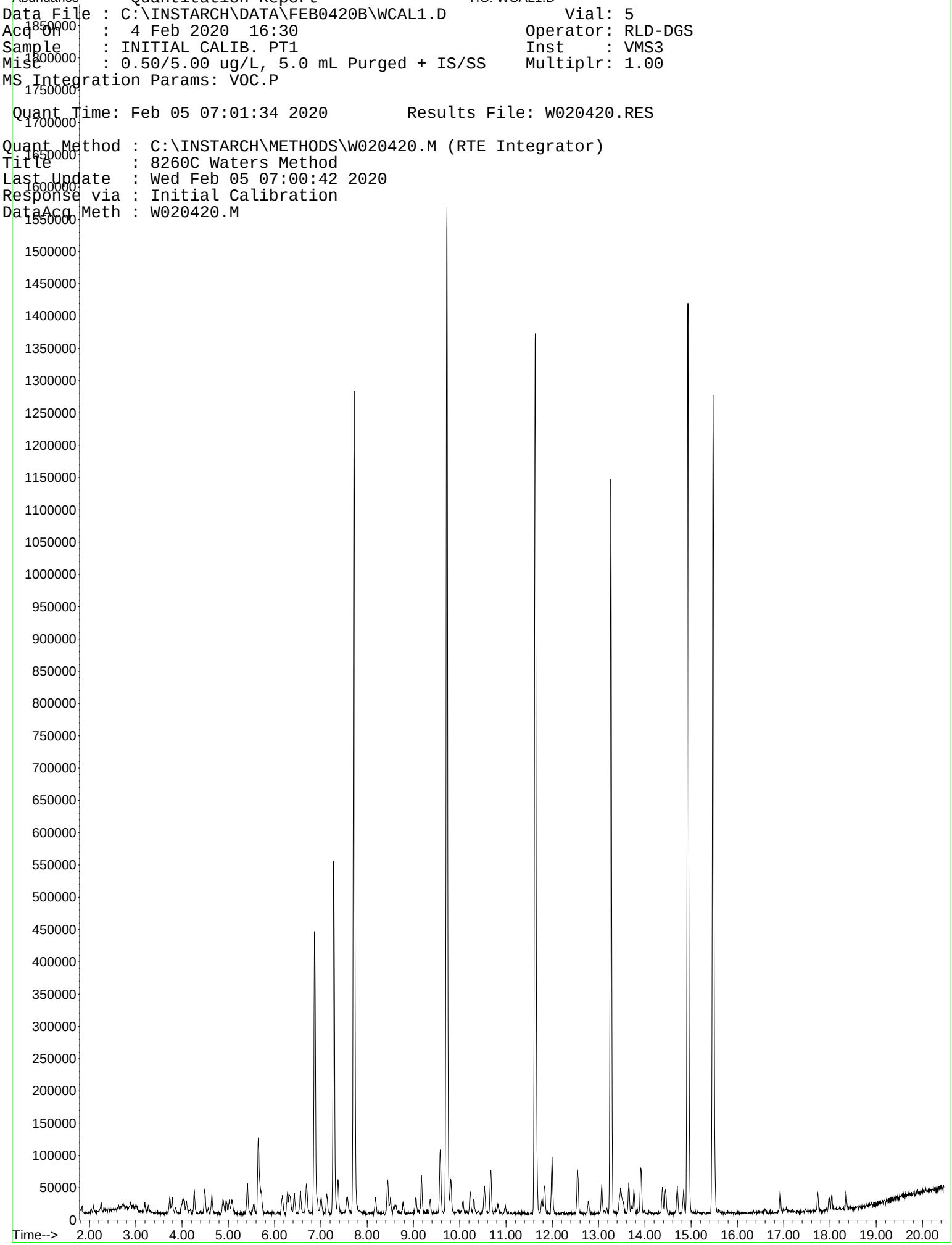
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL1.D

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL1.D Vial: 5
Acq On : 4 Feb 2020 16:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:01:34 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:00:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL2.D Vial: 6
Acq On : 4 Feb 2020 17:00 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:20 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:57:12 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1299780	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	945994	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	471896	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.86	113	304146	19.730 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %		
45) SURR12DCAd4	7.28	102	93367	20.051 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %		
61) SURRd8Tolule	9.72	98	1265626	20.050 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %		
83) SURR4BrFBenz	13.26	95	491091	19.712 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %		
Target Compounds					Qvalue
2) Dichlorodi	1.84	85	14042	0.9906 ug/L	99
3) Chloromethan	2.09	50	20818	1.0784 ug/L	97
4) VinylChlorid	2.25	62	17413	0.9687 ug/L	90
5) Bromomethane	2.72	94	10411	1.0791 ug/L	92
6) Chloroethane	2.89	64	10988	1.0513 ug/L	88
7) Dichloroflmethane	3.20	67	29276	1.0864 ug/L	95
8) Trichlorofma	3.28	101	18330	0.9424 ug/L	100
9) Ethylether	3.74	59	16051	1.0273 ug/L	96
10) dichlorotfluoroethan	3.74	67	15428	0.9459 ug/L	95
11) propyleneoxide	3.79	58	36343	11.5210 ug/L	96
12) Acrolein	3.87	56	16901	5.6767 ug/L	96
13) 11dichlorthe	4.00	96	12717	0.9496 ug/L	95
14) Trichlorotfluoroeth	4.05	101	22228	1.8004 ug/L	98
15) Acetone	4.09	43	49718	12.2982 ug/L	99
16) Iodomethane	4.18	142	16968	N.D.	
17) Carbon Dislf	4.27	76	92657	2.2699 ug/L	98
18) allylchloride	4.49	41	58669	2.2247 ug/L	94
19) methylacetate	4.55	74	4323	1.0166 ug/L	84
20) Methylchlorid	4.64	84	23319	1.2126 ug/L	97
21) tbutylalcohol	4.88	59	58140	57.8466 ug/L	94
22) Acrylonitrile	4.95	53	35895	5.6839 ug/L	93
23) t12dichlorte	5.02	96	17342	1.0645 ug/L	93
24) MtBE	5.08	73	51760	1.1134 ug/L	95
25) Hexane	5.41	57	47758	1.9296 ug/L	97
26) 11dichlorota	5.54	63	33485	1.1169 ug/L	99
27) Vinylacetate	5.65	43	390409	13.7037 ug/L	93
28) chloroprene	5.68	53	47523	2.0336 ug/L	95
29) Diisopether	5.71	45	61079	1.1265 ug/L	97
30) ETBE	6.17	59	56160	1.1146 ug/L	99
31) 22dichloropr	6.29	77	25766	1.1094 ug/L	94
32) c12dichlorte	6.27	96	19990	1.1056 ug/L	93
33) 2Butanone	6.32	72	21770	11.0294 ug/L	95
34) propionitrile	6.35	54	23263	10.8582 ug/L	98
35) Ethylacetate	6.43	88	4339	5.4396 ug/L #	90
36) methacrylonitrile	6.55	67	18981	2.2972 ug/L #	84
37) Bromochlorma	6.55	128	8142	1.0809 ug/L	91
38) Tetrahydofur	6.69	42	54812	11.2216 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL2.D Vial: 6
Acq On : 4 Feb 2020 17:00 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:20 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:57:12 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.68	83	31581	1.1063 ug/L		93
40)	111trichlota	6.91	97	22763	1.0128 ug/L		98
42)	Cyclohexane	7.00	56	24576	0.8750 ug/L		100
43)	Carbtetraclo	7.13	119	14702	0.8666 ug/L		95
44)	11dicloprope	7.12	110	7192	0.9359 ug/L		94
46)	Benzene	7.38	78	75203	1.1299 ug/L		98
47)	12dichlorota	7.37	62	22914	1.0651 ug/L		93
48)	TAME	7.56	73	51878	1.0921 ug/L		97
49)	trichloroete	8.18	95	16038	0.9702 ug/L		86
50)	methylcyclohexane	8.45	83	27242	0.9068 ug/L		98
51)	12dicloropra	8.44	63	19848	0.9894 ug/L		97
52)	23Dicl1propene	8.50	75	29567	1.0531 ug/L		96
53)	Dibromometha	8.59	93	10749	1.0849 ug/L		96
54)	methylmethacrylate	8.62	69	14316	1.0607 ug/L		96
55)	14dioxane	8.66	88	3307	61.5357 ug/L	#	71
56)	Bromodiclrma	8.78	83	23898	1.0806 ug/L		95
57)	2Nitropropane	9.06	43	43900	10.3905 ug/L		96
58)	2CLEVE	9.17	63	59419	5.3195 ug/L		96
59)	c13dicloproe	9.36	75	31261	1.0689 ug/L		100
60)	4Meth2Pentan	9.58	43	172298	12.6638 ug/L		94
62)	Toluene	9.80	92	48306	1.0931 ug/L		97
63)	t13Dicloprop	10.06	75	26498	1.0685 ug/L		99
64)	ethylmethacrylate	10.22	69	44093	1.9720 ug/L		97
65)	112Triclotha	10.31	83	14285	1.0604 ug/L		98
66)	Tetrachlorte	10.54	166	16080	1.0070 ug/L		98
67)	13Diclorpropa	10.53	76	29257	1.0365 ug/L		99
69)	2Hexanone	10.67	43	117077	11.8134 ug/L		95
70)	Clorodibrmta	10.84	129	13712	0.9512 ug/L		92
71)	12Dibrometha	10.98	107	15899	1.0500 ug/L		100
72)	Chlorobenzen	11.67	112	51206	1.1688 ug/L		91
73)	1Clhexane	11.66	91	23181	0.9560 ug/L	#	72
74)	1112Tetclota	11.77	131	15292	1.0480 ug/L		99
75)	Ethylbenzene	11.84	91	81082	1.1331 ug/L		97
76)	m p-Xylene	12.00	106	64071	2.2371 ug/L		97
77)	o-Xylene	12.53	106	28839	0.9951 ug/L		93
78)	Styrene	12.55	104	47592	1.0622 ug/L		93
79)	Bromoform	12.79	173	9093	0.9796 ug/L		96
80)	Isopropylben	13.07	105	71535	1.0732 ug/L		94
81)	cyclohexanone	13.18	55	6785	23.9829 ug/L		81
84)	Bromobenzene	13.48	156	19151	1.0623 ug/L		99
85)	1122Tetrclta	13.45	83	23748	1.1090 ug/L		87
86)	123Triclproa	13.52	75	27604	1.0130 ug/L		94
87)	14dichloro2butene	13.54	53	7429	1.1012 ug/L		82
88)	n-Propylbenz	13.65	91	86641	1.1026 ug/L		96
89)	2chlorotolue	13.76	91	55337	1.1152 ug/L		98
90)	4chlorotolue	13.92	91	65545	1.1248 ug/L		100
91)	135Trimebenz	13.92	105	56088	1.0207 ug/L		98
92)	tbutylbenzen	14.38	119	46031	1.0194 ug/L		97
93)	124Trimetben	14.45	105	57182	1.0334 ug/L		98
94)	sbutylbenzen	14.70	105	65679	0.9990 ug/L		97
95)	13Diclorbenz	14.84	146	32718	1.0499 ug/L		97
96)	pIsopropylto	14.91	119	51982	0.9768 ug/L		96
97)	14dichlorobe	14.97	146	36820	1.1274 ug/L		90
98)	12dichlorobe	15.50	146	31818	1.1030 ug/L		91
99)	nButylbenzen	15.51	91	53335	0.9962 ug/L		93
100)	12dibromo3cl	16.60	157	3940	1.1603 ug/L		99
101)	135Trichlorobenzene	16.93	180	20402	0.9430 ug/L		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL2.D Vial: 6
Acq On : 4 Feb 2020 17:00 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:20 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:57:12 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	18193	1.0434	ug/L	85
103) Hexachlorobu	17.98	225	6051	0.7843	ug/L	85
104) Naphthalene	18.04	128	37377	0.9932	ug/L	98
105) 123Trichlben	18.34	180	16440	1.0816	ug/L	97

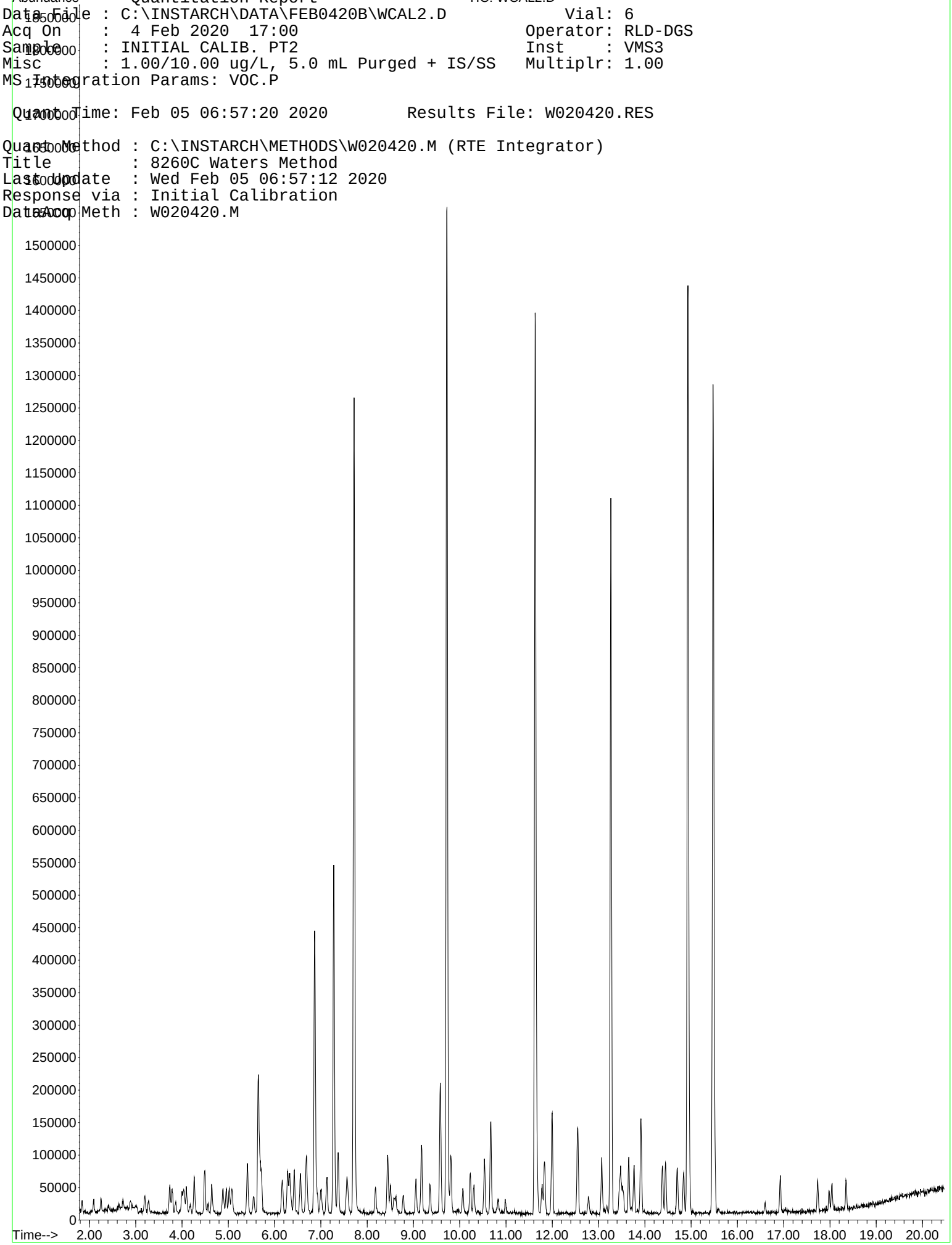
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: WCAL2.D)

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL2.D Vial: 6
Acq On : 4 Feb 2020 17:00 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:20 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:57:12 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL3.D Vial: 7
Acq On : 4 Feb 2020 17:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:33 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:24 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1310555	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	951649	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	465355	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	306822	19.859	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	96686	20.817	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104 %			
61) SURRd8Tolule	9.72	98	1262328	19.843	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	500528	20.411	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	25671	1.7932	ug/L	95
3) Chloromethan	2.09	50	38483	1.8340	ug/L	97
4) VinylChlorid	2.25	62	34536	1.8895	ug/L	96
5) Bromomethane	2.73	94	19897	1.9449	ug/L	96
6) Chloroethane	2.89	64	19018	1.7491	ug/L	84
7) Dichloroflmethane	3.20	67	54277	1.8091	ug/L	98
8) Trichlorofma	3.28	101	36871	1.9363	ug/L	94
9) Ethylether	3.73	59	31566	1.8612	ug/L	98
10) dichlorotfluoroethan	3.73	67	32851	1.9997	ug/L	95
11) propyleneoxide	3.79	58	65355	18.7448	ug/L	97
12) Acrolein	3.86	56	27820	8.4147	ug/L	91
13) 11dichlorthe	4.01	96	24219	1.7811	ug/L	96
14) Trichlorotfluoroeth	4.04	101	45044	3.7459	ug/L	99
15) Acetone	4.10	43	83437	17.4246	ug/L	100
16) Iodomethane	4.18	142	33314	3.2493	ug/L	97
17) Carbon Dislf	4.26	76	173932	3.7068	ug/L	100
18) allylchloride	4.49	41	107448	3.6217	ug/L	98
19) methylacetate	4.57	74	8136	1.9021	ug/L	98
20) Methylchlorid	4.64	84	39027	1.6980	ug/L	96
21) tbutylalcohol	4.89	59	100023	86.0734	ug/L	93
22) Acrylonitrile	4.96	53	65314	9.4742	ug/L	98
23) t12dichlorte	5.02	96	33364	1.9375	ug/L	96
24) MtBE	5.07	73	96765	1.8720	ug/L	98
25) Hexane	5.41	57	92941	3.6884	ug/L	99
26) 11dichlorota	5.55	63	58750	1.8364	ug/L	94
27) Vinylacetate	5.65	43	737234	19.6676	ug/L	93
28) chloroprene	5.68	53	89639	3.6041	ug/L	92
29) Diisopether	5.72	45	113806	1.9075	ug/L	98
30) ETBE	6.17	59	101825	1.8633	ug/L	100
31) 22dichloropr	6.28	77	45213	1.8042	ug/L	96
32) c12dichlorte	6.28	96	37483	1.9893	ug/L	97
33) 2Butanone	6.32	72	39878	18.6766	ug/L	95
34) propionitrile	6.35	54	42306	18.3223	ug/L	98
35) Ethylacetate	6.43	88	8164	9.7984	ug/L #	84
36) methacrylonitrile	6.56	67	31192	3.5076	ug/L	97
37) Bromochlorma	6.57	128	14766	1.8930	ug/L #	88
38) Tetrahydofur	6.69	42	97413	17.6767	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL3.D Vial: 7
Acq On : 4 Feb 2020 17:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:33 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:24 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	58223	1.8911	ug/L		95
40)	111trichlota	6.92	97	43114	1.8834	ug/L		98
42)	Cyclohexane	7.00	56	49132	1.7992	ug/L		99
43)	Carbtetraclo	7.14	119	29304	1.7857	ug/L		90
44)	11dicloprope	7.12	110	12744	1.7130	ug/L	#	86
46)	Benzene	7.37	78	143136	1.9284	ug/L		99
47)	12dichlorota	7.37	62	44135	1.9008	ug/L		96
48)	TAME	7.56	73	96621	1.8952	ug/L		98
49)	trichloroete	8.18	95	31461	1.7953	ug/L		95
50)	methylcyclohexane	8.44	83	49733	1.7096	ug/L		96
51)	12dicloropra	8.45	63	40400	1.9558	ug/L		92
52)	23Dicl1propene	8.51	75	55753	1.8693	ug/L		94
53)	Dibromometha	8.58	93	17624	1.6382	ug/L	#	80
54)	methylmethacrylate	8.62	69	23907	1.6850	ug/L		96
55)	14dioxane	8.65	88	5404	84.9448	ug/L	#	82
56)	Bromodiclrma	8.78	83	41418	1.7221	ug/L		97
57)	2Nitropropane	9.05	43	78248	17.7779	ug/L		92
58)	2CLEVE	9.18	63	119316	9.7581	ug/L		96
59)	c13dicloproe	9.36	75	59206	1.8797	ug/L		97
60)	4Meth2Pentan	9.58	43	316546	19.2412	ug/L		95
62)	Toluene	9.81	92	93567	1.9180	ug/L		98
63)	t13Dicloprop	10.07	75	49457	1.8804	ug/L		99
64)	ethylmethacrylate	10.23	69	84868	3.5958	ug/L		95
65)	112Triclotha	10.30	83	27106	1.9327	ug/L		97
66)	Tetrachlorte	10.53	166	30678	1.8304	ug/L		97
67)	13Diclorpropa	10.53	76	56004	1.8252	ug/L		98
69)	2Hexanone	10.67	43	228499	19.6282	ug/L		94
70)	Clorodibrmta	10.83	129	26375	1.7907	ug/L		98
71)	12Dibrometha	10.99	107	29571	1.8740	ug/L		99
72)	Chlorobenzen	11.66	112	89193	1.7961	ug/L		91
73)	1Clhexane	11.65	91	44821	1.8094	ug/L		88
74)	1112Tetclota	11.78	131	26602	1.7303	ug/L		93
75)	Ethylbenzene	11.84	91	148263	1.8511	ug/L		95
76)	m p-Xylene	11.99	106	117220	3.7170	ug/L		98
77)	o-Xylene	12.54	106	57518	1.9111	ug/L		99
78)	Styrene	12.55	104	85746	1.8460	ug/L		96
79)	Bromoform	12.79	173	16521	1.7839	ug/L		88
80)	Isopropylben	13.07	105	136707	1.8984	ug/L		94
81)	cyclohexanone	13.18	55	10657	33.5500	ug/L		90
84)	Bromobenzene	13.48	156	34457	1.7645	ug/L		98
85)	1122Tetrclta	13.45	83	41810	1.7950	ug/L		94
86)	123Triclproa	13.51	75	53029	1.9214	ug/L		98
87)	14dichloro2butene	13.54	53	13375	1.9057	ug/L		91
88)	n-Propylbenz	13.65	91	168509	1.9659	ug/L		97
89)	2chlorotolue	13.76	91	99146	1.8587	ug/L		99
90)	4chlorotolue	13.92	91	121471	1.8960	ug/L		99
91)	135Trimebenz	13.91	105	111533	1.9320	ug/L		97
92)	tbutylbenzen	14.38	119	86174	1.8225	ug/L		100
93)	124Trimetben	14.45	105	109113	1.8626	ug/L		97
94)	sbutylbenzen	14.71	105	129961	1.9025	ug/L		99
95)	13Diclorbenz	14.84	146	60989	1.8161	ug/L		97
96)	pIsopropylto	14.92	119	103250	1.8851	ug/L		97
97)	14dichlorobe	14.97	146	67159	1.8714	ug/L		96
98)	12dichlorobe	15.50	146	58660	1.9086	ug/L		95
99)	nButylbenzen	15.51	91	102353	1.8002	ug/L		97
100)	12dibromo3cl	16.59	157	6390	1.8270	ug/L		100
101)	135Trichlorobenzene	16.93	180	40867	1.8721	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\FEB0420B\WCAL3.D Vial: 7
Acq On : 4 Feb 2020 17:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:33 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:24 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	33445	1.8339	ug/L	97
103) Hexachlorobu	17.98	225	14623	2.0362	ug/L	94
104) Naphthalene	18.04	128	70411	1.8409	ug/L	97
105) 123Trichlben	18.35	180	27226	1.7614	ug/L	97

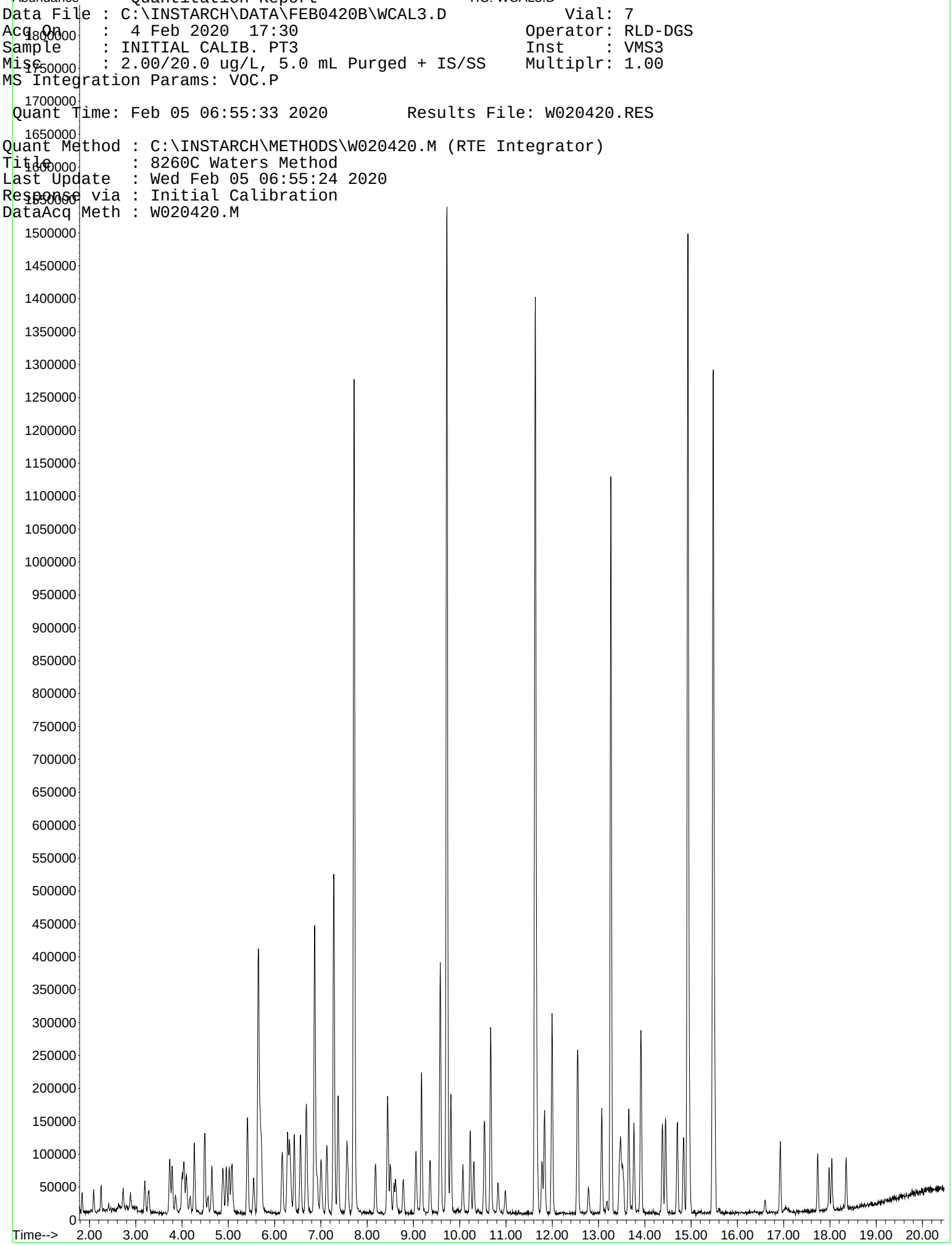
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL3.D

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL3.D Vial: 7
Acq On : 4 Feb 2020 17:30 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:33 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:24 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL4.D Vial: 8
Acq On : 4 Feb 2020 18:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:50 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1308548	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	959756	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	477675	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	315631	20.497	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.28	102	93588	19.977	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100	%		
61) SURRd8Tolule	9.72	98	1268637	20.012	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	499798	19.754	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	70307	5.0492	ug/L	96
3) Chloromethan	2.09	50	101167	4.9311	ug/L	95
4) VinylChlorid	2.25	62	92849	5.1590	ug/L	99
5) Bromomethane	2.72	94	53182	5.2546	ug/L	89
6) Chloroethane	2.89	64	52077	5.0063	ug/L	95
7) Dichloroflmethane	3.20	67	138749	4.7450	ug/L	96
8) Trichlorofma	3.28	101	99887	5.2959	ug/L	96
9) Ethylether	3.73	59	80562	4.8414	ug/L	99
10) dichlorotfluoroethan	3.74	67	77476	4.7236	ug/L	98
11) propyleneoxide	3.79	58	176532	51.7933	ug/L	99
12) Acrolein	3.86	56	80839	25.8551	ug/L	96
13) 11dichlorthe	4.00	96	64754	4.9035	ug/L	98
14) Trichlorotfluoroeth	4.04	101	122587	10.3749	ug/L	98
15) Acetone	4.09	43	234672	50.7156	ug/L	100
16) Iodomethane	4.18	142	99724	10.3917	ug/L	98
17) Carbon Dislf	4.27	76	438272	9.5292	ug/L	98
18) allylchloride	4.49	41	280252	9.6899	ug/L	98
19) methylacetate	4.56	74	24001	5.7130	ug/L	93
20) Methylchlorid	4.64	84	94524	4.2806	ug/L	97
21) tbutylalcohol	4.88	59	319429	285.2325	ug/L	97
22) Acrylonitrile	4.95	53	177410	26.2337	ug/L	98
23) t12dichlorte	5.02	96	83816	4.9132	ug/L	99
24) MtBE	5.08	73	244093	4.8064	ug/L	97
25) Hexane	5.42	57	251198	10.1825	ug/L	98
26) 11dichlorota	5.55	63	156229	4.9930	ug/L	98
27) Vinylacetate	5.65	43	1814962	48.6953	ug/L	96
28) chloroprene	5.68	53	242999	10.0335	ug/L	98
29) Diisopether	5.71	45	292540	4.9682	ug/L	99
30) ETBE	6.17	59	267445	4.9867	ug/L	100
31) 22dichloropr	6.29	77	116007	4.7527	ug/L	97
32) c12dichlorte	6.27	96	92204	4.9075	ug/L	96
33) 2Butanone	6.32	72	107044	51.3427	ug/L	97
34) propionitrile	6.35	54	124777	55.6795	ug/L	99
35) Ethylacetate	6.43	88	20610	24.9415	ug/L	98
36) methacrylonitrile	6.55	67	88878	10.4382	ug/L	93
37) Bromochlorma	6.57	128	39085	5.0864	ug/L	94
38) Tetrahydofur	6.69	42	277546	51.9497	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL4.D Vial: 8
Acq On : 4 Feb 2020 18:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:50 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	149186	4.9200	ug/L		96
40)	111trichlota	6.92	97	110034	4.8854	ug/L		99
42)	Cyclohexane	7.00	56	138398	5.2066	ug/L		99
43)	Carbtetraclo	7.14	119	84021	5.2691	ug/L		99
44)	11dicloprope	7.13	110	39787	5.6252	ug/L	#	91
46)	Benzene	7.37	78	373125	5.0801	ug/L		98
47)	12dichlorota	7.38	62	107755	4.7063	ug/L		98
48)	TAME	7.56	73	253344	5.0430	ug/L		98
49)	trichloroete	8.18	95	81755	4.7952	ug/L		96
50)	methylcyclohexane	8.45	83	147049	5.2533	ug/L		98
51)	12dicloropra	8.44	63	105564	5.1468	ug/L		96
52)	23Dicl1propene	8.50	75	144933	4.9751	ug/L		98
53)	Dibromometha	8.57	93	49297	4.8839	ug/L		89
54)	methylmethacrylate	8.62	69	69609	5.1860	ug/L		99
55)	14dioxane	8.65	88	20017	331.7774	ug/L		93
56)	Bromodiclrma	8.78	83	112090	4.8356	ug/L		99
57)	2Nitropropane	9.05	43	236853	55.4351	ug/L		99
58)	2CLEVE	9.17	63	314902	26.0030	ug/L		98
59)	c13dicloproe	9.36	75	149237	4.8177	ug/L		98
60)	4Meth2Pentan	9.58	43	840913	51.6833	ug/L		97
62)	Toluene	9.81	92	231051	4.7926	ug/L		94
63)	t13Dicloprop	10.07	75	124481	4.8120	ug/L		99
64)	ethylmethacrylate	10.23	69	242798	10.6622	ug/L		98
65)	112Triclotha	10.31	83	71133	5.1373	ug/L		95
66)	Tetrachlorte	10.54	166	76938	4.6970	ug/L		97
67)	13Diclorpropa	10.53	76	146504	4.8888	ug/L		98
69)	2Hexanone	10.67	43	616546	52.8417	ug/L		98
70)	Clorodibrmta	10.83	129	73762	5.0991	ug/L		98
71)	12Dibrometha	10.98	107	77116	4.9233	ug/L		95
72)	Chlorobenzen	11.67	112	231347	4.7401	ug/L		98
73)	1Clhexane	11.65	91	118210	4.8474	ug/L		98
74)	1112Tetclota	11.77	131	76261	5.1500	ug/L		98
75)	Ethylbenzene	11.83	91	393219	4.9602	ug/L		98
76)	m p-Xylene	11.99	106	309492	9.9062	ug/L		100
77)	o-Xylene	12.54	106	149677	4.9866	ug/L		99
78)	Styrene	12.56	104	238568	5.1925	ug/L		100
79)	Bromoform	12.78	173	46656	5.1820	ug/L		96
80)	Isopropylben	13.07	105	364409	5.0822	ug/L		98
81)	cyclohexanone	13.18	55	37244	122.8637	ug/L		97
84)	Bromobenzene	13.48	156	93472	4.8046	ug/L		98
85)	1122Tetrclta	13.45	83	113628	4.8775	ug/L		97
86)	123Triclproa	13.51	75	147696	5.2827	ug/L		98
87)	14dichloro2butene	13.54	53	35081	4.9473	ug/L		98
88)	n-Propylbenz	13.65	91	446657	5.0983	ug/L		98
89)	2chlorotolue	13.76	91	275842	5.1285	ug/L		97
90)	4chlorotolue	13.92	91	326132	5.0245	ug/L		96
91)	135Trimebenz	13.91	105	306493	5.2166	ug/L		98
92)	tbutylbenzen	14.38	119	244024	5.1419	ug/L		99
93)	124Trimetben	14.44	105	313224	5.3000	ug/L		99
94)	sbutylbenzen	14.70	105	367488	5.3055	ug/L		99
95)	13Diclorbenz	14.83	146	166122	4.9325	ug/L		98
96)	pIsopropylto	14.91	119	289951	5.2324	ug/L		100
97)	14dichlorobe	14.96	146	170688	4.7094	ug/L		97
98)	12dichlorobe	15.50	146	153919	4.9352	ug/L		99
99)	nButylbenzen	15.51	91	287193	5.0469	ug/L		97
100)	12dibromo3cl	16.60	157	19316	5.5401	ug/L		87
101)	135Trichlorobenzene	16.93	180	114779	5.2056	ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL4.D Vial: 8
Acq On : 4 Feb 2020 18:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:50 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

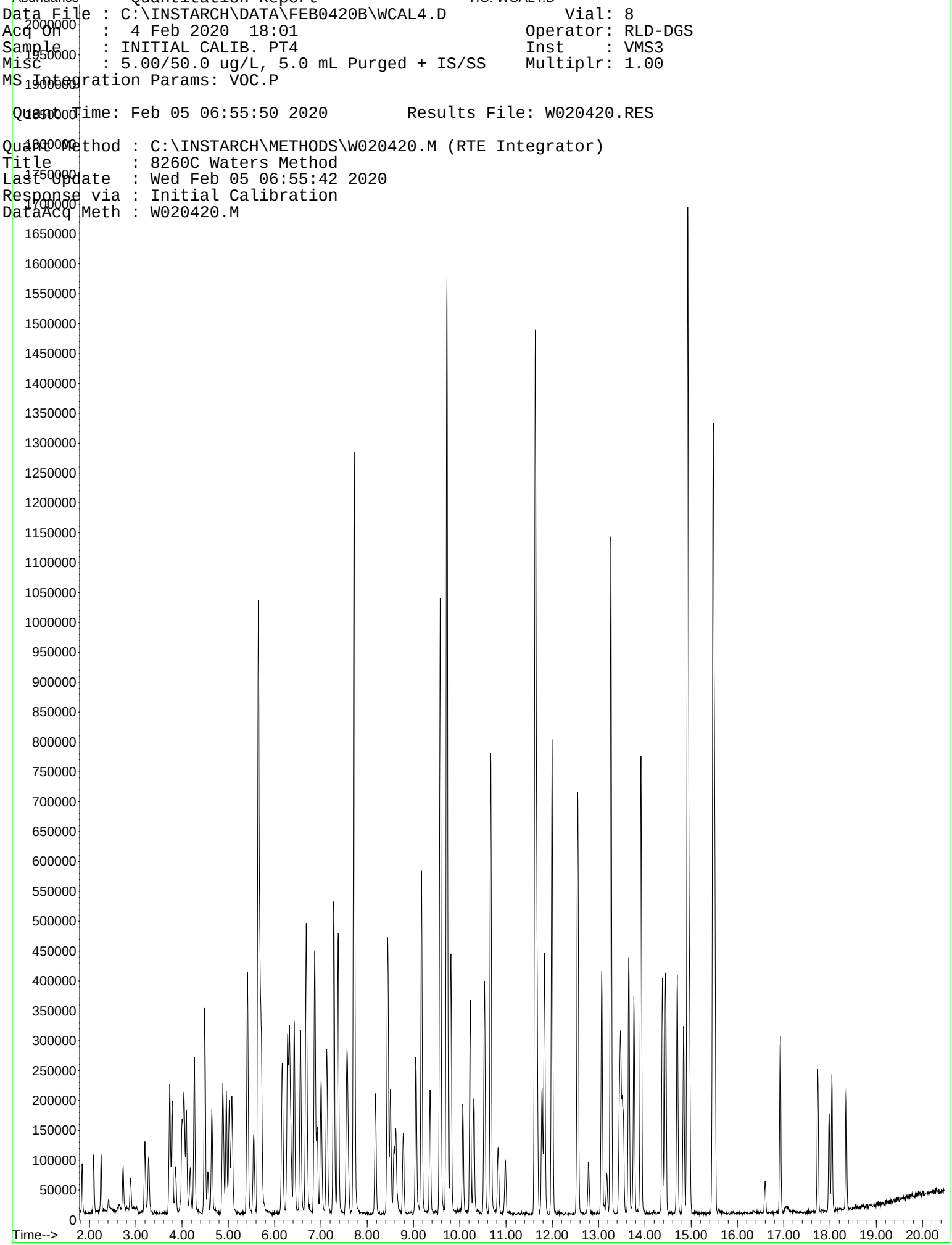
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	84795	4.6258	ug/L	98
103) Hexachlorobu	17.99	225	37491	5.0630	ug/L	97
104) Naphthalene	18.04	128	200449	5.2091	ug/L	99
105) 123Trichlben	18.35	180	75750	4.9210	ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL4.D Vial: 8
Acq On : 4 Feb 2020 18:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:55:50 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:55:42 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL5.D Vial: 9
Acq On : 4 Feb 2020 18:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:08 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:00 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1316503	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	956153	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	490968	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	313472	20.133	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	92020	19.528	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.72	98	1292159	20.258	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.27	95	513105	19.779	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	144723	10.3103	ug/L	100
3) Chloromethan	2.08	50	203204	9.8719	ug/L	100
4) VinylChlorid	2.25	62	182762	10.0297	ug/L	100
5) Bromomethane	2.73	94	100089	9.7059	ug/L	100
6) Chloroethane	2.89	64	107153	10.2354	ug/L	100
7) Dichloroflmethane	3.20	67	273716	9.3999	ug/L	100
8) Trichlorofma	3.28	101	196927	10.2563	ug/L	100
9) Ethylether	3.73	59	164925	9.9142	ug/L	100
10) dichlorotfluoroethan	3.73	67	168345	10.3157	ug/L	100
11) propyleneoxide	3.79	58	332371	96.0648	ug/L	100
12) Acrolein	3.85	56	160781	50.6793	ug/L	99
13) 11dichlorthe	3.99	96	133080	10.0554	ug/L	100
14) Trichlorotfluoroeth	4.04	101	247374	20.6546	ug/L	100
15) Acetone	4.09	43	414558	88.7957	ug/L	100
16) Iodomethane	4.18	142	240103	24.6274	ug/L	100
17) Carbon Dislf	4.26	76	870513	18.9918	ug/L	100
18) allylchloride	4.49	41	557435	19.2768	ug/L	100
19) methylacetate	4.55	74	42149	9.6289	ug/L	100
20) Methylchlorid	4.64	84	188689	8.7449	ug/L	100
21) tbutylalcohol	4.88	59	556296	480.2050	ug/L	100
22) Acrylonitrile	4.95	53	328947	47.7585	ug/L	100
23) t12dichlorte	5.02	96	168083	9.8274	ug/L	100
24) MtBE	5.08	73	488054	9.6267	ug/L	100
25) Hexane	5.41	57	516981	20.7538	ug/L	100
26) 11dichlorota	5.54	63	318564	10.1225	ug/L	100
27) Vinylacetate	5.65	43	3244607	86.9805	ug/L	100
28) chloroprene	5.68	53	496025	20.3437	ug/L	100
29) Diisopether	5.71	45	589836	9.9694	ug/L	100
30) ETBE	6.17	59	544531	10.0971	ug/L	100
31) 22dichloropr	6.29	77	230031	9.4608	ug/L	100
32) c12dichlorte	6.27	96	190137	10.0961	ug/L	100
33) 2Butanone	6.32	72	208135	98.5652	ug/L	100
34) propionitrile	6.35	54	228270	98.4501	ug/L	100
35) Ethylacetate	6.43	88	39750	47.8414	ug/L	100
36) methacrylonitrile	6.55	67	165066	19.0601	ug/L	100
37) Bromochlorma	6.57	128	75282	9.7042	ug/L	100
38) Tetrahydofur	6.68	42	521402	96.2532	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL5.D Vial: 9
Acq On : 4 Feb 2020 18:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:08 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:00 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.67	83	297168	9.7723	ug/L	100
40)	111trichlota	6.91	97	229983	10.1960	ug/L	100
42)	Cyclohexane	7.00	56	282192	10.4655	ug/L	100
43)	Carbtetraclo	7.13	119	175224	10.8059	ug/L	100
44)	11dicloprope	7.12	110	76624	10.4415	ug/L	100
46)	Benzene	7.37	78	714475	9.6380	ug/L	100
47)	12dichlorota	7.37	62	227963	10.0140	ug/L	100
48)	TAME	7.56	73	511029	10.0935	ug/L	100
49)	trichloroete	8.18	95	173507	10.1987	ug/L	100
50)	methylcyclohexane	8.44	83	306832	10.7860	ug/L	100
51)	12dicloropra	8.44	63	214328	10.3258	ug/L	100
52)	23Dicl1propene	8.50	75	299758	10.2403	ug/L	100
53)	Dibromometha	8.57	93	107264	10.6241	ug/L	100
54)	methylmethacrylate	8.62	69	140043	10.2749	ug/L	100
55)	14dioxane	8.65	88	30411	463.1358	ug/L	100
56)	Bromodiclrma	8.78	83	235579	10.1684	ug/L	100
57)	2Nitropropane	9.05	43	466943	106.3157	ug/L	100
58)	2CLEVE	9.17	63	626454	50.9062	ug/L	100
59)	c13dicloproe	9.36	75	308362	9.9672	ug/L	100
60)	4Meth2Pentan	9.58	43	1560795	94.7106	ug/L	100
62)	Toluene	9.81	92	470942	9.7907	ug/L	100
63)	t13Dicloprop	10.06	75	259609	10.0505	ug/L	100
64)	ethylmethacrylate	10.23	69	503726	21.6288	ug/L	100
65)	112Triclotha	10.30	83	137084	9.7734	ug/L	100
66)	Tetrachlorte	10.54	166	161711	9.9331	ug/L	100
67)	13Diclorpropa	10.53	76	300240	10.0029	ug/L	100
69)	2Hexanone	10.67	43	1156277	98.0798	ug/L	100
70)	Clorodibrmta	10.83	129	152775	10.5592	ug/L	100
71)	12Dibrometha	10.98	107	157613	10.1314	ug/L	100
72)	Chlorobenzen	11.67	112	469610	9.7595	ug/L	100
73)	1Clhexane	11.65	91	242387	10.0381	ug/L	100
74)	1112Tetclota	11.78	131	154371	10.3862	ug/L	100
75)	Ethylbenzene	11.84	91	785383	9.9603	ug/L	100
76)	m p-Xylene	11.99	106	610415	19.6486	ug/L	100
77)	o-Xylene	12.54	106	305983	10.2379	ug/L	100
78)	Styrene	12.55	104	496791	10.7707	ug/L	100
79)	Bromoform	12.78	173	94190	10.4062	ug/L	100
80)	Isopropylben	13.07	105	724945	10.1152	ug/L	100
81)	cyclohexanone	13.18	55	59081	185.0581	ug/L	100
84)	Bromobenzene	13.48	156	187387	9.4450	ug/L	100
85)	1122Tetrclta	13.45	83	220752	9.2647	ug/L	100
86)	123Triclproa	13.51	75	295154	10.1279	ug/L	100
87)	14dichloro2butene	13.54	53	70802	9.7401	ug/L	100
88)	n-Propylbenz	13.65	91	899950	9.9550	ug/L	100
89)	2chlorotolue	13.76	91	556381	10.0128	ug/L	100
90)	4chlorotolue	13.92	91	639253	9.5726	ug/L	100
91)	135Trimebenz	13.91	105	618915	10.1608	ug/L	100
92)	tbutylbenzen	14.38	119	502053	10.2344	ug/L	100
93)	124Trimetben	14.44	105	627587	10.2092	ug/L	100
94)	sbutylbenzen	14.70	105	748868	10.3918	ug/L	100
95)	13Diclorbenz	14.83	146	337052	9.7632	ug/L	100
96)	pIsopropylto	14.91	119	606650	10.5530	ug/L	100
97)	14dichlorobe	14.96	146	342539	9.3031	ug/L	100
98)	12dichlorobe	15.50	146	309997	9.6956	ug/L	100
99)	nButylbenzen	15.51	91	580055	9.8988	ug/L	100
100)	12dibromo3cl	16.60	157	32808	8.9143	ug/L	100
101)	135Trichlorobenzene	16.93	180	235310	10.2984	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL5.D Vial: 9
Acq On : 4 Feb 2020 18:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:08 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:00 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	181151	9.7608	ug/L	100
103) Hexachlorobu	17.98	225	79851	10.4651	ug/L	100
104) Naphthalene	18.04	128	418064	10.4825	ug/L	100
105) 123Trichlben	18.35	180	161182	10.2198	ug/L	100

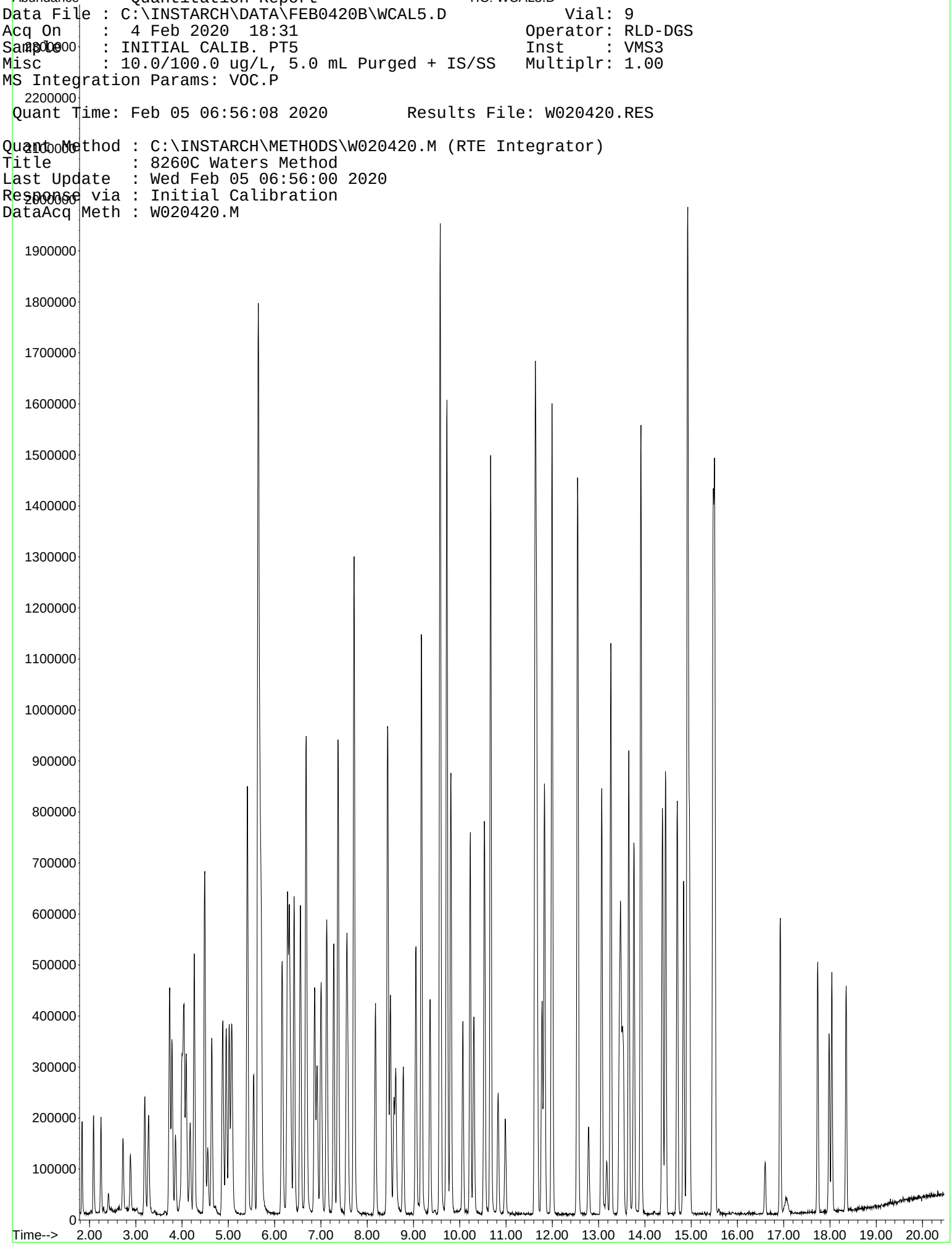
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL5.D Vial: 9
Acq On : 4 Feb 2020 18:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:08 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:00 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL6.D Vial: 10
Acq On : 4 Feb 2020 19:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:23 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:16 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1384113	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	998367	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	510830	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	322502	19.702	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	99405	20.065	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %			
61) SURRd8Tolule	9.72	98	1329367	19.823	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	539045	19.971	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	321219	21.7664	ug/L	96
3) Chloromethan	2.08	50	412856	19.0831	ug/L	100
4) VinylChlorid	2.25	62	391320	20.4261	ug/L	98
5) Bromomethane	2.73	94	194703	17.9587	ug/L	95
6) Chloroethane	2.89	64	224710	20.4161	ug/L	97
7) Dichloroflmethane	3.20	67	555732	18.1527	ug/L	99
8) Trichlorofma	3.28	101	437666	21.6810	ug/L	99
9) Ethylether	3.73	59	317882	18.1755	ug/L	99
10) dichlorotfluoroethan	3.73	67	359756	20.9681	ug/L	98
11) propyleneoxide	3.78	58	617887	169.8636	ug/L	99
12) Acrolein	3.86	56	292457	87.7017	ug/L	99
13) 11dichlorthe	4.00	96	301295	21.6536	ug/L	95
14) Trichlorotfluoroeth	4.04	101	565508	44.9143	ug/L	99
15) Acetone	4.09	43	718607	146.4024	ug/L	99
16) Iodomethane	4.18	142	595978	58.1437	ug/L	100
17) Carbon Dislf	4.27	76	1732006	35.9502	ug/L	98
18) allylchloride	4.49	41	1104248	36.3211	ug/L	100
19) methylacetate	4.55	74	82759	17.9827	ug/L	94
20) Methylchlorid	4.64	84	363347	16.0170	ug/L	98
21) tbutylalcohol	4.88	59	897211	736.6576	ug/L	100
22) Acrylonitrile	4.95	53	628481	86.7894	ug/L	97
23) t12dichlorte	5.02	96	334006	18.5746	ug/L	95
24) MtBE	5.07	73	932288	17.4908	ug/L	98
25) Hexane	5.41	57	1147845	43.8285	ug/L	95
26) 11dichlorota	5.55	63	641347	19.3837	ug/L	98
27) Vinylacetate	5.65	43	5151698	131.3591	ug/L	93
28) chloroprene	5.68	53	1039037	40.5328	ug/L	99
29) Diisopether	5.71	45	1140179	18.3299	ug/L	98
30) ETBE	6.17	59	1067273	18.8236	ug/L	98
31) 22dichloropr	6.29	77	485663	18.9988	ug/L	98
32) c12dichlorte	6.28	96	377218	19.0515	ug/L	98
33) 2Butanone	6.32	72	378990	170.7776	ug/L	100
34) propionitrile	6.35	54	409892	168.1463	ug/L	97
35) Ethylacetate	6.42	88	79945	91.5184	ug/L #	89
36) methacrylonitrile	6.55	67	331038	36.3577	ug/L	95
37) Bromochlorma	6.57	128	158280	19.4065	ug/L	96
38) Tetrahydofur	6.68	42	948692	166.5781	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL6.D Vial: 10
Acq On : 4 Feb 2020 19:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:23 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:16 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	588541	18.4087	ug/L	100
40)	111trichlota	6.92	97	490562	20.6861	ug/L	99
42)	Cyclohexane	7.00	56	655838	23.1347	ug/L	99
43)	Carbtetraclo	7.13	119	388077	22.7632	ug/L	98
44)	11dicloprope	7.13	110	168942	21.8971	ug/L	97
46)	Benzene	7.37	78	1389198	17.8273	ug/L	98
47)	12dichlorota	7.38	62	444888	18.5885	ug/L	99
48)	TAME	7.56	73	997550	18.7406	ug/L	98
49)	trichloroete	8.18	95	351427	19.6479	ug/L	99
50)	methylcyclohexane	8.44	83	711128	23.7770	ug/L	99
51)	12dicloropra	8.44	63	423218	19.3937	ug/L	98
52)	23Dicl1propene	8.50	75	599850	19.4911	ug/L	99
53)	Dibromometha	8.58	93	213248	20.0898	ug/L	99
54)	methylmethacrylate	8.62	69	274418	19.1504	ug/L	97
55)	14dioxane	8.65	88	46766	677.4203	ug/L	98
56)	Bromodiclrma	8.78	83	459704	18.8731	ug/L	96
57)	2Nitropropane	9.05	43	879044	190.3682	ug/L	100
58)	2CLEVE	9.18	63	1183878	91.5037	ug/L	98
59)	c13dicloproe	9.36	75	614052	18.8785	ug/L	97
60)	4Meth2Pentan	9.58	43	2658395	153.4344	ug/L	94
62)	Toluene	9.81	92	918886	18.1701	ug/L	98
63)	t13Dicloprop	10.06	75	522715	19.2479	ug/L	98
64)	ethylmethacrylate	10.23	69	986464	40.2448	ug/L	98
65)	112Triclotha	10.31	83	280533	19.0237	ug/L	98
66)	Tetrachlorte	10.54	166	341825	19.9710	ug/L	99
67)	13Diclorpropa	10.53	76	582295	18.4523	ug/L	97
69)	2Hexanone	10.67	43	2020682	164.1431	ug/L	96
70)	Clorodibrmta	10.83	129	301213	19.9383	ug/L	98
71)	12Dibrometha	10.98	107	311986	19.2066	ug/L	99
72)	Chlorobenzen	11.67	112	888917	17.6925	ug/L	98
73)	1Clhexane	11.65	91	540169	21.4245	ug/L	95
74)	1112Tetclota	11.78	131	302650	19.5016	ug/L	95
75)	Ethylbenzene	11.84	91	1527588	18.5539	ug/L	97
76)	m p-Xylene	11.99	106	1216820	37.5120	ug/L	92
77)	o-Xylene	12.54	106	620861	19.8950	ug/L	96
78)	Styrene	12.56	104	994824	20.6563	ug/L	99
79)	Bromoform	12.78	173	192385	20.3561	ug/L	97
80)	Isopropylben	13.07	105	1464379	19.5686	ug/L	98
81)	cyclohexanone	13.18	55	98218	294.6378	ug/L	95
84)	Bromobenzene	13.48	156	381466	18.4798	ug/L	96
85)	1122Tetrclta	13.45	83	433281	17.4772	ug/L	98
86)	123Triclproa	13.51	75	569841	18.7933	ug/L	100
87)	14dichloro2butene	13.54	53	135162	17.8710	ug/L	94
88)	n-Propylbenz	13.65	91	1753377	18.6413	ug/L	96
89)	2chlorotolue	13.76	91	1079827	18.6774	ug/L	95
90)	4chlorotolue	13.92	91	1244016	17.9044	ug/L	99
91)	135Trimebenz	13.91	105	1230218	19.4113	ug/L	98
92)	tbutylbenzen	14.38	119	1008825	19.7654	ug/L	96
93)	124Trimetben	14.45	105	1234714	19.3046	ug/L	95
94)	sbutylbenzen	14.70	105	1532528	20.4396	ug/L	97
95)	13Diclorbenz	14.84	146	676511	18.8342	ug/L	99
96)	pIsopropylto	14.91	119	1229738	20.5603	ug/L	97
97)	14dichlorobe	14.97	146	686871	17.9296	ug/L	99
98)	12dichlorobe	15.50	146	620689	18.6582	ug/L	99
99)	nButylbenzen	15.51	91	1222923	20.0582	ug/L	99
100)	12dibromo3cl	16.60	157	65153	17.0144	ug/L	99
101)	135Trichlorobenzene	16.93	180	480543	20.2134	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL6.D Vial: 10
Acq On : 4 Feb 2020 19:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:23 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:16 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	372720	19.3020	ug/L	99
103) Hexachlorobu	17.98	225	178053	22.4280	ug/L	96
104) Naphthalene	18.04	128	840580	20.2571	ug/L	99
105) 123Trichlben	18.35	180	334755	20.4001	ug/L	98

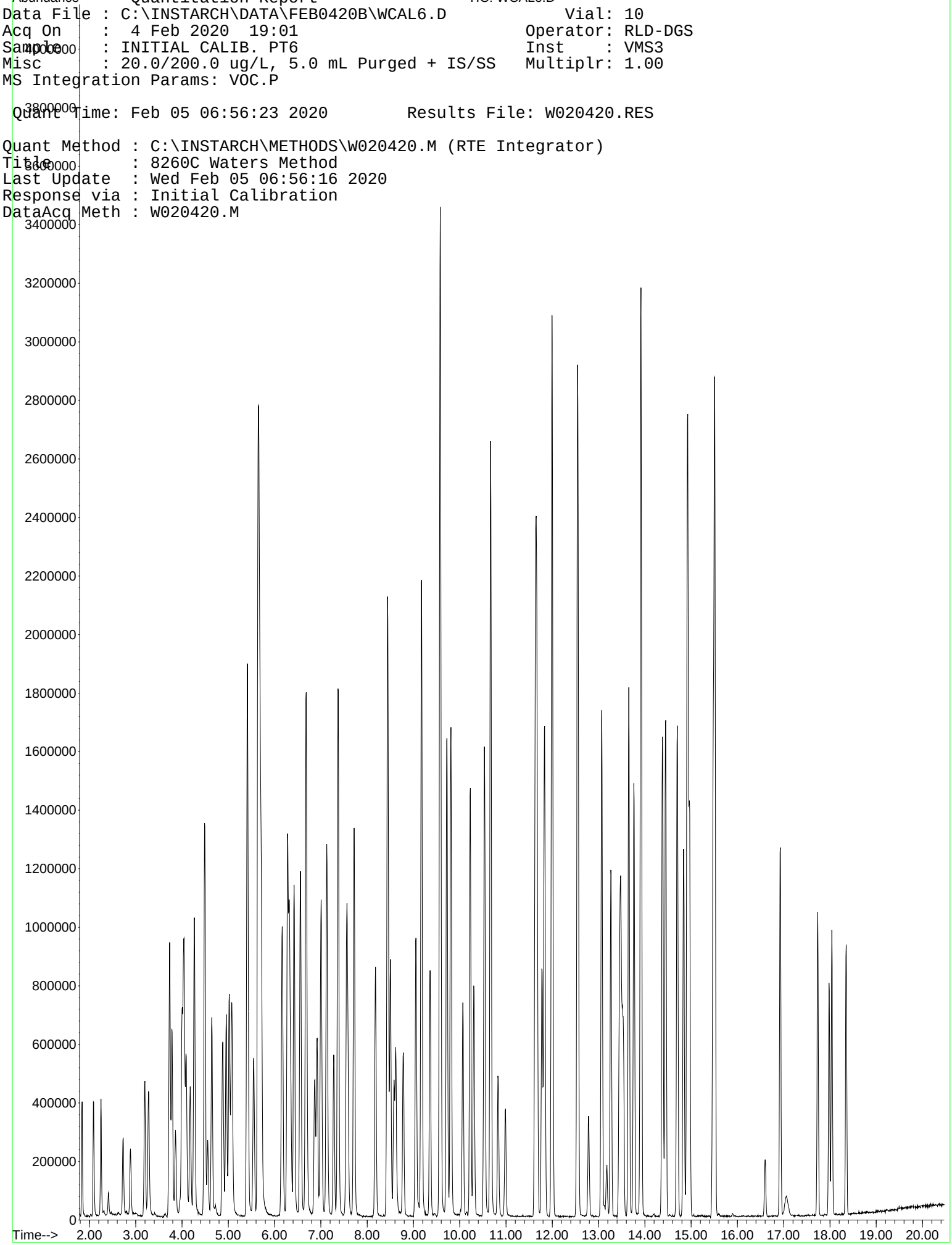
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL6.D

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL6.D Vial: 10
Acq On : 4 Feb 2020 19:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:23 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:16 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL7.D Vial: 11
Acq On : 4 Feb 2020 19:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:38 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:32 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1432790	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1054719	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	548615	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	348391	20.611	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
45) SURR12DCAd4	7.28	102	102554	19.986	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100	%		
61) SURRd8Tolule	9.72	98	1414622	20.408	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102	%		
83) SURR4BrFBenz	13.26	95	583633	20.139	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	496775	32.0470	ug/L	94
3) Chloromethan	2.09	50	612405	27.5556	ug/L	97
4) VinylChlorid	2.25	62	610102	30.6553	ug/L	98
5) Bromomethane	2.73	94	299594	27.2509	ug/L	97
6) Chloroethane	2.89	64	355078	31.0355	ug/L	96
7) Dichloroflmethane	3.20	67	846643	27.1333	ug/L	98
8) Trichlorofma	3.28	101	679709	32.0779	ug/L	100
9) Ethylether	3.73	59	496654	27.8559	ug/L	98
10) dichlorotfluoroethan	3.73	67	564999	31.5571	ug/L	99
11) propyleneoxide	3.78	58	1030205	282.0937	ug/L	99
12) Acrolein	3.86	56	481183	142.9095	ug/L	99
13) 11dichlorthe	4.00	96	456580	31.2680	ug/L	97
14) Trichlorotfluoroeth	4.04	101	887825	66.7513	ug/L	99
15) Acetone	4.08	43	1213672	250.0295	ug/L	99
16) Iodomethane	4.18	142	968399	83.6764	ug/L	98
17) Carbon Dislf	4.27	76	2519547	51.3872	ug/L	96
18) allylchloride	4.49	41	1649152	53.2170	ug/L	99
19) methylacetate	4.55	74	143427	30.7263	ug/L	95
20) Methylchlorid	4.64	84	565322	24.9002	ug/L	98
21) tbutylalcohol	4.88	59	1517393	1258.7818	ug/L	99
22) Acrylonitrile	4.95	53	1038088	142.2416	ug/L	99
23) t12dichlorte	5.02	96	525676	28.5800	ug/L	99
24) MtBE	5.08	73	1464890	27.1163	ug/L	97
25) Hexane	5.41	57	1764686	64.0702	ug/L	95
26) 11dichlorota	5.55	63	980002	28.7604	ug/L	97
27) Vinylacetate	5.65	43	6667762	174.2047	ug/L	85
28) chloroprene	5.68	53	1572712	59.1359	ug/L	98
29) Diisopether	5.71	45	1702848	26.8187	ug/L	95
30) ETBE	6.17	59	1612292	27.7420	ug/L	97
31) 22dichloropr	6.29	77	748424	28.5211	ug/L	99
32) c12dichlorte	6.28	96	591724	29.0999	ug/L	99
33) 2Butanone	6.32	72	663639	297.5803	ug/L	98
34) propionitrile	6.35	54	711791	291.3522	ug/L	96
35) Ethylacetate	6.42	88	134784	151.6263	ug/L #	89
36) methacrylonitrile	6.55	67	552300	59.6849	ug/L	94
37) Bromochlorma	6.57	128	251124	29.8917	ug/L	95
38) Tetrahydofur	6.68	42	1554554	271.2407	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL7.D Vial: 11
Acq On : 4 Feb 2020 19:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:38 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:32 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	913077	27.9602	ug/L		100
40)	111trichlota	6.92	97	776899	31.4676	ug/L		98
42)	Cyclohexane	7.00	56	1014908	33.7041	ug/L		98
43)	Carbtetraclo	7.13	119	605788	33.5536	ug/L		97
44)	11dicloprope	7.13	110	274233	33.6973	ug/L		93
46)	Benzene	7.38	78	2062529	26.0403	ug/L		96
47)	12dichlorota	7.38	62	686035	28.0199	ug/L		99
48)	TAME	7.56	73	1543699	28.3127	ug/L		96
49)	trichloroete	8.18	95	546114	29.5821	ug/L		99
50)	methylcyclohexane	8.45	83	1108102	34.6991	ug/L		99
51)	12dicloropra	8.44	63	655990	29.1865	ug/L		94
52)	23Dicl1propene	8.50	75	928717	29.3010	ug/L		99
53)	Dibromometha	8.57	93	327807	29.8063	ug/L		96
54)	methylmethacrylate	8.62	69	464112	31.5560	ug/L		97
55)	14dioxane	8.65	88	71235	1065.5504	ug/L		98
56)	Bromodiclrma	8.78	83	715221	28.6346	ug/L		98
57)	2Nitropropane	9.06	43	1462329	308.4024	ug/L		99
58)	2CLEVE	9.18	63	1833684	139.2799	ug/L		95
59)	c13dicloproe	9.36	75	943460	28.2848	ug/L		97
60)	4Meth2Pentan	9.58	43	3868035	224.3732	ug/L		88
62)	Toluene	9.81	92	1393679	27.0347	ug/L		96
63)	t13Dicloprop	10.07	75	809720	28.9849	ug/L		99
64)	ethylmethacrylate	10.23	69	1525366	60.0427	ug/L		96
65)	112Triclotha	10.30	83	444685	29.4180	ug/L		97
66)	Tetrachlorte	10.54	166	535433	30.2270	ug/L		98
67)	13Diclorpropa	10.53	76	905280	28.0748	ug/L		98
69)	2Hexanone	10.67	43	3068043	244.6798	ug/L		92
70)	Clorodibrmta	10.83	129	489913	30.7121	ug/L		100
71)	12Dibrometha	10.98	107	510577	29.9510	ug/L		100
72)	Chlorobenzen	11.67	112	1361819	26.1598	ug/L		98
73)	1Clhexane	11.65	91	843146	31.2833	ug/L		96
74)	1112Tetclota	11.78	131	487221	29.8661	ug/L		97
75)	Ethylbenzene	11.84	91	2275914	26.4852	ug/L		94
76)	m p-Xylene	11.99	106	1832842	54.0441	ug/L	#	86
77)	o-Xylene	12.54	106	969953	29.4466	ug/L		90
78)	Styrene	12.56	104	1530271	29.9129	ug/L		97
79)	Bromoform	12.79	173	322708	32.2065	ug/L		98
80)	Isopropylben	13.07	105	2190190	27.8039	ug/L		94
81)	cyclohexanone	13.18	55	175823	527.0240	ug/L		96
84)	Bromobenzene	13.48	156	588283	26.8765	ug/L		99
85)	1122Tetrclta	13.45	83	701295	26.9054	ug/L		99
86)	123Triclproa	13.51	75	953969	29.6528	ug/L		100
87)	14dichloro2butene	13.54	53	231726	29.1490	ug/L		91
88)	n-Propylbenz	13.65	91	2569258	25.7254	ug/L		93
89)	2chlorotolue	13.76	91	1640328	26.7125	ug/L		94
90)	4chlorotolue	13.92	91	1875646	25.5826	ug/L		96
91)	135Trimebenz	13.91	105	1863730	27.5170	ug/L		95
92)	tbutylbenzen	14.38	119	1558387	28.4855	ug/L		95
93)	124Trimetben	14.45	105	1870438	27.3886	ug/L		93
94)	sbutylbenzen	14.70	105	2301887	28.4819	ug/L		95
95)	13Diclorbenz	14.84	146	1020728	26.7196	ug/L		95
96)	pIsopropylto	14.91	119	1870297	28.9810	ug/L		96
97)	14dichlorobe	14.96	146	1056326	26.1252	ug/L		99
98)	12dichlorobe	15.50	146	955990	27.0608	ug/L		99
99)	nButylbenzen	15.51	91	1850642	28.2496	ug/L		97
100)	12dibromo3cl	16.60	157	117108	29.3522	ug/L		100
101)	135Trichlorobenzene	16.93	180	766496	29.9677	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL7.D Vial: 11
Acq On : 4 Feb 2020 19:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:38 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:32 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	605904	29.3878	ug/L	99
103) Hexachlorobu	17.98	225	289348	33.2638	ug/L	98
104) Naphthalene	18.04	128	1382329	30.9520	ug/L	97
105) 123Trichlben	18.35	180	541286	30.6122	ug/L	99

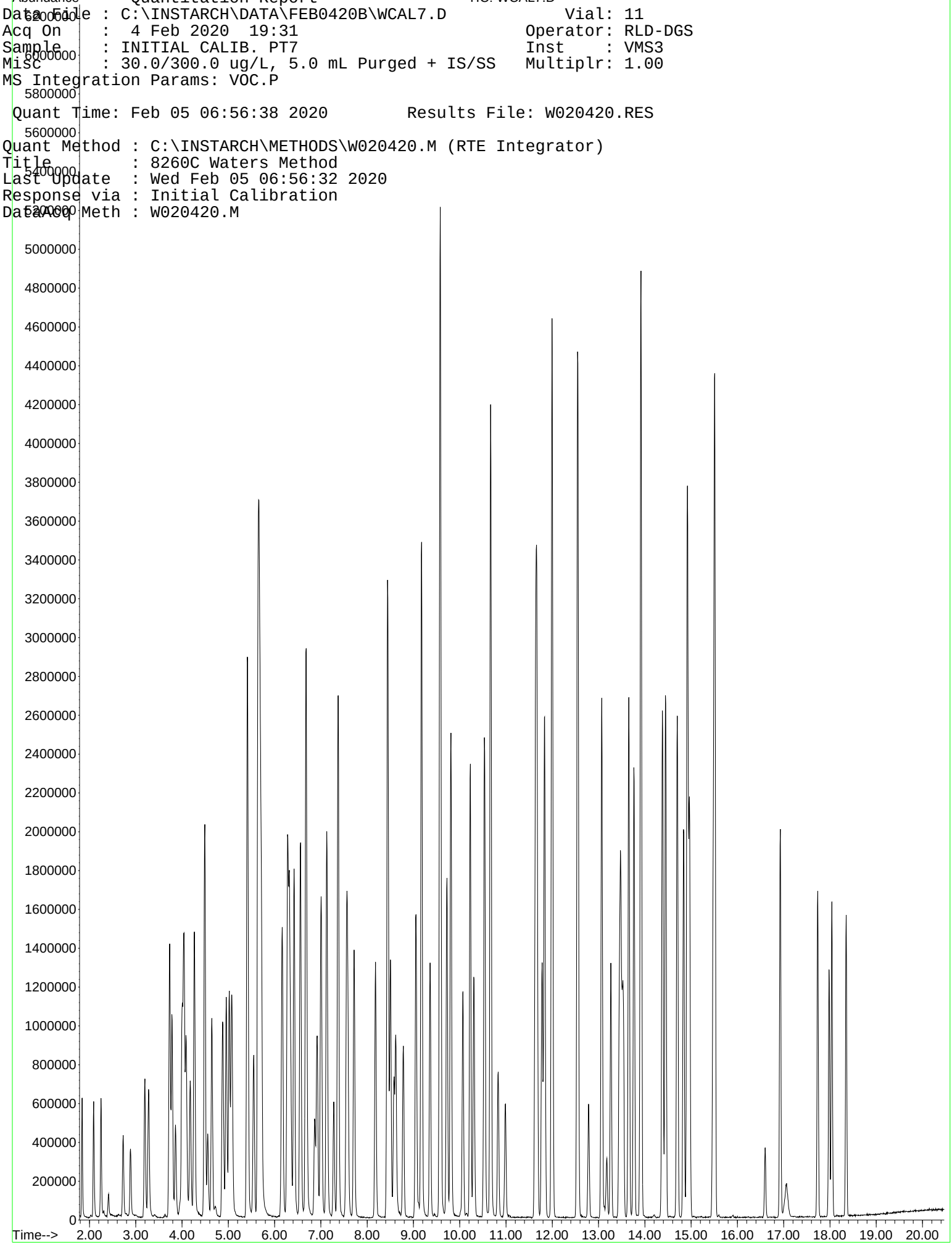
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: WCAL7.D)

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL7.D Vial: 11
Acq On : 4 Feb 2020 19:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:38 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:32 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL8.D Vial: 12
Acq On : 4 Feb 2020 20:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:52 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:46 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1517013	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1094778	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	570798	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	354808	19.739	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	107104	19.716	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %			
61) SURRd8Tolule	9.72	98	1465402	19.909	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %			
83) SURR4BrFBenz	13.26	95	600796	19.906	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	696021	41.9982	ug/L	93
3) Chloromethan	2.09	50	847850	36.4559	ug/L	96
4) VinylChlorid	2.25	62	866329	40.9851	ug/L	96
5) Bromomethane	2.73	94	425384	37.1113	ug/L	98
6) Chloroethane	2.89	64	505545	41.4951	ug/L	97
7) Dichloroflmethane	3.20	67	1159150	35.5717	ug/L	98
8) Trichlorofma	3.28	101	948057	41.8442	ug/L	99
9) Ethylether	3.73	59	685131	36.6679	ug/L	98
10) dichlorotfluoroethan	3.73	67	779440	40.8148	ug/L	98
11) propyleneoxide	3.78	58	1342999	350.8170	ug/L	99
12) Acrolein	3.86	56	652438	184.4669	ug/L	96
13) 11dichlorthe	4.00	96	653752	42.0315	ug/L	94
14) Trichlorotfluoroeth	4.04	101	1224506	85.5777	ug/L	98
15) Acetone	4.09	43	1526989	304.3535	ug/L	98
16) Iodomethane	4.18	142	1424379	109.0699	ug/L	97
17) Carbon Dislf	4.27	76	3320455	65.3013	ug/L	93
18) allylchloride	4.49	41	2236737	69.2898	ug/L	97
19) methylacetate	4.55	74	193773	39.0496	ug/L	98
20) Methylchlorid	4.64	84	784528	33.4492	ug/L	97
21) tbutylalcohol	4.88	59	1877226	1505.4131	ug/L	99
22) Acrylonitrile	4.95	53	1348712	176.0618	ug/L	99
23) t12dichlorte	5.02	96	738699	38.1901	ug/L	98
24) MtBE	5.07	73	1982654	35.1456	ug/L	97
25) Hexane	5.41	57	2359269	80.1256	ug/L	93
26) 11dichlorota	5.55	63	1344325	37.4832	ug/L	96
27) Vinylacetate	5.65	43	7840700	205.8045	ug/L	79
28) chloroprene	5.68	53	2135869	76.0089	ug/L	96
29) Diisopether	5.71	45	2305824	34.8266	ug/L	94
30) ETBE	6.17	59	2210484	36.3136	ug/L	96
31) 22dichloropr	6.29	77	1057022	38.3147	ug/L	98
32) c12dichlorte	6.28	96	821507	38.3215	ug/L	100
33) 2Butanone	6.32	72	856282	363.1337	ug/L	98
34) propionitrile	6.35	54	907018	352.3437	ug/L	97
35) Ethylacetate	6.42	88	172874	183.3475	ug/L	94
36) methacrylonitrile	6.55	67	741406	75.7389	ug/L	93
37) Bromochlorma	6.57	128	348443	39.1933	ug/L	94
38) Tetrahydofur	6.68	42	1977562	330.4161	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL8.D Vial: 12
Acq On : 4 Feb 2020 20:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:52 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:46 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	1261399	36.8398	ug/L		99
40)	111trichlota	6.92	97	1071460	40.7046	ug/L		97
42)	Cyclohexane	7.00	56	1418133	43.7092	ug/L		97
43)	Carbtetraclo	7.13	119	860325	44.2574	ug/L		95
44)	11dicloprope	7.13	110	380133	43.2289	ug/L		95
46)	Benzene	7.37	78	2739273	33.2922	ug/L		93
47)	12dichlorota	7.38	62	953852	37.1458	ug/L		99
48)	TAME	7.56	73	2083313	36.3806	ug/L		95
49)	trichloroete	8.18	95	767954	39.3676	ug/L		98
50)	methylcyclohexane	8.45	83	1540759	44.5714	ug/L		97
51)	12dicloropra	8.44	63	931295	39.2872	ug/L		97
52)	23Dicl1propene	8.50	75	1286542	38.4863	ug/L		97
53)	Dibromometha	8.57	93	457242	39.3094	ug/L		95
54)	methylmethacrylate	8.62	69	630976	40.1724	ug/L		96
55)	14dioxane	8.65	88	90938	1349.9151	ug/L		97
56)	Bromodiclrma	8.78	83	1007150	38.3329	ug/L		96
57)	2Nitropropane	9.05	43	1905412	378.0251	ug/L		99
58)	2CLEVE	9.18	63	2380271	172.8175	ug/L		93
59)	c13dicloproe	9.36	75	1300997	37.1416	ug/L		96
60)	4Meth2Pentan	9.58	43	4638474	263.6195	ug/L		83
62)	Toluene	9.81	92	1897045	35.2538	ug/L		92
63)	t13Dicloprop	10.06	75	1128247	38.3300	ug/L		99
64)	ethylmethacrylate	10.23	69	2045245	76.0279	ug/L		96
65)	112Triclotha	10.30	83	606517	38.0192	ug/L		98
66)	Tetrachlorte	10.54	166	747986	39.8389	ug/L		96
67)	13Diclorpropa	10.53	76	1241245	36.6931	ug/L		96
69)	2Hexanone	10.67	43	3699830	293.2824	ug/L		88
70)	Clorodibrmta	10.83	129	688840	41.4620	ug/L		99
71)	12Dibrometha	10.99	107	688575	38.9236	ug/L		99
72)	Chlorobenzen	11.67	112	1842638	34.7361	ug/L		96
73)	1Clhexane	11.65	91	1171898	41.6355	ug/L		96
74)	1112Tetclota	11.78	131	687148	40.6104	ug/L		97
75)	Ethylbenzene	11.84	91	2989771	34.0900	ug/L		91
76)	m p-Xylene	12.00	106	2438735	70.2750	ug/L	#	81
77)	o-Xylene	12.54	106	1345077	39.4446	ug/L	#	86
78)	Styrene	12.55	104	2068067	38.9625	ug/L		94
79)	Bromoform	12.78	173	451873	42.9209	ug/L		98
80)	Isopropylben	13.07	105	2884950	35.6565	ug/L		91
81)	cyclohexanone	13.18	55	224190	660.8086	ug/L		96
84)	Bromobenzene	13.48	156	822205	36.6488	ug/L		97
85)	1122Tetrclta	13.45	83	950653	35.5790	ug/L		100
86)	123Triclproa	13.51	75	1289050	38.5855	ug/L		100
87)	14dichloro2butene	13.54	53	317531	38.5726	ug/L		92
88)	n-Propylbenz	13.65	91	3317601	32.5908	ug/L		89
89)	2chlorotolue	13.76	91	2225643	35.3897	ug/L		93
90)	4chlorotolue	13.92	91	2504958	33.5438	ug/L		93
91)	135Trimebenz	13.91	105	2494065	35.8160	ug/L		92
92)	tbutylbenzen	14.38	119	2114082	37.4110	ug/L		93
93)	124Trimetben	14.45	105	2502821	35.6678	ug/L		91
94)	sbutylbenzen	14.70	105	3000879	35.9475	ug/L		90
95)	13Diclorbenz	14.84	146	1400703	35.8005	ug/L		95
96)	pIsopropylto	14.91	119	2510440	37.5708	ug/L		92
97)	14dichlorobe	14.97	146	1432919	34.7022	ug/L		98
98)	12dichlorobe	15.50	146	1302239	35.9323	ug/L		99
99)	nButylbenzen	15.51	91	2465717	36.4799	ug/L		94
100)	12dibromo3cl	16.60	157	154612	37.3808	ug/L		98
101)	135Trichlorobenzene	16.93	180	1050136	39.4677	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL8.D Vial: 12
Acq On : 4 Feb 2020 20:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:52 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:46 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	839135	39.2327	ug/L	98
103) Hexachlorobu	17.99	225	411600	44.7830	ug/L	97
104) Naphthalene	18.04	128	1811746	38.8146	ug/L	96
105) 123Trichlben	18.35	180	760529	41.2197	ug/L	99

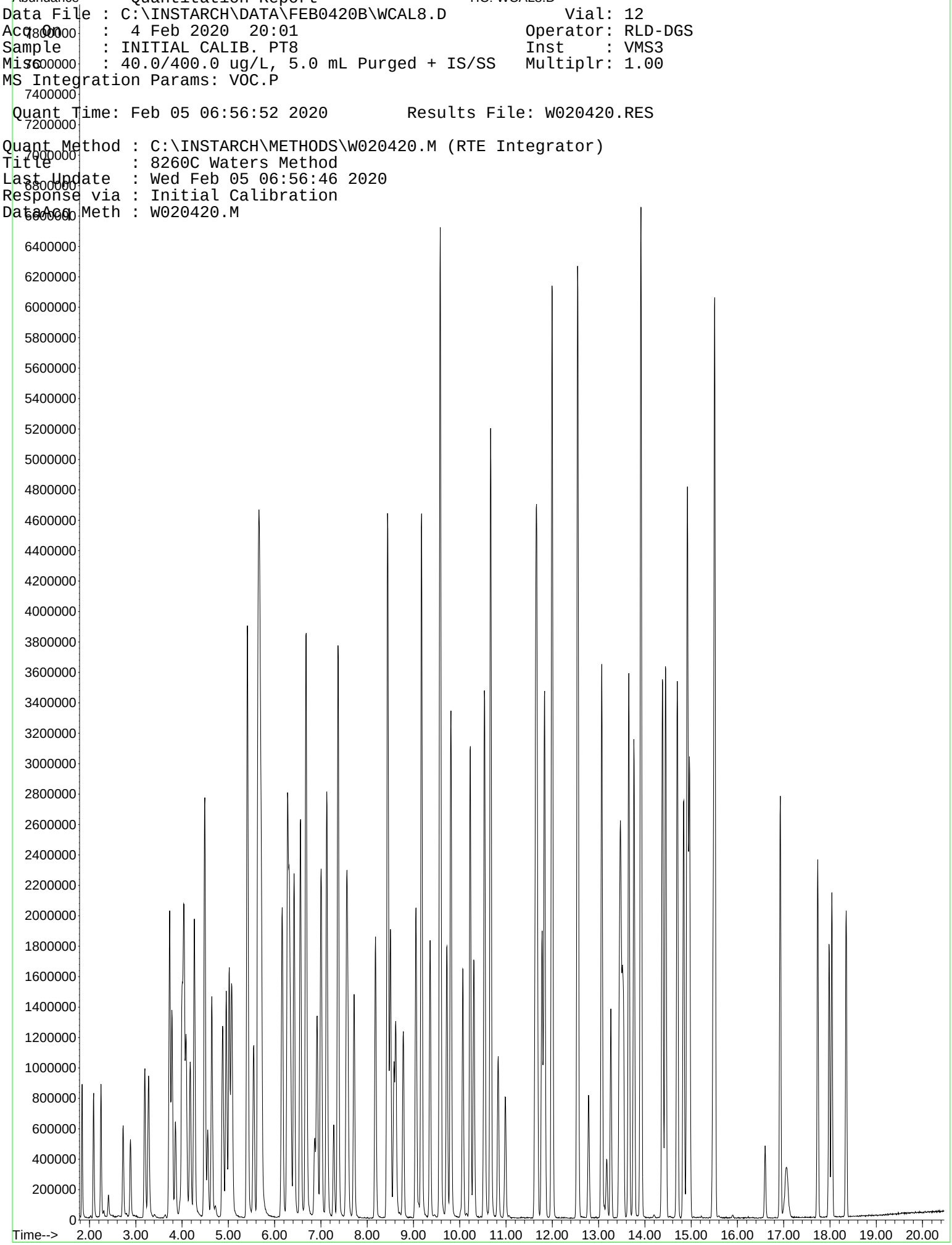
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL8.D

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL8.D Vial: 12
Acq On : 4 Feb 2020 20:01 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:56:52 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:46 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL9.D Vial: 13
Acq On : 4 Feb 2020 20:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:05 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:59 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1586020	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1155322	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	613581	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	383949	20.465	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.28	102	115640	20.397	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1558529	20.264	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.27	95	642679	19.820	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	1295307	74.2948	ug/L	91
3) Chloromethan	2.09	50	1571713	65.3642	ug/L	92
4) VinylChlorid	2.25	62	1606141	72.4556	ug/L	92
5) Bromomethane	2.73	94	892471	75.2495	ug/L	99
6) Chloroethane	2.89	64	991365	77.4174	ug/L	99
7) Dichloroflmethane	3.20	67	2173765	64.7009	ug/L	95
8) Trichlorofma	3.28	101	1841478	77.2951	ug/L	98
9) Ethylether	3.73	59	1354457	70.0656	ug/L	97
10) dichlorotfluoroethan	3.73	67	1519283	75.9014	ug/L	96
11) propyleneoxide	3.78	58	2615432	665.1588	ug/L	95
12) Acrolein	3.85	56	1386519	379.1675	ug/L	97
13) 11dichlorthe	4.00	96	1292068	78.9550	ug/L	90
14) Trichlorotfluoroeth	4.04	101	2378160	157.5988	ug/L	96
15) Acetone	4.08	43	2950564	579.8383	ug/L	93
16) Iodomethane	4.18	142	2707207	188.4962	ug/L	92
17) Carbon Dislf	4.27	76	5243010	100.9429	ug/L	84
18) allylchloride	4.49	41	3861894	116.3763	ug/L	91
19) methylacetate	4.55	74	425573	82.3105	ug/L	97
20) Methylchlorid	4.64	84	1522908	63.4037	ug/L	96
21) tbutylalcohol	4.88	59	3721768	2945.8167	ug/L	94
22) Acrylonitrile	4.95	53	2617693	332.5334	ug/L	97
23) t12dichlorte	5.02	96	1443711	71.7972	ug/L	96
24) MtBE	5.07	73	3668823	63.1640	ug/L	90
25) Hexane	5.41	57	4078880	132.4738	ug/L #	87
26) 11dichlorota	5.54	63	2531752	68.0556	ug/L	92
27) Vinylacetate	5.65	43	10848841	289.9701	ug/L	61
28) chloroprene	5.68	53	3691126	126.4288	ug/L	90
29) Diisopether	5.71	45	4051384	59.4905	ug/L	85
30) ETBE	6.16	59	4007608	63.7060	ug/L	89
31) 22dichloropr	6.28	77	2042598	71.1931	ug/L	95
32) c12dichlorte	6.28	96	1616379	72.5001	ug/L	97
33) 2Butanone	6.32	72	1790495	735.9692	ug/L	95
34) propionitrile	6.35	54	1916184	724.3089	ug/L	94
35) Ethylacetate	6.42	88	387334	397.6568	ug/L #	84
36) methacrylonitrile	6.55	67	1530442	150.6877	ug/L	91
37) Bromochlorma	6.57	128	684246	73.8022	ug/L	90
38) Tetrahydofur	6.68	42	3737442	610.5681	ug/L	88

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL9.D Vial: 13
Acq On : 4 Feb 2020 20:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:05 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:59 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	2395711	67.5912	ug/L		98
40)	111trichlota	6.92	97	2093794	75.9148	ug/L		94
42)	Cyclohexane	7.00	56	2715671	79.1423	ug/L		96
43)	Carbtetraclo	7.13	119	1725213	83.7736	ug/L		92
44)	11dicloprope	7.13	110	793467	85.3235	ug/L	#	86
46)	Benzene	7.38	78	4575090	54.3235	ug/L		84
47)	12dichlorota	7.37	62	1872906	70.3908	ug/L		96
48)	TAME	7.56	73	3850170	65.0454	ug/L		90
49)	trichloroete	8.18	95	1496819	73.5382	ug/L		98
50)	methylcyclohexane	8.45	83	2932847	80.0076	ug/L		95
51)	12dicloropra	8.44	63	1799134	72.7572	ug/L		93
52)	23Dicl1propene	8.50	75	2459241	70.7486	ug/L		92
53)	Dibromometha	8.57	93	943781	77.7991	ug/L		96
54)	methylmethacrylate	8.62	69	1338645	81.4692	ug/L		93
55)	14dioxane	8.65	88	217965	3245.4730	ug/L		98
56)	Bromodiclrma	8.78	83	1940403	71.0099	ug/L		93
57)	2Nitropropane	9.05	43	3624785	692.6077	ug/L		97
58)	2CLEVE	9.18	63	4079319	288.8982	ug/L		82
59)	c13dicloproe	9.36	75	2465672	67.9355	ug/L		91
60)	4Meth2Pentan	9.58	43	6818333	387.1475	ug/L	#	65
62)	Toluene	9.81	92	3353130	60.4991	ug/L	#	83
63)	t13Dicloprop	10.07	75	2194475	71.6834	ug/L		95
64)	ethylmethacrylate	10.23	69	3647152	130.6032	ug/L		88
65)	112Triclotha	10.30	83	1246677	75.2797	ug/L		98
66)	Tetrachlorte	10.54	166	1472597	75.0580	ug/L		94
67)	13Diclorpropa	10.53	76	2397121	68.4871	ug/L		91
69)	2Hexanone	10.67	43	5751373	449.1329	ug/L		76
70)	Clorodibrmta	10.83	129	1403780	79.7029	ug/L		98
71)	12Dibrometha	10.98	107	1406207	75.5783	ug/L		99
72)	Chlorobenzen	11.67	112	3285851	59.6781	ug/L		91
73)	1Clhexane	11.65	91	2214451	74.1736	ug/L		96
74)	1112Tetclota	11.78	131	1383800	77.3281	ug/L		96
75)	Ethylbenzene	11.83	91	4782088	52.6411	ug/L		79
76)	m p-Xylene	12.00	106	4204611	116.5830	ug/L	#	66
77)	o-Xylene	12.54	106	2493084	69.3993	ug/L	#	75
78)	Styrene	12.56	104	3664205	65.6289	ug/L		87
79)	Bromoform	12.78	173	968551	86.2762	ug/L		97
80)	Isopropylben	13.07	105	4709219	55.9123	ug/L		79
81)	cyclohexanone	13.17	55	512303	1467.3728	ug/L		99
84)	Bromobenzene	13.48	156	1604462	67.2345	ug/L		96
85)	1122Tetrclta	13.45	83	1919688	67.7727	ug/L		98
86)	123Triclproa	13.52	75	2668165	74.6754	ug/L		97
87)	14dichloro2butene	13.54	53	683778	77.6673	ug/L		89
88)	n-Propylbenz	13.65	91	5150623	48.1853	ug/L		73
89)	2chlorotolue	13.76	91	3811690	57.2073	ug/L		83
90)	4chlorotolue	13.92	91	4212112	53.5518	ug/L		83
91)	135Trimebenz	13.91	105	4163427	56.3568	ug/L		83
92)	tbutylbenzen	14.38	119	3708958	61.5556	ug/L		88
93)	124Trimetben	14.45	105	4179057	56.1635	ug/L		80
94)	sbutylbenzen	14.70	105	4847757	54.7151	ug/L		79
95)	13Diclorbenz	14.84	146	2609608	62.8733	ug/L		90
96)	pIsopropylto	14.91	119	4200235	58.9242	ug/L		82
97)	14dichlorobe	14.97	146	2636831	60.4057	ug/L		93
98)	12dichlorobe	15.50	146	2390764	62.1581	ug/L		95
99)	nButylbenzen	15.51	91	4131858	57.5003	ug/L		86
100)	12dibromo3cl	16.60	157	359200	81.5519	ug/L		100
101)	135Trichlorobenzene	16.93	180	1979407	69.3210	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL9.D Vial: 13
Acq On : 4 Feb 2020 20:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:05 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:59 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	1643828	71.6680	ug/L	99
103) Hexachlorobu	17.98	225	805473	80.3260	ug/L	99
104) Naphthalene	18.04	128	3238333	64.7801	ug/L	89
105) 123Trichlben	18.35	180	1488178	74.7484	ug/L	97

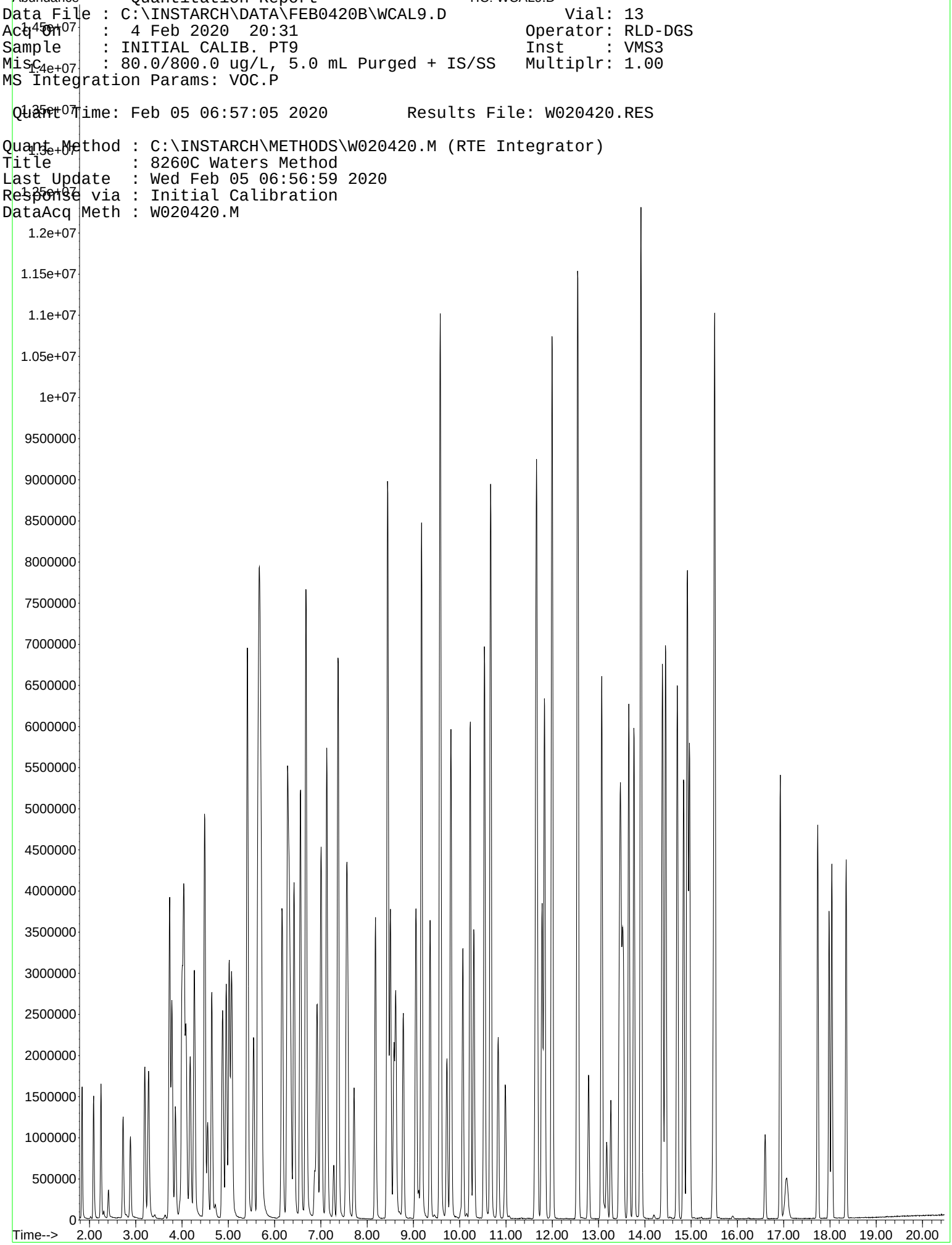
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL9.D

Data File : C:\INSTARCH\DATA\FEB0420B\WCAL9.D Vial: 13
Acq On : 4 Feb 2020 20:31 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 06:57:05 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 06:56:59 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Evaluate Continuing Calibration Report

Data File : c:\instarch\data\feb0420b\ICV1.D Vial: 15
Acq On : 4 Feb 2020 21:30 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 05 07:07:56 2020

Quant Method : C:\INSTARCH\METHODS\W020420.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020420.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	113	0.00
2	PT	Dichlorodi	0.2181	0.2615	-19.90	134	0.00
3	PT	Chloromethan	0.2971	0.3287	-10.64	120	0.00
4	PT	VinylChlorid	0.2766	0.3223	-16.52	131	0.00
5	PT	Bromomethane	0.1484	0.1744	-17.52	129	0.00
6	PT	Chloroethane	0.1608	0.1906	-18.53	132	0.00
7	T	Dichloroflmethane	0.4147	0.4266	-2.87	116	0.00
8	PT	Trichlorofma	0.2993	0.3481	-16.30	131	0.00
9	T	Ethylether	0.2404	0.2545	-5.87	115	0.00
10	T	dichlorotfluoroethan	0.2510	0.2668	-6.29	118	0.00
11	T	propyleneoxide	0.0485	0.0524	-8.04	117	0.00
12	T	Acrolein	0.0458	0.0475	-3.71	110	0.00
13	PT	11dichlorthe	0.2061	0.2287	-10.97	128	0.00
14	PT	Trichlorotfluoroeth	0.1900	0.2014	-6.00	121	0.00
15	PT	Acetone	0.0622	0.0631#	-1.45	113	0.00
16	T	Iodomethane	0.1851	0.1803	2.59	112	0.00
17	PT	Carbon Dislf	0.6550	0.6743	-2.95	115	0.00
18	T	allylchloride	0.4058	0.4141	-2.05	110	0.00
19	PT	methylacetate	0.0654	0.0682#	-4.28	120	0.00
20	PT	Methylchlorid	0.2959	0.2931	0.95	115	0.00
21	T	tbutylalcohol	0.0155	0.0169#	-9.03	113	0.00
22	T	Acrylonitrile	0.0972	0.1044	-7.41	118	0.00
23	PT	t12dichlorte	0.2507	0.2635	-5.11	117	0.00
24	PT	MtBE	0.7153	0.7414	-3.65	113	0.00
25	T	Hexane	0.3808	0.4165	-9.37	120	0.00
26	PT	11dichlorota	0.4613	0.5126	-11.12	120	0.00
27	T	Vinylacetate	0.4718	0.4682	0.76	107	0.00
28	T	chloroprene	0.3596	0.3877	-7.81	116	0.00
29	T	Diisopether	0.8343	0.8585	-2.90	108	0.00
30	T	ETBE	0.7753	0.8134	-4.91	111	0.00
31	T	22dichloropr	0.3574	0.3684	-3.08	119	0.00
32	PT	c12dichlorte	0.2782	0.3041	-9.31	119	0.00
33	PT	2Butanone	0.0304	0.0338#	-11.18	121	0.00
34	T	propionitrile	0.0330	0.0350	-6.06	114	0.00
35	T	Ethylacetate	0.0123	0.0126#	-2.44	118	0.00
36	T	methacrylonitrile	0.1271	0.1313	-3.30	118	0.00
37	T	Bromochlorma	0.1159	0.1198	-3.36	118	0.00
38	T	Tetrahydofur	0.0752	0.0799	-6.25	114	0.00
39	PT	Chloroform	0.4393	0.4730	-7.67	118	0.00
40	PT	111trichlota	0.3458	0.3811	-10.21	123	0.00
41	S	SURRDibrflma	0.2372	0.2381	-0.38	113	0.00
42	PT	Cyclohexane	0.4322	0.4638	-7.31	122	0.00
43	PT	Carbtetraclo	0.2611	0.2983	-14.25	127	0.00
44	T	11dicloprope	0.1182	0.1306	-10.49	127	0.00
45	S	SURR12DCAd4	0.0716	0.0700	2.23	113	0.00
46	PT	Benzene	1.0241	1.1379	-11.11	118	0.00
47	PT	12dichlorota	0.3310	0.3506	-5.92	114	0.00
48	T	TAME	0.7309	0.7627	-4.35	111	0.00

49	PT	trichloroete	0.2544	0.2787	-9.55	119	0.00
50	PT	methylcyclohexane	0.4623	0.5105	-10.43	124	0.00
51	PT	12dicloropra	0.3087	0.3326	-7.74	115	0.00
52	T	23Dicl1propene	0.4320	0.4556	-5.46	113	0.00
53	T	Dibromometha	0.1524	0.1621	-6.36	112	0.00
54	T	methylmethacrylate	0.2077	0.2131	-2.60	113	0.00
55	T	14dioxane	0.0008	0.0008#	0.00	100	0.00
56	PT	Bromodiclrma	0.3403	0.3599	-5.76	114	0.00
57	T	2Nitropropane	0.0650	0.0734	-12.92	117	0.00
58	T	2CLEVE	0.1719	0.1890	-9.95	112	0.00
59	PT	c13dicloproe	0.4500	0.4753	-5.62	115	0.00
60	PT	4Meth2Pentan	0.2221	0.2362	-6.35	112	0.00
61	S	SURRd8Tolule	0.9713	0.9672	0.42	111	0.00
62	PT	Toluene	0.6800	0.7371	-8.40	116	0.00
63	PT	t13Dicloprop	0.3816	0.4145	-8.62	119	0.00
64	T	ethylmethacrylate	0.3441	0.3821	-11.04	113	0.00
65	PT	112Triclotha	0.2073	0.2221	-7.14	120	0.00
66	PT	Tetrachlorte	0.2457	0.2678	-8.99	123	0.00
67	T	13Diclorpropa	0.4343	0.4700	-8.22	116	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	111	0.00
69	PT	2Hexanone	0.2217	0.2478	-11.77	114	0.00
70	PT	Clorodibrmta	0.3048	0.3349	-9.88	117	0.00
71	PT	12Dibrometha	0.3201	0.3394	-6.03	115	0.00
72	PT	Chlorobenzen	0.9262	1.0125	-9.32	115	0.00
73	T	1Clhexane	0.5126	0.5478	-6.87	120	0.00
74	T	1112Tetclota	0.3085	0.3383	-9.66	117	0.00
75	PT	Ethylbenzene	1.5128	1.7669	-16.80	120	0.00
76	PT	m p-Xylene	0.6055	0.6918	-14.25	121	0.00
77	PT	o-Xylene	0.6127	0.6978	-13.89	121	0.00
78	PT	Styrene	0.9472	1.0950	-15.60	117	0.00
79	PT	Bromoform	0.1962	0.2191	-11.67	124	0.00
80	PT	Isopropylben	1.4093	1.6910	-19.99	124	0.00
81	T	cyclohexanone	0.0060	0.0063#	-5.00	114	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	110	0.00
83	S	SURR4BrFBenz	1.0559	1.0961	-3.81	115	0.00
84	T	Bromobenzene	0.7641	0.8401	-9.95	121	0.00
85	PT	1122Tetrclta	0.9076	1.0134	-11.66	124	0.00
86	T	123Triclproa	1.1550	1.2871	-11.44	117	0.00
87	T	14dichloro2butene	0.2859	0.2964	-3.67	113	0.00
88	T	n-Propylbenz	3.4842	3.9769	-14.14	119	0.00
89	T	2chlorotolue	2.1031	2.4167	-14.91	117	0.00
90	T	4chlorotolue	2.4696	2.7988	-13.33	118	0.00
91	T	135Trimebenz	2.3290	2.7575	-18.40	120	0.00
92	T	tbutylbenzen	1.9137	2.2483	-17.48	121	0.00
93	T	124Trimetben	2.3451	2.7648	-17.90	119	0.00
94	T	sbutylbenzen	2.7865	3.0334	-8.86	109	0.00
95	PT	13Diclorbenz	1.3207	1.4497	-9.77	116	0.00
96	T	pIsopropylto	2.2555	2.5083	-11.21	111	0.00
97	PT	14dichlorobe	1.3841	1.4664	-5.95	115	0.00
98	PT	12dichlorobe	1.2226	1.3789	-12.78	120	0.00
99	T	nButylbenzen	2.2691	2.6346	-16.11	122	0.00
100	PT	12dibromo3cl	0.1439	0.1544	-7.30	127	0.00
101	T	135Trichlorobenzene	0.9169	0.9799	-6.87	112	0.00
102	PT	124Trichlobe	0.7390	0.8299	-12.30	123	0.00
103	T	Hexachlorobu	0.3270	0.3702	-13.21	125	0.00
104	T	Naphthalene	1.5950	1.8455	-15.71	119	0.00
105	T	123Trichlben	0.6442	0.7483	-16.16	125	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W020420.M Thu Feb 06 10:18:58 2020

Evaluate Continuing Calibration Report

Data File : c:\instarch\data\feb0420b\ICV1.D Vial: 15
Acq On : 4 Feb 2020 21:30 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 05 07:07:56 2020

Quant Method : C:\INSTARCH\METHODS\W020420.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020420.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	113	0.00
2	PT	Dichlorodi	10.0000	11.9881	-19.88	134	0.00
3	PT	Chloromethan	10.0000	11.0665	-10.66	120	0.00
4	PT	VinylChlorid	10.0000	11.6508	-16.51	131	0.00
5	PT	Bromomethane	10.0000	11.7462	-17.46	129	0.00
6	PT	Chloroethane	10.0000	11.8527	-18.53	132	0.00
7	T	Dichloroflmethane	10.0000	10.2878	-2.88	116	0.00
8	PT	Trichlorofma	10.0000	11.6302	-16.30	131	0.00
9	T	Ethylether	10.0000	10.5879	-5.88	115	0.00
10	T	dichlorotfluoroethan	10.0000	10.6292	-6.29	118	0.00
11	T	propyleneoxide	100.0000	107.9090	-7.91	117	0.00
12	T	Acrolein	50.0000	51.8469	-3.69	110	0.00
13	PT	11dichlorthe	10.0000	11.0975	-10.98	128	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.2048	-6.02	121	0.00
15	PT	Acetone	100.0000	108.8624	-8.86	113	0.00
16	T	Iodomethane	20.0000	17.5092	12.45	112	0.00
17	PT	Carbon Dislf	20.0000	20.5892	-2.95	115	0.00
18	T	allylchloride	20.0000	20.4122	-2.06	110	0.00
19	PT	methylacetate	10.0000	10.4197	-4.20	120	0.00
20	PT	Methylchlorid	10.0000	10.6315	-6.32	115	0.00
21	T	tbutylalcohol	500.0000	585.1103	-17.02	113	0.00
22	T	Acrylonitrile	50.0000	53.7189	-7.44	118	0.00
23	PT	t12dichlorte	10.0000	10.5131	-5.13	117	0.00
24	PT	MtBE	10.0000	10.3640	-3.64	113	0.00
25	T	Hexane	20.0000	21.8742	-9.37	120	0.00
26	PT	11dichlorota	10.0000	11.1114	-11.11	120	0.00
27	T	Vinylacetate	100.0000	103.7618	-3.76	107	0.00
28	T	chloroprene	20.0000	21.5644	-7.82	116	0.00
29	T	Diisopether	10.0000	10.2901	-2.90	108	0.00
30	T	ETBE	10.0000	10.4914	-4.91	111	0.00
31	T	22dichloropr	10.0000	10.3084	-3.08	119	0.00
32	PT	c12dichlorte	10.0000	10.9306	-9.31	119	0.00
33	PT	2Butanone	100.0000	111.2226	-11.22	121	0.00
34	T	propionitrile	100.0000	106.1213	-6.12	114	0.00
35	T	Ethylacetate	50.0000	51.2775	-2.56	118	0.00
36	T	methacrylonitrile	20.0000	20.6548	-3.27	118	0.00
37	T	Bromochlorma	10.0000	10.3369	-3.37	118	0.00
38	T	Tetrahydofur	100.0000	106.3739	-6.37	114	0.00
39	PT	Chloroform	10.0000	10.7689	-7.69	118	0.00
40	PT	111trichlota	10.0000	11.0210	-10.21	123	0.00
41	S	SURRDibrflma	20.0000	20.0747	-0.37	113	0.00
42	PT	Cyclohexane	10.0000	10.7307	-7.31	122	0.00
43	PT	Carbtetraclo	10.0000	11.4258	-14.26	127	0.00
44	T	11dicloprope	10.0000	11.0477	-10.48	127	0.00
45	S	SURR12DCAd4	20.0000	19.5497	2.25	113	0.00
46	PT	Benzene	10.0000	11.1105	-11.11	118	0.00
47	PT	12dichlorota	10.0000	10.5899	-5.90	114	0.00
48	T	TAME	10.0000	10.4353	-4.35	111	0.00

49	PT	trichloroete	10.0000	10.9582	-9.58	119	0.00
50	PT	methylcyclohexane	10.0000	11.0441	-10.44	124	0.00
51	PT	12dicloropra	10.0000	10.7761	-7.76	115	0.00
52	T	23Dicl1propene	10.0000	10.5473	-5.47	113	0.00
53	T	Dibromometha	10.0000	10.6345	-6.34	112	0.00
54	T	methylmethacrylate	10.0000	10.2606	-2.61	113	0.00
55	T	14dioxane	500.0000	568.3891	-13.68	100	0.00
56	PT	Bromodiclrma	10.0000	10.5756	-5.76	114	0.00
57	T	2Nitropropane	100.0000	112.8822	-12.88	117	0.00
58	T	2CLEVE	50.0000	54.9915	-9.98	112	0.00
59	PT	c13dicloproe	10.0000	10.5610	-5.61	115	0.00
60	PT	4Meth2Pentan	100.0000	105.1107	-5.11	112	0.00
61	S	SURRd8Tolule	20.0000	19.9166	0.42	111	0.00
62	PT	Toluene	10.0000	10.8396	-8.40	116	0.00
63	PT	t13Dicloprop	10.0000	10.8631	-8.63	119	0.00
64	T	ethylmethacrylate	20.0000	22.2117	-11.06	113	0.00
65	PT	112Triclotha	10.0000	10.7133	-7.13	120	0.00
66	PT	Tetrachlorte	10.0000	10.8990	-8.99	123	0.00
67	T	13Diclorpropa	10.0000	10.8225	-8.22	116	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	111	0.00
69	PT	2Hexanone	100.0000	111.7973	-11.80	114	0.00
70	PT	Clorodibrmta	10.0000	10.9880	-9.88	117	0.00
71	PT	12Dibrometha	10.0000	10.6024	-6.02	115	0.00
72	PT	Chlorobenzen	10.0000	10.9309	-9.31	115	0.00
73	T	1Clhexane	10.0000	10.6859	-6.86	120	0.00
74	T	1112Tetclota	10.0000	10.9661	-9.66	117	0.00
75	PT	Ethylbenzene	10.0000	11.6794	-16.79	120	0.00
76	PT	m p-Xylene	20.0000	22.8506	-14.25	121	0.00
77	PT	o-Xylene	10.0000	11.3881	-13.88	121	0.00
78	PT	Styrene	10.0000	11.5599	-15.60	117	0.00
79	PT	Bromoform	10.0000	11.1628	-11.63	124	0.00
80	PT	Isopropylben	10.0000	11.9996	-20.00	124	0.00
81	T	cyclohexanone	200.0000	232.1272	-16.06	114	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	110	0.00
83	S	SURR4BrFBenz	20.0000	20.7628	-3.81	115	0.00
84	T	Bromobenzene	10.0000	10.9956	-9.96	121	0.00
85	PT	1122Tetrclta	10.0000	11.1662	-11.66	124	0.00
86	T	123Triclproa	10.0000	11.1443	-11.44	117	0.00
87	T	14dichloro2butene	10.0000	10.3651	-3.65	113	0.00
88	T	n-Propylbenz	10.0000	11.4141	-14.14	119	0.00
89	T	2chlorotolue	10.0000	11.4913	-14.91	117	0.00
90	T	4chlorotolue	10.0000	11.3331	-13.33	118	0.00
91	T	135Trimebenz	10.0000	11.8401	-18.40	120	0.00
92	T	tbutylbenzen	10.0000	11.7483	-17.48	121	0.00
93	T	124Trimetben	10.0000	11.7895	-17.90	119	0.00
94	T	sbutylbenzen	10.0000	10.8859	-8.86	109	0.00
95	PT	13Diclorbenz	10.0000	10.9764	-9.76	116	0.00
96	T	pIsopropylto	10.0000	11.1210	-11.21	111	0.00
97	PT	14dichlorobe	10.0000	10.5944	-5.94	115	0.00
98	PT	12dichlorobe	10.0000	11.2783	-12.78	120	0.00
99	T	nButylbenzen	10.0000	11.6108	-16.11	122	0.00
100	PT	12dibromo3cl	10.0000	10.7314	-7.31	127	0.00
101	T	135Trichlorobenzene	10.0000	10.6862	-6.86	112	0.00
102	PT	124Trichlobe	10.0000	11.2301	-12.30	123	0.00
103	T	Hexachlorobu	10.0000	11.3225	-13.22	125	0.00
104	T	Naphthalene	10.0000	11.5706	-15.71	119	0.00
105	T	123Trichlben	10.0000	11.6151	-16.15	125	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020420.M Thu Feb 06 10:20:21 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\ICV1.D Vial: 15
Acq On : 4 Feb 2020 21:30 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:07:56 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:07:50 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1486402	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1064810	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	538280	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	353889	20.075	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	104102	19.550	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.72	98	1437697	19.917	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	590024	20.763	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 104	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	194329	11.9881	ug/L	97
3) Chloromethan	2.09	50	244316	11.0665	ug/L	99
4) VinylChlorid	2.25	62	239509	11.6508	ug/L	97
5) Bromomethane	2.73	94	129592	11.7462	ug/L	97
6) Chloroethane	2.89	64	141672	11.8527	ug/L	98
7) Dichloroflmethane	3.20	67	317047	10.2878	ug/L	100
8) Trichlorofma	3.28	101	258698	11.6302	ug/L	98
9) Ethylether	3.73	59	189176	10.5879	ug/L	95
10) dichlorotfluoroethan	3.73	67	198261	10.6292	ug/L	99
11) propyleneoxide	3.79	58	389274	107.9090	ug/L	98
12) Acrolein	3.86	56	176526	51.8469	ug/L	99
13) 11dichlorthe	4.00	96	169952	11.0975	ug/L	97
14) Trichlorotfluoroeth	4.04	101	299381	21.2048	ug/L	99
15) Acetone	4.09	43	468746	108.8624	ug/L	100
16) Iodomethane	4.18	142	267925	17.5092	ug/L	99
17) Carbon Dislf	4.27	76	1002239	20.5892	ug/L	100
18) allylchloride	4.49	41	615591	20.4122	ug/L	99
19) methylacetate	4.56	74	50672	10.4197	ug/L	97
20) Methylchlorid	4.64	84	217836	10.6315	ug/L	99
21) tbutylalcohol	4.88	59	628674	585.1103	ug/L	98
22) Acrylonitrile	4.95	53	387957	53.7189	ug/L	98
23) t12dichlorte	5.02	96	195864	10.5131	ug/L	95
24) MtBE	5.08	73	550982	10.3640	ug/L	98
25) Hexane	5.41	57	619140	21.8742	ug/L	99
26) 11dichlorota	5.55	63	380969	11.1114	ug/L	98
27) Vinylacetate	5.65	43	3479738	103.7618	ug/L	98
28) chloroprene	5.68	53	576280	21.5644	ug/L	99
29) Diisopether	5.71	45	638045	10.2901	ug/L	100
30) ETBE	6.17	59	604538	10.4914	ug/L	99
31) 22dichloropr	6.29	77	273790	10.3084	ug/L	99
32) c12dichlorte	6.28	96	226010	10.9306	ug/L	98
33) 2Butanone	6.32	72	251054	111.2226	ug/L	99
34) propionitrile	6.35	54	260002	106.1213	ug/L	96
35) Ethylacetate	6.43	88	46775	51.2775	ug/L	98
36) methacrylonitrile	6.55	67	195172	20.6548	ug/L	92
37) Bromochlorma	6.57	128	89044	10.3369	ug/L	99
38) Tetrahydofur	6.68	42	594188	106.3739	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\ICV1.D Vial: 15
Acq On : 4 Feb 2020 21:30 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:07:56 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:07:50 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	351555	10.7689	ug/L	98
40)	111trichlota	6.92	97	283260	11.0210	ug/L	98
42)	Cyclohexane	7.00	56	344673	10.7307	ug/L	98
43)	Carbtetraclo	7.13	119	221677	11.4258	ug/L	96
44)	11dicloprope	7.13	110	97086	11.0477	ug/L	98
46)	Benzene	7.38	78	845674	11.1105	ug/L	100
47)	12dichlorota	7.38	62	260545	10.5899	ug/L	99
48)	TAME	7.56	73	566864	10.4353	ug/L	99
49)	trichloroete	8.18	95	207161	10.9582	ug/L	98
50)	methylcyclohexane	8.45	83	379422	11.0441	ug/L	99
51)	12dicloropra	8.44	63	247221	10.7761	ug/L	95
52)	23Dicl1propene	8.50	75	338632	10.5473	ug/L	97
53)	Dibromometha	8.57	93	120488	10.6345	ug/L	94
54)	methylmethacrylate	8.62	69	158369	10.2606	ug/L	98
55)	14dioxane	8.65	88	30369	568.3891	ug/L	85
56)	Bromodiclrma	8.78	83	267453	10.5756	ug/L	98
57)	2Nitropropane	9.06	43	545408	112.8822	ug/L	99
58)	2CLEVE	9.17	63	702457	54.9915	ug/L	99
59)	c13dicloproe	9.36	75	353208	10.5610	ug/L	98
60)	4Meth2Pentan	9.58	43	1755211	105.1107	ug/L	98
62)	Toluene	9.81	92	547793	10.8396	ug/L	98
63)	t13Dicloprop	10.06	75	308070	10.8631	ug/L	97
64)	ethylmethacrylate	10.23	69	567962	22.2117	ug/L	99
65)	112Triclotha	10.31	83	165049	10.7133	ug/L	98
66)	Tetrachlorte	10.54	166	199027	10.8990	ug/L	99
67)	13Diclorpropa	10.53	76	349331	10.8225	ug/L	98
69)	2Hexanone	10.67	43	1319463	111.7973	ug/L	99
70)	Clorodibrmta	10.83	129	178292	10.9880	ug/L	98
71)	12Dibrometha	10.98	107	180696	10.6024	ug/L	95
72)	Chlorobenzen	11.67	112	539043	10.9309	ug/L	99
73)	1Clhexane	11.65	91	291655	10.6859	ug/L	96
74)	1112Tetclota	11.78	131	180111	10.9661	ug/L	97
75)	Ethylbenzene	11.83	91	940718	11.6794	ug/L	100
76)	m p-Xylene	11.99	106	736650	22.8506	ug/L	96
77)	o-Xylene	12.54	106	371503	11.3881	ug/L	97
78)	Styrene	12.55	104	582977	11.5599	ug/L	99
79)	Bromoform	12.78	173	116630	11.1628	ug/L	97
80)	Isopropylben	13.07	105	900323	11.9996	ug/L	98
81)	cyclohexanone	13.18	55	67579	232.1272	ug/L	95
84)	Bromobenzene	13.48	156	226113	10.9956	ug/L	98
85)	1122Tetrclta	13.45	83	272759	11.1662	ug/L	97
86)	123Triclproa	13.51	75	346416	11.1443	ug/L	98
87)	14dichloro2butene	13.54	53	79763	10.3651	ug/L	97
88)	n-Propylbenz	13.65	91	1070341	11.4141	ug/L	99
89)	2chlorotolue	13.76	91	650432	11.4913	ug/L	99
90)	4chlorotolue	13.92	91	753282	11.3331	ug/L	99
91)	135Trimebenz	13.91	105	742155	11.8401	ug/L	100
92)	tbutylbenzen	14.38	119	605097	11.7483	ug/L	97
93)	124Trimetben	14.45	105	744105	11.7895	ug/L	98
94)	sbutylbenzen	14.70	105	816414	10.8859	ug/L	98
95)	13Diclorbenz	14.83	146	390168	10.9764	ug/L	98
96)	pIsopropylto	14.91	119	675084	11.1210	ug/L	99
97)	14dichlorobe	14.97	146	394670	10.5944	ug/L	98
98)	12dichlorobe	15.50	146	371125	11.2783	ug/L	98
99)	nButylbenzen	15.51	91	709066	11.6108	ug/L	98
100)	12dibromo3cl	16.60	157	41567	10.7314	ug/L	96
101)	135Trichlorobenzene	16.93	180	263718	10.6862	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\FEB0420B\ICV1.D Vial: 15
Acq On : 4 Feb 2020 21:30 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:07:56 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:07:50 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	223355	11.2301	ug/L	99
103) Hexachlorobu	17.98	225	99648	11.3225	ug/L	99
104) Naphthalene	18.04	128	496701	11.5706	ug/L	98
105) 123Trichlben	18.34	180	201388	11.6151	ug/L	99

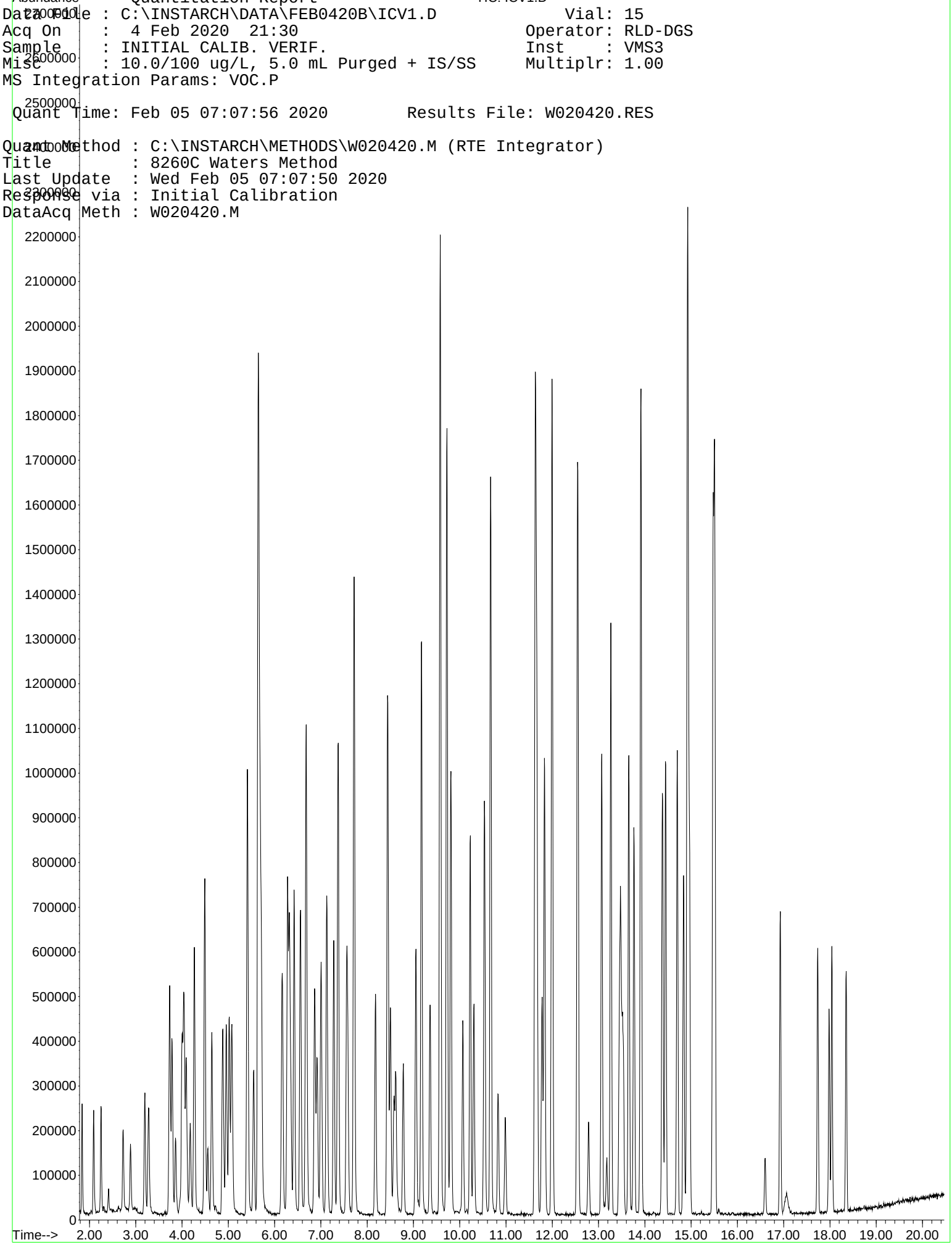
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\ICV1.D Vial: 15
Acq On : 4 Feb 2020 21:30 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:07:56 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:07:50 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Evaluate Continuing Calibration Report

Data File : c:\instarch\data\feb0420b\ICV2.D Vial: 16
Acq On : 4 Feb 2020 22:00 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 05 07:08:55 2020

Quant Method : C:\INSTARCH\METHODS\W020420.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020420.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
2	PT	Dichlorodi	30.0000	34.9285	-16.43	117	0.00
3	PT	Chloromethan	30.0000	30.8990	-3.00	115	0.00
4	PT	VinylChlorid	30.0000	33.8355	-12.79	117	0.00
5	PT	Bromomethane	30.0000	31.6152	-5.38	120	0.00
6	PT	Chloroethane	30.0000	34.0419	-13.47	118	0.00
7	T	Dichloroflmethane	30.0000	29.1207	2.93	109	0.00
8	PT	Trichlorofma	30.0000	34.9434	-16.48	118	0.00
9	T	Ethylether	30.0000	29.0377	3.21	108	0.00
10	T	dichlorotfluoroethan	30.0000	31.6980	-5.66	108	0.00
11	T	propyleneoxide	300.0000	282.3560	5.88	102	0.00
12	T	Acrolein	150.0000	137.3705	8.42	100	0.00
13	PT	11dichlorthe	30.0000	33.9516	-13.17	117	0.00
14	PT	Trichlorotfluoroeth	60.0000	64.0162	-6.69	105	0.00
15	PT	Acetone	300.0000	307.9242	-2.64	104	0.00
16	T	Iodomethane	60.0000	59.5788	0.70	107	0.00
17	PT	Carbon Dislf	60.0000	53.7211	10.46	107	0.00
18	T	allylchloride	60.0000	56.0994	6.50	106	0.00
19	PT	methylacetate	30.0000	28.7647	4.12	100	0.00
20	PT	Methylchlorid	30.0000	32.6935	-8.98	116	0.00
21	T	tbutylalcohol	1500.0000	1628.7133	-8.58	109	0.00
22	T	Acrylonitrile	150.0000	141.4017	5.73	101	0.00
23	PT	t12dichlorte	30.0000	31.6213	-5.40	115	0.00
24	PT	MtBE	30.0000	29.0227	3.26	109	0.00
25	T	Hexane	60.0000	63.2614	-5.44	105	0.00
26	PT	11dichlorota	30.0000	31.3891	-4.63	113	0.00
27	T	Vinylacetate	300.0000	256.8829	14.37	102	0.00
28	T	chloroprene	60.0000	61.0446	-1.74	107	0.00
29	T	Diisopether	30.0000	28.4943	5.02	107	0.00
30	T	ETBE	30.0000	29.1329	2.89	107	0.00
31	T	22dichloropr	30.0000	30.2613	-0.87	111	0.00
32	PT	c12dichlorte	30.0000	31.8243	-6.08	115	0.00
33	PT	2Butanone	300.0000	295.1167	1.63	103	0.00
34	T	propionitrile	300.0000	291.9576	2.68	104	0.00
35	T	Ethylacetate	150.0000	150.0722	-0.05	105	0.00
36	T	methacrylonitrile	60.0000	59.8151	0.31	105	0.00
37	T	Bromochlorma	30.0000	32.3314	-7.77	114	0.00
38	T	Tetrahydofur	300.0000	277.6978	7.43	103	0.00
39	PT	Chloroform	30.0000	31.2067	-4.02	115	0.00
40	PT	111trichlota	30.0000	33.2440	-10.81	113	0.00
41	S	SURRDibrflma	20.0000	20.2592	-1.30	106	0.00
42	PT	Cyclohexane	30.0000	32.9670	-9.89	107	0.00
43	PT	Carbtetraclo	30.0000	35.1900	-17.30	116	0.00
44	T	11dicloprope	30.0000	34.9169	-16.39	115	0.00
45	S	SURR12DCAd4	20.0000	20.0861	-0.43	107	0.00
46	PT	Benzene	30.0000	29.4265	1.91	112	0.00
47	PT	12dichlorota	30.0000	30.9716	-3.24	114	0.00
48	T	TAME	30.0000	29.6074	1.31	107	0.00

49	PT	trichloroete	30.0000	32.7683	-9.23	117	0.00	
50	PT	methylcyclohexane	30.0000	34.0548	-13.52	109	0.00	
51	PT	12dicloropra	30.0000	31.8619	-6.21	115	0.00	
52	T	23Dicl1propene	30.0000	30.2631	-0.88	108	0.00	
53	T	Dibromometha	30.0000	32.6507	-8.84	116	0.00	
54	T	methylmethacrylate	30.0000	30.9748	-3.25	106	0.00	
55	T	14dioxane	1500.0000	1762.6234	-17.51	122	-0.01	
56	PT	Bromodiclrma	30.0000	31.8664	-6.22	116	0.00	
57	T	2Nitropropane	300.0000	308.2421	-2.75	105	0.00	
58	T	2CLEVE	150.0000	146.3195	2.45	105	0.00	
59	PT	c13dicloproe	30.0000	31.3163	-4.39	114	0.00	
60	PT	4Meth2Pentan	300.0000	290.3296	3.22	103	0.00	
61	S	SURRd8Tolule	20.0000	20.0005	-0.00	105	0.00	
62	PT	Toluene	30.0000	30.2316	-0.77	113	0.00	
63	PT	t13Dicloprop	30.0000	31.8259	-6.09	115	0.00	
64	T	ethylmethacrylate	60.0000	62.3724	-3.95	108	0.00	
65	PT	112Triclotha	30.0000	31.5254	-5.08	113	0.00	
66	PT	Tetrachlorte	30.0000	32.1354	-7.12	113	0.00	
67	T	13Diclorpropa	30.0000	31.0744	-3.58	114	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	106	0.00	
69	PT	2Hexanone	300.0000	254.9528	15.02	103	0.00	
70	PT	Clorodibrmta	30.0000	33.2295	-10.77	115	0.00	
71	PT	12Dibrometha	30.0000	31.6397	-5.47	111	0.00	
72	PT	Chlorobenzen	30.0000	29.7868	0.71	113	0.00	
73	T	1Clhexane	30.0000	31.7973	-5.99	108	0.00	
74	T	1112Tetclota	30.0000	32.7590	-9.20	116	0.00	
75	PT	Ethylbenzene	30.0000	30.0446	-0.15	111	0.00	
76	PT	m p-Xylene	60.0000	61.0358	-1.73	112	0.00	
77	PT	o-Xylene	30.0000	32.2229	-7.41	114	0.00	
78	PT	Styrene	30.0000	32.9544	-9.85	114	0.00	
79	PT	Bromoform	30.0000	34.4985	-14.99	117	0.00	
80	PT	Isopropylben	30.0000	31.1063	-3.69	112	0.00	
81	T	cyclohexanone	600.0000	662.1819	-10.36	111	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	104	0.00	
83	S	SURR4BrFBenz	20.0000	20.4859	-2.43	106	0.00	
84	T	Bromobenzene	30.0000	30.4230	-1.41	113	0.00	
85	PT	1122Tetrclta	30.0000	30.8177	-2.73	114	0.00	
86	T	123Triclproa	30.0000	31.9782	-6.59	111	0.00	
87	T	14dichloro2butene	30.0000	30.1234	-0.41	106	0.00	
88	T	n-Propylbenz	30.0000	28.6383	4.54	111	0.00	
89	T	2chlorotolue	30.0000	30.8743	-2.91	113	0.00	
90	T	4chlorotolue	30.0000	29.9063	0.31	113	0.00	
91	T	135Trimebenz	30.0000	31.5362	-5.12	113	0.00	
92	T	tbutylbenzen	30.0000	32.5256	-8.42	114	0.00	
93	T	124Trimetben	30.0000	31.1925	-3.97	112	0.00	
94	T	sbutylbenzen	30.0000	32.0289	-6.76	111	0.00	
95	PT	13Diclorbenz	30.0000	30.9446	-3.15	115	0.00	
96	T	pIsopropylto	30.0000	32.5300	-8.43	112	0.00	
97	PT	14dichlorobe	30.0000	30.1110	-0.37	113	0.00	
98	PT	12dichlorobe	30.0000	30.7369	-2.46	113	0.00	
99	T	nButylbenzen	30.0000	32.0145	-6.71	112	0.00	
100	PT	12dibromo3cl	30.0000	31.9423	-6.47	112	0.00	
101	T	135Trichlorobenzene	30.0000	31.2210	-4.07	107	0.00	
102	PT	124Trichlobe	30.0000	32.3317	-7.77	113	0.00	
103	T	Hexachlorobu	30.0000	35.5577	-18.53	115	0.00	
104	T	Naphthalene	30.0000	32.8289	-9.43	109	0.00	
105	T	123Trichlben	30.0000	33.1459	-10.49	113	0.00	

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020420.M Thu Feb 06 10:21:07 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\ICV2.D Vial: 16
Acq On : 4 Feb 2020 22:00 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:08:55 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:08:45 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1531400	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1115181	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	573020	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	367953	20.259	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	110196	20.086	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100	%		
61) SURRd8Tolule	9.72	98	1487453	20.000	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	619728	20.486	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	583336	34.9285	ug/L	95
3) Chloromethan	2.09	50	702811	30.8990	ug/L	97
4) VinylChlorid	2.25	62	716620	33.8355	ug/L	97
5) Bromomethane	2.73	94	359361	31.6152	ug/L	96
6) Chloroethane	2.89	64	419211	34.0419	ug/L	99
7) Dichloroflmethane	3.20	67	924606	29.1207	ug/L	99
8) Trichlorofma	3.28	101	800801	34.9434	ug/L	99
9) Ethylether	3.73	59	534526	29.0377	ug/L	98
10) dichlorotfluoroethan	3.73	67	609146	31.6980	ug/L	98
11) propyleneoxide	3.79	58	1049415	282.3560	ug/L	99
12) Acrolein	3.86	56	481872	137.3705	ug/L	96
13) 11dichlorthe	4.00	96	535692	33.9516	ug/L	95
14) Trichlorotfluoroeth	4.04	101	931179	64.0162	ug/L	99
15) Acetone	4.09	43	1256929	307.9242	ug/L	100
16) Iodomethane	4.18	142	1037472	59.5788	ug/L	99
17) Carbon Dislf	4.27	76	2694201	53.7211	ug/L	95
18) allylchloride	4.49	41	1743068	56.0994	ug/L	97
19) methylacetate	4.56	74	144120	28.7647	ug/L	94
20) Methylchlorid	4.64	84	654176	32.6935	ug/L	97
21) tbutylalcohol	4.88	59	1647437	1628.7133	ug/L	99
22) Acrylonitrile	4.95	53	1052116	141.4017	ug/L	99
23) t12dichlorte	5.02	96	606954	31.6213	ug/L	99
24) MtBE	5.07	73	1589642	29.0227	ug/L	98
25) Hexane	5.42	57	1844794	63.2614	ug/L	95
26) 11dichlorota	5.55	63	1108796	31.3891	ug/L	96
27) Vinylacetate	5.65	43	6784819	256.8829	ug/L	85
28) chloroprene	5.68	53	1680720	61.0446	ug/L	97
29) Diisopether	5.71	45	1820297	28.4943	ug/L	94
30) ETBE	6.16	59	1729530	29.1329	ug/L	96
31) 22dichloropr	6.29	77	828071	30.2613	ug/L	99
32) c12dichlorte	6.28	96	677946	31.8243	ug/L	99
33) 2Butanone	6.32	72	686310	295.1167	ug/L	99
34) propionitrile	6.35	54	736964	291.9576	ug/L	97
35) Ethylacetate	6.42	88	141039	150.0722	ug/L #	88
36) methacrylonitrile	6.55	67	582316	59.8151	ug/L	92
37) Bromochlorma	6.57	128	286941	32.3314	ug/L	94
38) Tetrahydofur	6.68	42	1598135	277.6978	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\ICV2.D Vial: 16
Acq On : 4 Feb 2020 22:00 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:08:55 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:08:45 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	1049595	31.2067	ug/L		99
40)	111trichlota	6.92	97	880298	33.2440	ug/L		98
42)	Cyclohexane	7.00	56	1090963	32.9670	ug/L		98
43)	Carbtetraclo	7.13	119	703405	35.1900	ug/L		97
44)	11dicloprope	7.13	110	316136	34.9169	ug/L		93
46)	Benzene	7.38	78	2307600	29.4265	ug/L		95
47)	12dichlorota	7.38	62	785069	30.9716	ug/L		99
48)	TAME	7.56	73	1657021	29.6074	ug/L		97
49)	trichloroete	8.18	95	638226	32.7683	ug/L		100
50)	methylcyclohexane	8.45	83	1205371	34.0548	ug/L		98
51)	12dicloropra	8.44	63	753092	31.8619	ug/L		94
52)	23Dicl1propene	8.50	75	1001043	30.2631	ug/L		98
53)	Dibromometha	8.58	93	381130	32.6507	ug/L		97
54)	methylmethacrylate	8.62	69	492557	30.9748	ug/L		97
55)	14dioxane	8.64	88	86658	1762.6234	ug/L		99
56)	Bromodiclrma	8.78	83	830290	31.8664	ug/L		97
57)	2Nitropropane	9.05	43	1534406	308.2421	ug/L		99
58)	2CLEVE	9.17	63	1925656	146.3195	ug/L		94
59)	c13dicloproe	9.36	75	1079072	31.3163	ug/L		98
60)	4Meth2Pentan	9.58	43	3983673	290.3296	ug/L		86
62)	Toluene	9.81	92	1574050	30.2316	ug/L		94
63)	t13Dicloprop	10.07	75	929879	31.8259	ug/L		100
64)	ethylmethacrylate	10.22	69	1643168	62.3724	ug/L		98
65)	112Triclotha	10.30	83	500382	31.5254	ug/L		98
66)	Tetrachlorte	10.54	166	604588	32.1354	ug/L		98
67)	13Diclorpropa	10.53	76	1033388	31.0744	ug/L		97
69)	2Hexanone	10.67	43	3151365	254.9528	ug/L		91
70)	Clorodibrmta	10.83	129	564693	33.2295	ug/L		99
71)	12Dibrometha	10.98	107	564744	31.6397	ug/L		97
72)	Chlorobenzen	11.67	112	1538381	29.7868	ug/L		98
73)	1Clhexane	11.65	91	908911	31.7973	ug/L		95
74)	1112Tetclota	11.78	131	563498	32.7590	ug/L		97
75)	Ethylbenzene	11.83	91	2534407	30.0446	ug/L		93
76)	m p-Xylene	11.99	106	2060733	61.0358	ug/L	#	84
77)	o-Xylene	12.54	106	1100897	32.2229	ug/L		89
78)	Styrene	12.55	104	1740544	32.9544	ug/L		96
79)	Bromoform	12.78	173	377496	34.4985	ug/L		97
80)	Isopropylben	13.07	105	2444299	31.1063	ug/L		94
81)	cyclohexanone	13.18	55	194358	662.1819	ug/L		96
84)	Bromobenzene	13.48	156	665990	30.4230	ug/L		99
85)	1122Tetrclta	13.45	83	801375	30.8177	ug/L		99
86)	123Triclproa	13.51	75	1058177	31.9782	ug/L		98
87)	14dichloro2butene	13.54	53	246770	30.1234	ug/L		95
88)	n-Propylbenz	13.65	91	2858843	28.6383	ug/L		91
89)	2chlorotolue	13.76	91	1860331	30.8743	ug/L		94
90)	4chlorotolue	13.92	91	2116085	29.9063	ug/L		96
91)	135Trimebenz	13.91	105	2104320	31.5362	ug/L		94
92)	tbutylbenzen	14.38	119	1783349	32.5256	ug/L		95
93)	124Trimetben	14.44	105	2095803	31.1925	ug/L		92
94)	sbutylbenzen	14.70	105	2557106	32.0289	ug/L		93
95)	13Diclorbenz	14.84	146	1170944	30.9446	ug/L		96
96)	pIsopropylto	14.91	119	2102132	32.5300	ug/L		94
97)	14dichlorobe	14.97	146	1194110	30.1110	ug/L		99
98)	12dichlorobe	15.50	146	1076711	30.7369	ug/L		100
99)	nButylbenzen	15.51	91	2081286	32.0145	ug/L		96
100)	12dibromo3cl	16.60	157	131710	31.9423	ug/L		99
101)	135Trichlorobenzene	16.93	180	820210	31.2210	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\FEB0420B\ICV2.D Vial: 16
Acq On : 4 Feb 2020 22:00 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:08:55 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:08:45 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	684546	32.3317	ug/L	100
103) Hexachlorobu	17.99	225	333137	35.5577	ug/L	98
104) Naphthalene	18.04	128	1500223	32.8289	ug/L	97
105) 123Trichlben	18.35	180	611789	33.1459	ug/L	98

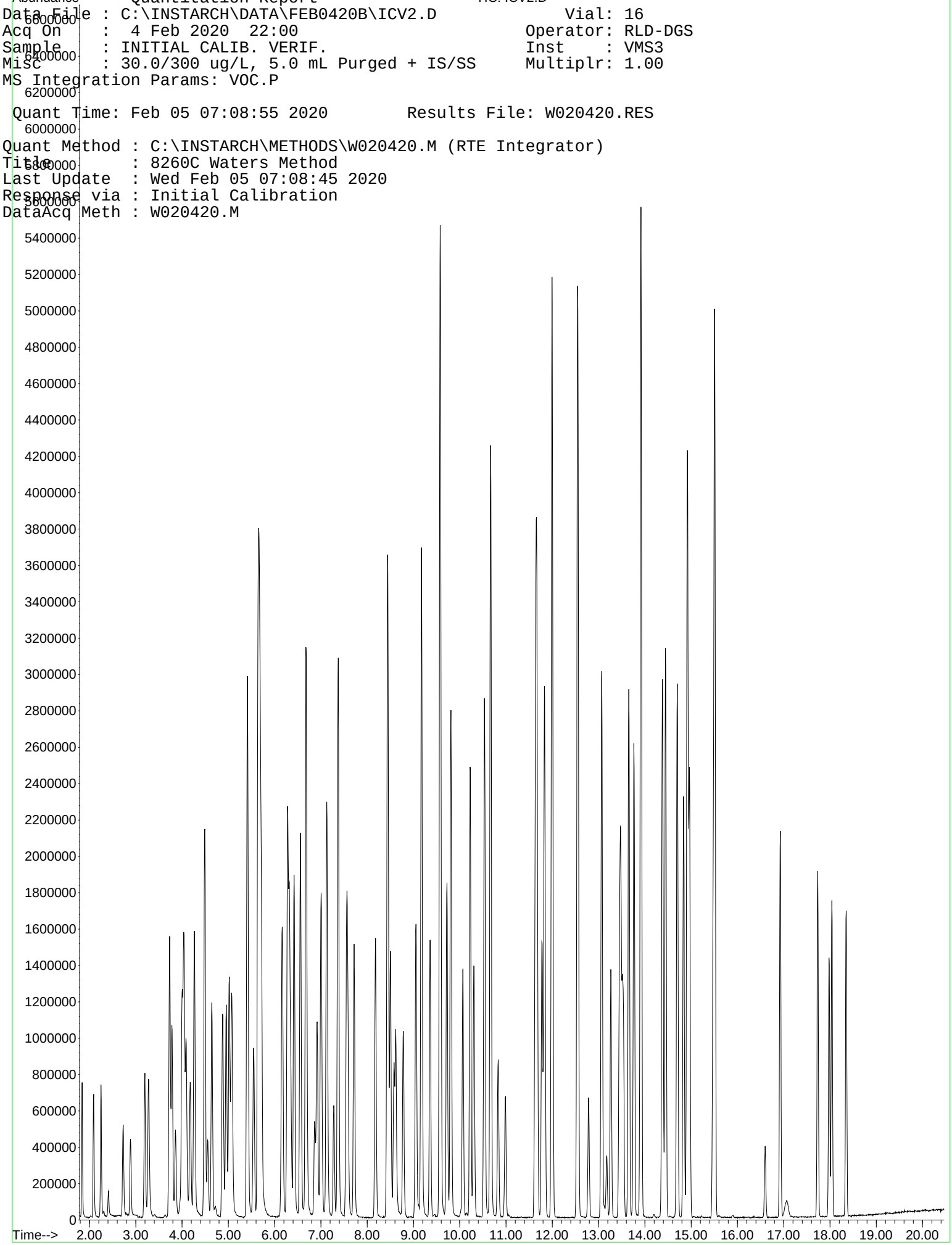
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : C:\INSTARCH\DATA\FEB0420B\ICV2.D Vial: 16
Acq On : 4 Feb 2020 22:00 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:08:55 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:08:45 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\MB-ICB1.D Vial: 19
Acq On : 4 Feb 2020 23:28 Operator: RLD-DGS
Sample : 168564,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:11:15 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1391443	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1000776	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	482416	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	321875	19.505	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	100763	20.214	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101 %			
61) SURRd8Tolule	9.72	98	1335014	19.756	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	530971	20.848	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 104 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.08	50	1015	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	6143	Below	Cal	97
16) Iodomethane	4.20	142	1396	3.0744	ug/L #	45
17) Carbon Dislf	4.26	76	9481	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	3683	Below	Cal	88
21) tbutylalcohol	4.89	59	4286	Below	Cal	94
22) Acrylonitrile	4.96	53	1150	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.65	43	5920	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	6.38	54	1262	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.71	42	3765	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\MB-ICB1.D Vial: 19
Acq On : 4 Feb 2020 23:28 Operator: RLD-DGS
Sample : 168564,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:11:15 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.36	78	1153	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.66	88	3695	Below Cal #	69
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	9.58	43	1997	Below Cal #	36
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	10.07	75	1313	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	10.67	43	1862	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	11.67	112	1745	N.D.	
73) 1Clhexane	11.64	91	2282	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	12.55	104	1542	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	13.06	105	1367	N.D.	
81) cyclohexanone	13.19	55	2458	Below Cal #	42
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	13.49	83	1009	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	13.64	91	1667	N.D.	
89) 2chlorotolue	13.64	91	1667	N.D.	
90) 4chlorotolue	13.91	91	2119	N.D.	
91) 135Trimebenz	13.91	105	1130	N.D.	
92) tbutylbenzen	14.37	119	1098	N.D.	
93) 124Trimetben	14.45	105	1369	N.D.	
94) sbutylbenzen	14.70	105	1384	N.D.	
95) 13Diclorbenz	14.83	146	1576	N.D.	
96) pIsopropylto	14.90	119	1283	N.D.	
97) 14dichlorobe	14.96	146	2564	N.D.	
98) 12dichlorobe	15.50	146	1664	N.D.	
99) nButylbenzen	15.50	91	2563	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	16.93	180	1296	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0420B\MB-ICB1.D Vial: 19
Acq On : 4 Feb 2020 23:28 Operator: RLD-DGS
Sample : 168564,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:11:15 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.74	180	2011	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.04	128	4205	N.D.	
105) 123Trichlben	18.34	180	1241	N.D.	

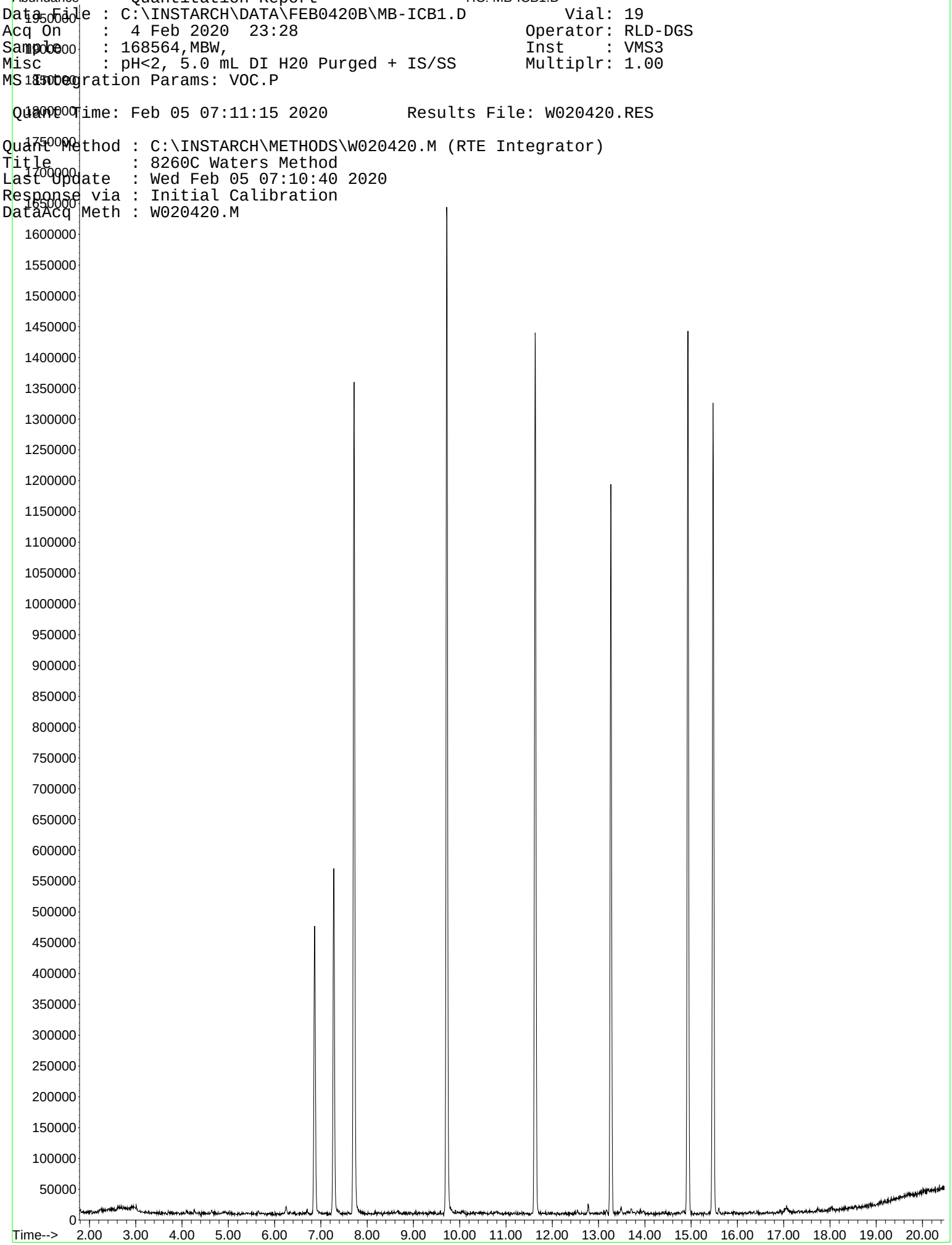
(#) = qualifier out of range (m) = manual integration

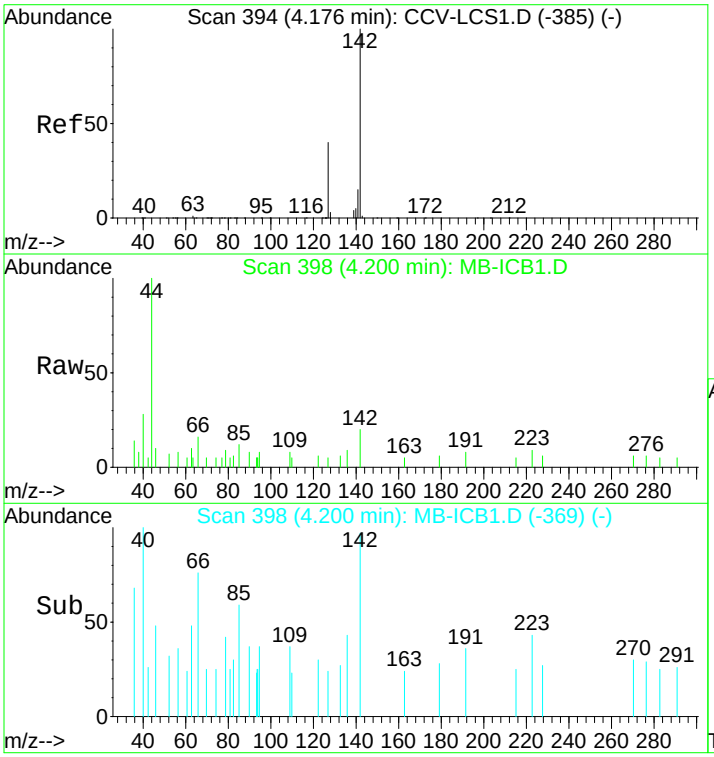
Quantitation Report (RTE)

Data File : C:\INSTARCH\DATA\FEB0420B\MB-ICB1.D Vial: 19
Acq On : 4 Feb 2020 23:28 Operator: RLD-DGS
Sample : 168564,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 07:11:15 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

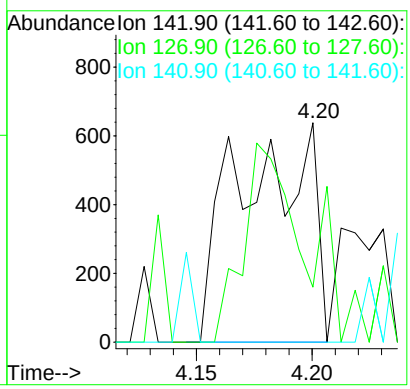




#16
Iodomethane
Concen: 3.07 ug/L
RT: 4.20 min Scan# 398
Delta R.T. 0.03 min
Lab File: MB-ICB1.D
Acq: 4 Feb 2020 23:28

Tgt Ion:142 Resp: 1396

Ion	Ratio	Lower	Upper
142	100		
127	77.9	19.7	59.7#
141	0.0	0.0	34.0



Negative Library Identification

[redacted]

Method Path : C:\INSTARCH\METHODS\
Method File : W020520.M
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response Via : Initial Calibration

RJ 02/11/2020

Calibration Files ug/L
1 0.500/5.00 =CALW1.D 2 1.00/10.00 =CALW2.D 3 2.00/20.00 =CALW3.D
4 5.00/50.00 =CALW4.D 5 10.00/100 =CALW5.D 6 20.00/200 =CALW6.D
7 30.00/300 =CALW7.D 8 40.00/400 =CALW8.D 9 80.00/800 =CALW9.D

		Compound	1	2	3	4	5	6	7	Avg	%RSD
			8	9							
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------								
2)	PT	Dichlorodi	0.369	0.227	0.264	0.248	0.257	0.298	0.302	0.286	14.79
			0.299	0.311							
3)	PT	Chloromethan	0.546	0.421	0.462	0.455	0.461	0.470	0.450	0.460	7.82
			0.437	0.436							
4)	PT	VinylChlorid	0.379	0.323	0.313	0.336	0.348	0.381	0.374	0.356	7.44
			0.371	0.377							
5)	PT	Bromomethane		0.122	0.143	0.141	0.115	0.114	0.119	0.129	9.68
			0.133	0.143							
6)	PT	Chloroethane		0.187	0.198	0.199	0.200	0.205	0.203	0.198	2.81
			0.198	0.195							
7)	T	Dichloroflmetha	0.638	0.538	0.558	0.570	0.598	0.613	0.569	0.580	5.33
			0.566	0.566							
8)	PT	Trichlorofma	0.506	0.341	0.395	0.416	0.431	0.487	0.479	0.445	12.03
			0.474	0.478							
9)	T	Ethylether	0.278	0.297	0.314	0.309	0.316	0.305	0.297	0.302	3.72
			0.304	0.302							
10)	T	dichlorotfluoro	0.395	0.278	0.314	0.330	0.337	0.376	0.363	0.346	10.24
			0.364	0.355							
11)	T	propyleneoxide		0.041	0.043	0.044	0.050	0.052	0.052	0.050	13.76
			0.057	0.059							
12)	T	Acrolein		0.110	0.096	0.099	0.105	0.100	0.097	0.100	4.93
			0.098	0.096							
13)	PT	11dichlorthe	0.317	0.225	0.262	0.265	0.293	0.309	0.301	0.285	10.14
			0.296	0.299							
14)	PT	Trichlorotfluor	0.304	0.226	0.231	0.250	0.270	0.303	0.295	0.274	11.43
			0.297	0.293							
15)	PT	Acetone	0.172	0.170	0.154	0.148	0.155	0.148	0.139	0.150	9.55
			0.139	0.129							
16)	T	Iodomethane		0.079	0.091	0.096	0.114	0.133	0.137	-----	
			0.138	0.147							
								Q	A= 0.002 R=1.000		
									B= 0.134		
									C= -0.012		
17)	PT	Carbon Dislf	0.901	0.753	0.820	0.862	0.900	0.917	0.881	0.858	6.10
			0.873	0.817							
18)	T	allylchloride	0.592	0.577	0.596	0.598	0.613	0.605	0.578	0.585	3.93
			0.565	0.538							
19)	PT	methylacetate		0.112	0.106	0.113	0.112	0.110	0.104	0.109	3.03
			0.107	0.106							
20)	PT	Methylchlorid	0.648	0.382	0.402	0.360	0.363	0.359	0.343	-----	
			0.334	0.329							
								Q	A= -0.004 R=1.000		
									B= 0.344		
									C= 0.007		
21)	T	tbutylalcohol	0.054	0.062	0.054	0.055	0.059	0.055	0.052	0.055	8.07
			0.052	0.047							
22)	T	Acrylonitrile		0.181	0.174	0.184	0.199	0.180	0.178	0.181	4.61
			0.179	0.171							
23)	PT	t12dichlorte	0.306	0.306	0.314	0.314	0.326	0.334	0.318	0.316	2.83
			0.313	0.312							
24)	PT	MtBE	0.869	0.947	0.909	0.904	0.954	0.912	0.887	0.905	3.26

			0.892	0.874							
25)	T	Hexane	0.530	0.364	0.419	0.467	0.481	0.541	0.537	0.488	12.64
			0.530	0.522							
26)	PT	11dichlorota	0.649	0.606	0.567	0.593	0.631	0.609	0.587	0.599	4.58
			0.579	0.571							
27)	T	Vinylacetate	0.878	0.866	0.846	0.841	0.852	0.752	0.651	0.786	13.50
			0.602								
28)	T	chloroprene	0.482	0.412	0.451	0.448	0.464	0.488	0.470	0.457	4.93
			0.457	0.444							
29)	T	Diisopether	1.347	1.346	1.232	1.258	1.290	1.234	1.180	1.241	6.36
			1.177	1.110							
30)	T	ETBE	0.893	1.062	1.051	0.998	1.049	1.013	0.983	1.001	5.26
			0.993	0.963							
31)	T	22dichloropr	0.548	0.431	0.444	0.423	0.420	0.429	0.409	0.435	10.09
			0.409	0.405							
32)	PT	c12dichlorte	0.388	0.331	0.370	0.365	0.377	0.362	0.356	0.361	4.57
			0.352	0.353							
33)	PT	2Butanone		0.058	0.054	0.057	0.060	0.058	0.055	0.056#	3.69
			0.055	0.054							
34)	T	propionitrile		0.074	0.075	0.075	0.076	0.073	0.069	0.072	4.62
			0.069	0.068							
35)	T	Ethylacetate		0.017	0.015	0.016	0.017	0.015	0.015	0.016#	5.45
			0.015	0.015							
36)	T	methacrylonitri		0.179	0.179	0.184	0.195	0.185	0.176	0.182	3.24
			0.179	0.179							
37)	T	Bromochlorma	0.175	0.164	0.165	0.166	0.176	0.166	0.162	0.165	4.31
			0.161	0.152							
38)	T	Tetrahydofur	0.170	0.167	0.164	0.158	0.168	0.156	0.147	0.158	7.02
			0.148	0.138							
39)	PT	Chloroform	0.545	0.523	0.585	0.572	0.568	0.561	0.540	0.551	3.81
			0.537	0.531							
40)	PT	111trichlota	0.489	0.387	0.426	0.423	0.451	0.467	0.457	0.445	6.62
			0.451	0.454							
41)	S	SURRDibrflma	0.295	0.285	0.294	0.295	0.290	0.289	0.298	0.293	1.41
			0.296	0.293							
42)	PT	Cyclohexane	0.632	0.405	0.497	0.512	0.524	0.599	0.582	0.547	12.72
			0.583	0.589							
43)	PT	Carbtetraclo	0.391	0.296	0.347	0.349	0.370	0.391	0.391	0.370	9.19
			0.392	0.401							
44)	T	11dicloprope		0.144	0.156	0.142	0.156	0.158	0.157	0.153	4.23
			0.156	0.159							
45)	S	SURR12DCAd4	0.063	0.067	0.066	0.064	0.066	0.066	0.067	0.066	2.30
			0.067	0.068							
46)	PT	Benzene	1.390	1.281	1.350	1.308	1.342	1.308	1.248	1.295	4.86
			1.233	1.191							
47)	PT	12dichlorota	0.378	0.385	0.383	0.386	0.409	0.387	0.371	0.384	2.74
			0.385	0.377							
48)	T	TAME	0.881	0.972	0.924	0.906	0.936	0.914	0.900	0.916	2.84
			0.908	0.903							
49)	PT	trichloroete	0.352	0.321	0.337	0.330	0.344	0.344	0.332	0.336	2.76
			0.332	0.333							
50)	PT	methylcyclohexa	0.616	0.449	0.471	0.535	0.560	0.654	0.645	0.580	13.73
			0.638	0.651							
51)	PT	12dicloropra	0.359	0.332	0.392	0.368	0.398	0.391	0.354	0.371	5.63
			0.373	0.371							
52)	T	23Dicl1propene		0.528	0.520	0.531	0.541	0.537	0.519	0.528	1.46
			0.525	0.526							
53)	T	Dibromometha		0.215	0.201	0.214	0.218	0.212	0.207	0.212	2.50
			0.211	0.214							
54)	T	methylmethacryl		0.278	0.286	0.278	0.297	0.290	0.282	0.287	2.52
			0.293	0.293							
55)	T	14dioxane		0.006	0.006	0.006	0.006	0.005	0.005	0.006#	5.03
			0.006	0.005							
56)	PT	Bromodiclrma	0.436	0.367	0.422	0.415	0.422	0.423	0.409	0.414	4.61
			0.414	0.416							
57)	T	2Nitropropane	0.100	0.101	0.098	0.106	0.116	0.115	0.113	0.108	6.79
			0.115	0.113							
58)	T	2CLEVE		0.004	0.003	0.006	0.009	0.010	0.014	-----	#
			0.019	0.030							

Q A= 0.001 R=0.999

```
                                                        B=  0.007
                                                        C= -0.003
59) PT  c13dicloproe    0.506 0.547 0.528 0.529 0.560 0.550 0.537 0.538   2.94
                        0.547 0.542
60) PT  4Meth2Pentan    0.468 0.476 0.466 0.469 0.481 0.442 0.403 0.432  14.09
                        0.385 0.297
61) S   SURRd8Tolule    1.182 1.160 1.189 1.198 1.197 1.187 1.183 1.188   1.02
                        1.199 1.196
62) PT  Toluene         0.905 0.825 0.849 0.869 0.878 0.877 0.846 0.857   3.13
                        0.833 0.831
63) PT  t13Dicloprop    0.469 0.412 0.428 0.440 0.466 0.462 0.456 0.452   4.68
                        0.463 0.475
64) T   ethylmethacryla        0.466 0.476 0.472 0.498 0.493 0.481 0.480   2.31
                        0.484 0.474
65) PT  112Triclotha            0.259 0.272 0.268 0.279 0.272 0.262 0.267   2.65
                        0.259 0.266
66) PT  Tetrachlorte    0.453 0.311 0.358 0.365 0.370 0.390 0.375 0.376   9.80
                        0.382 0.384
67) T   13Diclorpropa   0.518 0.501 0.512 0.496 0.512 0.515 0.499 0.507   1.51
                        0.504 0.503

68) I   d5-CHLOROBENZENE**IST ----------------ISTD--------------------
69) PT  2Hexanone       0.332 0.343 0.316 0.328 0.341 0.311 0.290 0.307  12.65
                        0.276 0.222
70) PT  Clorodibrmta    0.313 0.307 0.289 0.287 0.302 0.301 0.303 0.302   3.02
                        0.305 0.312
71) PT  12Dibrometha    0.284 0.295 0.288 0.299 0.298 0.298 0.292 0.294   1.74
                        0.296 0.297
72) PT  Chlorobenzen    0.847 0.859 0.862 0.869 0.875 0.849 0.824 0.842   3.62
                        0.802 0.788
73) T   1Clhexane       0.531 0.390 0.403 0.422 0.427 0.464 0.460 0.444   9.30
                        0.446 0.452
74) T   1112Tetclota           0.298 0.279 0.284 0.289 0.286 0.287 0.287   1.89
                        0.285 0.288
75) PT  Ethylbenzene    1.371 1.337 1.368 1.393 1.440 1.406 1.355 1.358   4.28
                        1.311 1.241
76) PT  m p-Xylene      0.552 0.512 0.515 0.543 0.556 0.536 0.525 0.527   3.88
                        0.509 0.498
77) PT  o-Xylene        0.496 0.491 0.522 0.519 0.544 0.531 0.523 0.516   3.22
                        0.507 0.514
78) PT  Styrene         0.795 0.841 0.824 0.872 0.906 0.879 0.865 0.851   3.87
                        0.844 0.837
79) PT  Bromoform               0.218 0.207 0.224 0.235 0.237 0.234 0.232   6.70
                        0.245 0.256
80) PT  Isopropylben    1.300 1.215 1.265 1.328 1.343 1.379 1.339 1.299   4.19
                        1.294 1.230
81) T   cyclohexanone          0.021 0.018 0.019 0.020 0.019 0.017 0.019#  7.63
                        0.018 0.017

82) I   d4-1,4-DICHLOROBENZEN ----------------ISTD--------------------
83) S   SURR4BrFBenz    0.777 0.789 0.798 0.791 0.801 0.773 0.791 0.787   1.44
                        0.792 0.768
84) T   Bromobenzene    0.616 0.613 0.589 0.612 0.621 0.597 0.594 0.601   2.41
                        0.587 0.581
85) PT  1122Tetrclta    0.726 0.771 0.734 0.726 0.750 0.712 0.700 0.725   3.43
                        0.722 0.688
86) T   123Triclproa           0.760 0.810 0.816 0.856 0.820 0.823 0.819   3.35
                        0.833 0.829
87) T   14dichloro2bute        0.150 0.145 0.139 0.153 0.161 0.158 0.156   7.38
                        0.166 0.175
88) T   n-Propylbenz    2.752 2.558 2.674 2.549 2.730 2.716 2.630 2.607   5.30
                        2.546 2.307
89) T   2chlorotolue    1.599 1.557 1.563 1.461 1.562 1.505 1.462 1.499   5.24
                        1.428 1.357
90) T   4chlorotolue    1.703 1.679 1.772 1.709 1.779 1.703 1.673 1.689   4.10
                        1.624 1.556
91) T   135Trimebenz    1.567 1.638 1.721 1.722 1.800 1.777 1.744 1.700   4.47
                        1.706 1.624
92) T   tbutylbenzen    1.562 1.368 1.526 1.437 1.538 1.560 1.548 1.499   4.47
                        1.500 1.449
```

```
 93) T   124Trimetben    1.800 1.689 1.753 1.716 1.842 1.771 1.746 1.739   3.67
                         1.709 1.626
 94) T   sbutylbenzen    2.241 1.977 2.250 2.264 2.321 2.385 2.356 2.244   5.57
                         2.278 2.127
 95) PT  13Diclorbenz    1.088 1.079 1.119 1.102 1.105 1.085 1.078 1.084   2.22
                         1.060 1.039
 96) T   pIsopropylto    1.774 1.686 1.742 1.813 1.941 1.949 1.920 1.830   5.15
                         1.871 1.776
 97) PT  14dichlorobe    1.161 1.092 1.117 1.068 1.114 1.073 1.060 1.087   3.54
                         1.059 1.037
 98) PT  12dichlorobe    1.075 1.045 1.036 1.002 1.044 0.998 0.996 1.020   3.05
                         1.003 0.980
 99) T   nButylbenzen    1.946 1.631 1.766 1.761 1.836 1.879 1.859 1.805   5.09
                         1.823 1.740
100) PT  12dibromo3cl          0.174 0.149 0.144 0.175 0.170 0.171 0.168   8.54
                         0.178 0.185
101) T   135Trichloroben 0.791 0.842 0.852 0.832 0.924 0.921 0.922 0.881   5.83
                         0.925 0.918
102) PT  124Trichlobe    0.688 0.674 0.705 0.718 0.733 0.759 0.757 0.728   4.65
                         0.763 0.759
103) T   Hexachlorobu    0.335 0.300 0.317 0.325 0.346 0.366 0.367 0.347   8.56
                         0.382 0.383
104) T   Naphthalene     1.785 1.830 1.862 1.808 1.953 1.864 1.848 1.837   3.30
                         1.850 1.734
105) T   123Trichlben    0.684 0.638 0.605 0.651 0.694 0.694 0.690 0.672   4.95
                         0.705 0.690
 ------------------------------------------------------------------------------
                                                 Total Average %RSD   5.61
 ------------------------------------------------------------------------------
 L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
 (#) = Out of Range

           W020520.M         Tue Feb 11 13:45:21 2020
```

BFB

Data File : C:\Instarch\Data\FEB0520\BFB1.D Vial: 1
Acq On : 5 Feb 2020 12:11 Operator: RLD-DGS
Sample : BFB DIRECT INJ. Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020520.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.560 to 4.582 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.5	24915	PASS
75	95	30	60	45.7	58455	PASS
95	95	100	100	100.0	127903	PASS
96	95	5	9	7.0	8924	PASS
173	174	0.00	2	0.1	88	PASS
174	95	50	100	99.0	126590	PASS
175	174	5	9	7.8	9931	PASS
176	174	95	101	97.8	123857	PASS
177	176	5	9	7.0	8699	PASS

W020520.M Tue Feb 11 13:41:21 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW1.D Vial: 5
Acq On : 5 Feb 2020 13:58 Operator: RLD-DGS
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:01:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:01:03 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	1009584	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1085739	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	669078	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	298296	20.174	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101	%		
45) SURR12DCAd4	7.18	102	63966	19.186	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 96	%		
61) SURRd8Tolule	9.61	98	1193290	19.900	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.16	95	519932	19.755	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	9325	0.6464	ug/L	87
3) Chloromethan	2.05	50	13791	0.5942	ug/L	98
4) VinylChlorid	2.20	62	9565	0.5326	ug/L	91
5) Bromomethane	2.65	94	5967	0.8343	ug/L	96
6) Chloroethane	2.81	64	6040	0.6039	ug/L	91
7) Dichloroflmethane	3.12	67	16113	0.5506	ug/L	98
8) Trichlorofma	3.19	101	12772	0.5685	ug/L	99
9) Ethylether	3.65	59	7021	0.4598	ug/L	81
10) dichlorotfluoroethan	3.65	67	9969	0.5711	ug/L	92
11) propyleneoxide	3.72	58	9883	3.9289	ug/L	96
12) Acrolein	3.79	56	12941	2.5624	ug/L	98
13) 11dichlorthe	3.91	96	7989	0.5550	ug/L	89
14) Trichlorotfluoroeth	3.93	101	15355	1.1086	ug/L	96
15) Acetone	4.03	43	43456	5.7219	ug/L	96
16) Iodomethane	4.09	127	4006	0.6848	ug/L	95
17) Carbon Dislf	4.17	76	45504	1.0503	ug/L	97
18) allylchloride	4.40	41	29907	1.0133	ug/L	92
19) methylacetate	4.48	74	3212	0.5853	ug/L	88
20) Methylchlorid	4.55	84	16349	0.8283	ug/L	99
21) tbutylalcohol	4.83	59	68398	24.8342	ug/L	91
22) Acrylonitrile	4.88	53	24110	2.6434	ug/L	99
23) t12dichlorte	4.92	96	7714	0.4837	ug/L	95
24) MtBE	4.99	73	21931	0.4799	ug/L	88
25) Hexane	5.29	57	26751	1.0861	ug/L	95
26) 11dichlorota	5.45	63	16368	0.5413	ug/L	97
27) Vinylacetate	5.55	43	221521	5.8847	ug/L	99
28) chloroprene	5.57	53	24345	1.0543	ug/L	95
29) Diisopether	5.61	45	33991	0.5424	ug/L	90
30) ETBE	6.06	59	22545	0.4464	ug/L	95
31) 22dichloropr	6.18	77	13824	0.6291	ug/L	97
32) c12dichlorte	6.17	96	9800	0.5371	ug/L	96
33) 2Butanone	6.23	72	13950	4.8940	ug/L	93
34) propionitrile	6.28	54	18676	5.1111	ug/L	93
35) Ethylacetate	6.32	88	2332	2.9691	ug/L #	87
36) methacrylonitrile	6.46	67	9217	1.0035	ug/L	98
37) Bromochlorma	6.47	128	4417	0.5298	ug/L #	89
38) Tetrahydofur	6.60	42	42995	5.4057	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW1.D Vial: 5
Acq On : 5 Feb 2020 13:58 Operator: RLD-DGS
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:01:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:01:03 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.57	83	13763	0.4945 ug/L	92
40) 111trichlota	6.81	97	12332	0.5493 ug/L	94
42) Cyclohexane	6.88	56	15957	0.5778 ug/L	88
43) Carbtetraclo	7.01	119	9870	0.5287 ug/L	94
44) 11dicloprope	7.02	110	3990	0.5153 ug/L #	84
46) Benzene	7.26	78	35073	0.5367 ug/L	92
47) 12dichlorota	7.27	62	9548	0.4921 ug/L	87
48) TAME	7.46	73	22239	0.4809 ug/L	98
49) trichloroete	8.07	95	8885	0.5237 ug/L	96
50) methylcyclohexane	8.32	83	15546	0.5311 ug/L	90
51) 12dicloropra	8.33	63	9062	0.4839 ug/L	94
52) 23Dicl1propene	8.41	75	12309	0.4616 ug/L #	75
53) Dibromometha	8.47	93	5266	0.4932 ug/L	93
54) methylmethacrylate	8.52	69	6496	0.4485 ug/L	87
55) 14dioxane	8.56	88	6894	24.1630 ug/L	95
56) Bromodiclrma	8.67	83	10998	0.5265 ug/L	86
57) 2Nitropropane	8.96	43	25180	4.6012 ug/L	96
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	9.26	75	12768	0.4698 ug/L	99
60) 4Meth2Pentan	9.48	43	118195	5.4211 ug/L	97
62) Toluene	9.70	92	22844	0.5280 ug/L	96
63) t13Dicloprop	9.97	75	11844	0.5187 ug/L #	13
64) ethylmethacrylate	10.13	69	24088	0.9932 ug/L	97
65) 112Triclotha	10.21	83	5416	0.4017 ug/L #	66
66) Tetrachlorte	10.43	166	11422	0.6012 ug/L	89
67) 13Diclorpropa	10.44	76	13078	0.5113 ug/L	86
69) 2Hexanone	10.57	43	90027	5.4102 ug/L	98
70) Clorodibrmta	10.74	129	8509	0.5188 ug/L	93
71) 12Dibrometha	10.88	107	7722	0.4834 ug/L	94
72) Chlorobenzen	11.56	112	22984	0.5030 ug/L	97
73) 1Clhexane	11.54	91	14413	0.5981 ug/L #	48
74) 1112Tetclota	11.67	131	6803	0.4369 ug/L #	79
75) Ethylbenzene	11.72	91	37222	0.5049 ug/L	100
76) m p-Xylene	11.88	106	29987	1.0477 ug/L	99
77) o-Xylene	12.44	106	13459	0.4804 ug/L #	85
78) Styrene	12.45	104	21584	0.4670 ug/L	100
79) Bromoform	12.68	173	5010	0.3981 ug/L	93
80) Isopropylben	12.96	105	35293	0.5004 ug/L	97
81) cyclohexanone	13.08	55	10121	9.9600 ug/L	95
84) Bromobenzene	13.38	156	10296	0.5120 ug/L	97
85) 1122Tetrclta	13.36	83	12137	0.5002 ug/L	98
86) 123Triclproa	13.42	75	14671	0.5358 ug/L	96
87) 14dichloro2butene	13.44	53	2196	0.4213 ug/L #	70
88) n-Propylbenz	13.55	91	46027	0.5278 ug/L	96
89) 2chlorotolue	13.66	91	26741	0.5332 ug/L	94
90) 4chlorotolue	13.81	91	28484	0.5042 ug/L	98
91) 135Trimebenz	13.80	105	26210	0.4609 ug/L	96
92) tbutylbenzen	14.26	119	26129	0.5211 ug/L	96
93) 124Trimetben	14.34	105	30111	0.5175 ug/L	100
94) sbutylbenzen	14.59	105	37491	0.4993 ug/L	100
95) 13Diclorbenz	14.73	146	18195	0.5017 ug/L	97
96) pIsopropylto	14.79	119	29678	0.4847 ug/L #	95
97) 14dichlorobe	14.86	146	19421	0.5342 ug/L #	78
98) 12dichlorobe	15.40	146	17984	0.5271 ug/L #	71
99) nButylbenzen	15.40	91	32559	0.5393 ug/L	99
100) 12dibromo3cl	16.51	157	2671	0.4746 ug/L	95
101) 135Trichlorobenzene	16.83	180	13239	0.4493 ug/L	89

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW1.D Vial: 5
Acq On : 5 Feb 2020 13:58 Operator: RLD-DGS
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:01:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:01:03 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	11512	0.4724	ug/L	99
103) Hexachlorobu	17.90	225	5596	0.4826	ug/L	93
104) Naphthalene	17.95	128	29852	0.4857	ug/L	94
105) 123Trichlben	18.27	180	11433	0.5084	ug/L	97

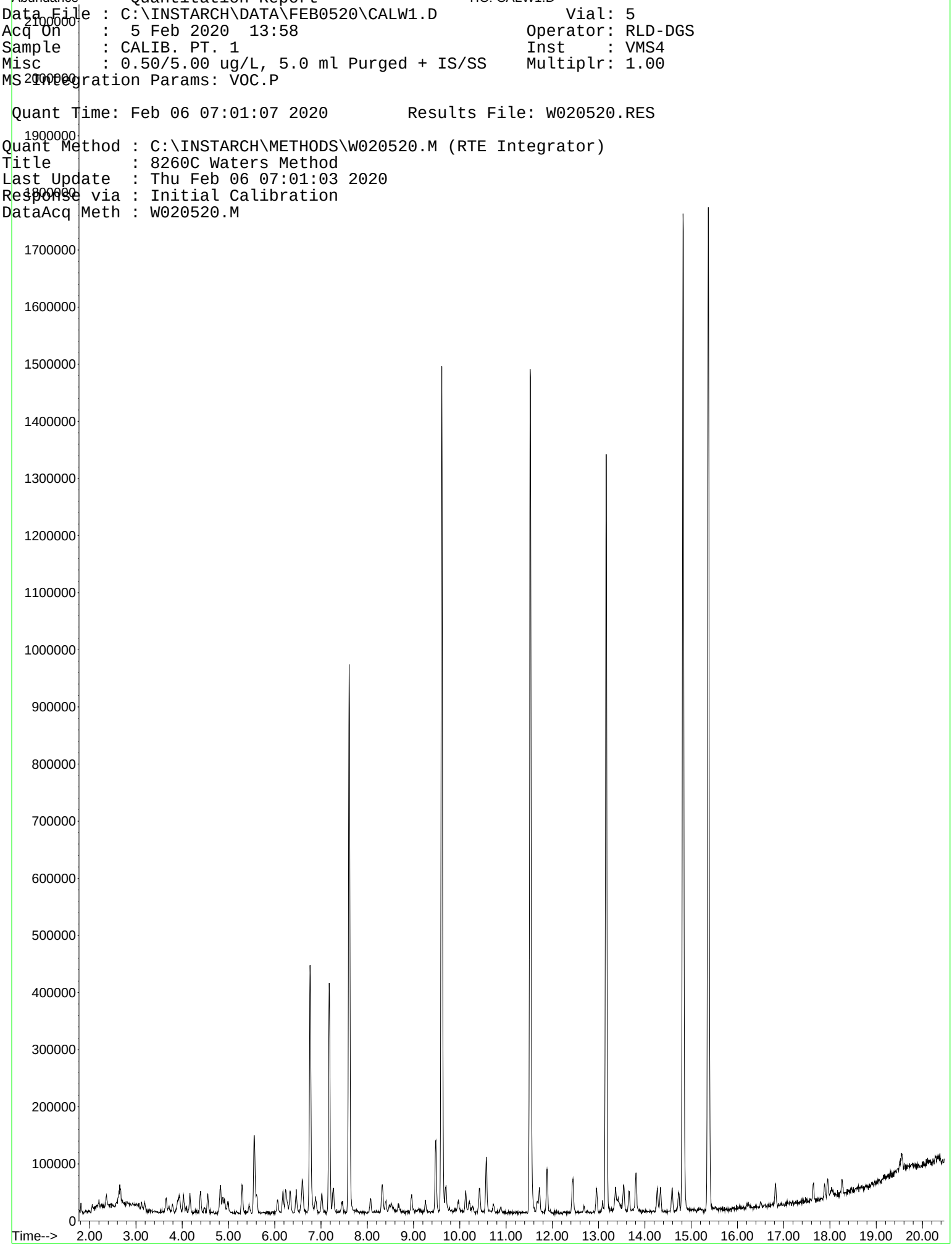
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW1.D

Data File : C:\INSTARCH\DATA\FEB0520\CALW1.D Vial: 5
Acq On : 5 Feb 2020 13:58 Operator: RLD-DGS
Sample : CALIB. PT. 1 Inst : VMS4
Misc : 0.50/5.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:01:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:01:03 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW2.D Vial: 6
Acq On : 5 Feb 2020 14:26 Operator: RLD-DGS
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 1.00/10.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:03:02 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:54 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units		Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	1059112	20.00	ug/L		0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1127528	20.00	ug/L		0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	675871	20.00	ug/L		0.00 NA%
System Monitoring Compounds							
41) SURRDibrflma	6.77	113	302158	19.480	ug/L		0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 97 %				
45) SURR12DCAd4	7.18	102	70706	20.216	ug/L		0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %				
61) SURRd8Tolule	9.61	98	1228945	19.536	ug/L		0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %				
83) SURR4BrFBenz	13.16	95	533124	20.052	ug/L		0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 100 %				
Target Compounds							Qvalue
2) Dichlorodi	1.81	85	12019m	0.7942	ug/L		97
3) Chloromethan	2.05	50	22311	0.9164	ug/L		84
4) VinylChlorid	2.19	62	17116	0.9084	ug/L		96
5) Bromomethane	2.65	94	6445m	0.8590	ug/L	#	84
6) Chloroethane	2.81	64	9886	0.9423	ug/L		97
7) Dichloroflmethane	3.11	67	28488	0.9280	ug/L		98
8) Trichlorofma	3.18	101	18041	0.7655	ug/L		91
9) Ethylether	3.65	59	15749	0.9832	ug/L		92
10) dichlorotfluoroethan	3.64	67	14709	0.8032	ug/L		94
11) propyleneoxide	3.72	58	21671	8.2123	ug/L		85
12) Acrolein	3.79	56	29103	5.4930	ug/L		96
13) 11dichlorthe	3.92	96	11930	0.7901	ug/L		87
14) Trichlorotfluoroeth	3.95	101	23898	1.6447	ug/L		99
15) Acetone	4.03	43	90190	11.3200	ug/L		98
16) Iodomethane	4.08	127	8336m	1.3584	ug/L		78
17) Carbon Dislf	4.17	76	79789	1.7555	ug/L		98
18) allylchloride	4.39	41	61099	1.9732	ug/L		96
19) methylacetate	4.48	74	5925	1.0291	ug/L		86
20) Methylchlorid	4.55	84	20222	0.9766	ug/L		97
21) tbutylalcohol	4.82	59	164292	56.8623	ug/L		99
22) Acrylonitrile	4.88	53	47938	5.0100	ug/L		96
23) t12dichlorte	4.92	96	16210	0.9690	ug/L		97
24) MtBE	4.99	73	50128	1.0456	ug/L		97
25) Hexane	5.29	57	38560	1.4923	ug/L		99
26) 11dichlorota	5.45	63	32066	1.0109	ug/L		96
27) Vinylacetate	5.55	43	458611	11.6132	ug/L		98
28) chloroprene	5.58	53	43681	1.8032	ug/L		96
29) Diisopether	5.61	45	71272	1.0841	ug/L		97
30) ETBE	6.07	59	56255	1.0617	ug/L		97
31) 22dichloropr	6.17	77	22799	0.9890	ug/L		91
32) c12dichlorte	6.19	96	17527	0.9156	ug/L	#	82
33) 2Butanone	6.23	72	30690	10.2633	ug/L		93
34) propionitrile	6.28	54	39443	10.2896	ug/L		99
35) Ethylacetate	6.34	88	4427	5.3729	ug/L	#	93
36) methacrylonitrile	6.47	67	18925	1.9642	ug/L		97
37) Bromochlorma	6.47	128	8684	0.9929	ug/L		96
38) Tetrahydofur	6.60	42	88635	10.6229	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW2.D Vial: 6
Acq On : 5 Feb 2020 14:26 Operator: RLD-DGS
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 1.00/10.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:03:02 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:54 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39) Chloroform	6.57	83	27710	0.9490 ug/L		100
40) 111trichlota	6.81	97	20468	0.8690 ug/L		99
42) Cyclohexane	6.88	56	21435	0.7399 ug/L		99
43) Carbtetraclo	7.02	119	15671	0.8002 ug/L		94
44) 11dicloprope	7.01	110	7618	0.9378 ug/L	#	82
46) Benzene	7.26	78	67826	0.9894 ug/L		94
47) 12dichlorota	7.27	62	20367	1.0006 ug/L		99
48) TAME	7.46	73	51486	1.0613 ug/L		96
49) trichloroete	8.06	95	17004	0.9553 ug/L		90
50) methylcyclohexane	8.31	83	23774	0.7742 ug/L		96
51) 12dicloropra	8.33	63	17606	0.8962 ug/L	#	89
52) 23Dicl1propene	8.40	75	27985	1.0004 ug/L		89
53) Dibromometha	8.47	93	11374	1.0154 ug/L		98
54) methylmethacrylate	8.52	69	14701	0.9675 ug/L		97
55) 14dioxane	8.56	88	16411	54.8297 ug/L		89
56) Bromodiclrma	8.68	83	19446	0.8874 ug/L		97
57) 2Nitropropane	8.96	43	53389	9.2998 ug/L		93
58) 2CLEVE	9.09	63	1158	1.8225 ug/L	#	45
59) c13dicloproe	9.26	75	28953	1.0155 ug/L		96
60) 4Meth2Pentan	9.48	43	252110	11.0225 ug/L		99
62) Toluene	9.70	92	43682	0.9625 ug/L		99
63) t13Dicloprop	9.97	75	21819	0.9109 ug/L	#	59
64) ethylmethacrylate	10.13	69	49328	1.9387 ug/L		97
65) 112Triclotha	10.21	83	13727	0.9705 ug/L		95
66) Tetrachlorte	10.43	166	16446	0.8252 ug/L		95
67) 13Diclorpropa	10.43	76	26526	0.9885 ug/L		98
69) 2Hexanone	10.58	43	193109	11.1747 ug/L		99
70) Clorodibrmta	10.73	129	17299	1.0157 ug/L		93
71) 12Dibrometha	10.88	107	16644	1.0033 ug/L		95
72) Chlorobenzen	11.56	112	48433	1.0207 ug/L	#	80
73) 1Clhexane	11.54	91	22001	0.8792 ug/L	#	69
74) 1112Tetclota	11.67	131	16797	1.0387 ug/L		97
75) Ethylbenzene	11.72	91	75362	0.9844 ug/L		98
76) m p-Xylene	11.89	106	57760	1.9432 ug/L		94
77) o-Xylene	12.43	106	27662	0.9508 ug/L		95
78) Styrene	12.45	104	47425	0.9880 ug/L		99
79) Bromoform	12.69	173	12267	0.9385 ug/L		93
80) Isopropylben	12.96	105	68506	0.9353 ug/L		97
81) cyclohexanone	13.09	55	24089	22.8271 ug/L		99
84) Bromobenzene	13.38	156	20715	1.0198 ug/L		94
85) 1122Tetrclta	13.36	83	26043	1.0624 ug/L		100
86) 123Triclproa	13.41	75	25689	0.9287 ug/L		89
87) 14dichloro2butene	13.45	53	5076	0.9641 ug/L		87
88) n-Propylbenz	13.55	91	86443	0.9813 ug/L		100
89) 2chlorotolue	13.66	91	52621	1.0386 ug/L		93
90) 4chlorotolue	13.81	91	56755	0.9945 ug/L		100
91) 135Trimebenz	13.80	105	55369	0.9639 ug/L		96
92) tbutylbenzen	14.27	119	46231	0.9128 ug/L		99
93) 124Trimetben	14.34	105	57063	0.9709 ug/L		96
94) sbutylbenzen	14.59	105	66799	0.8808 ug/L		97
95) 13Diclorbenz	14.74	146	36468	0.9955 ug/L		99
96) pIsopropylto	14.81	119	56983	0.9213 ug/L		95
97) 14dichlorobe	14.86	146	36890	1.0046 ug/L		86
98) 12dichlorobe	15.40	146	35314	1.0245 ug/L	#	82
99) nButylbenzen	15.40	91	55126	0.9040 ug/L		95
100) 12dibromo3cl	16.51	157	5871	1.0326 ug/L		85
101) 135Trichlorobenzene	16.83	180	28461	0.9561 ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW2.D Vial: 6
Acq On : 5 Feb 2020 14:26 Operator: RLD-DGS
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 1.00/10.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:03:02 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:54 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	22765	0.9248	ug/L	95
103) Hexachlorobu	17.88	225	10134	0.8651	ug/L	88
104) Naphthalene	17.96	128	61836	0.9960	ug/L	96
105) 123Trichlben	18.26	180	21562	0.9493	ug/L	95

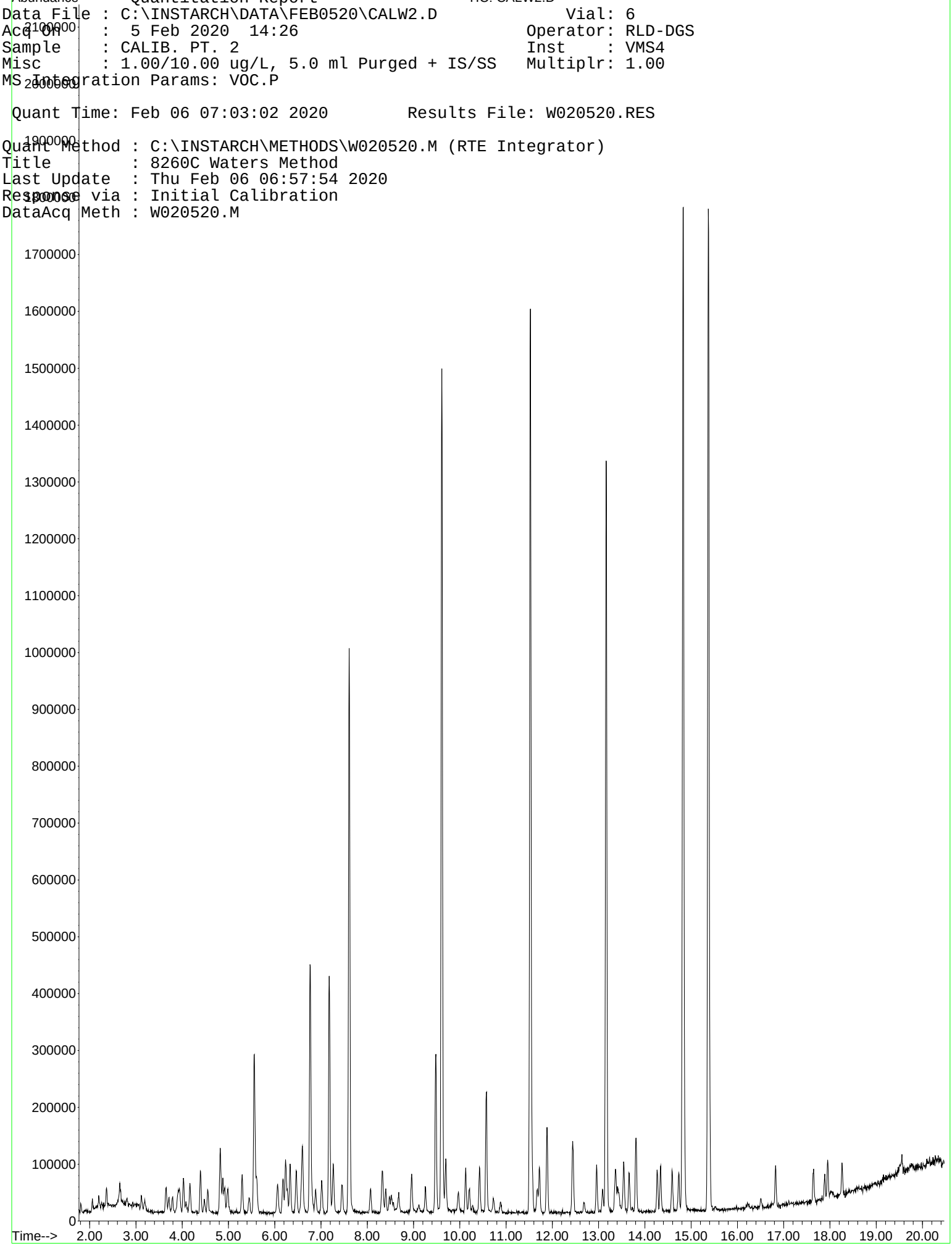
(#) = qualifier out of range (m) = manual integration

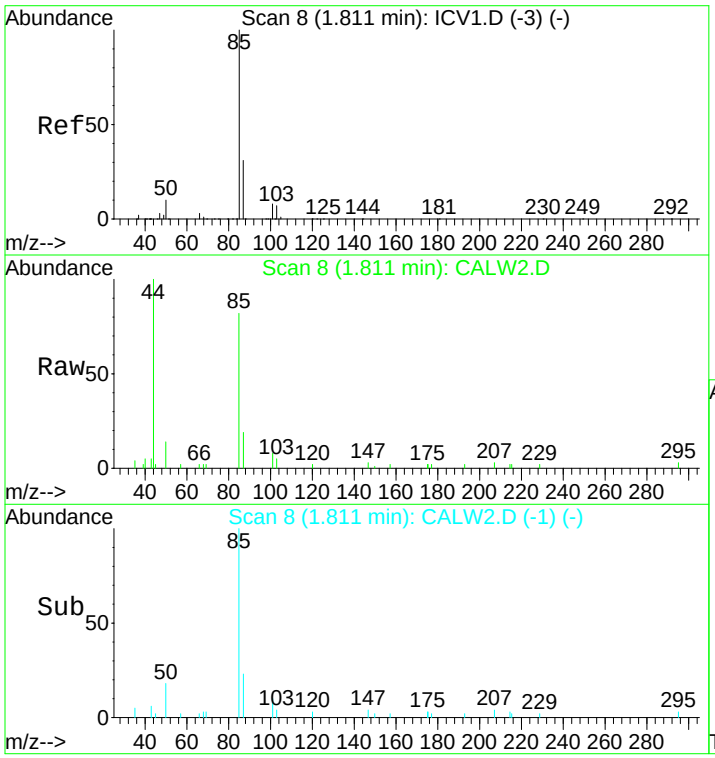
Abundance Quantitation Report TIC: CALW2.D

Data File : C:\INSTARCH\DATA\FEB0520\CALW2.D Vial: 6
Acq On : 5 Feb 2020 14:26 Operator: RLD-DGS
Sample : CALIB. PT. 2 Inst : VMS4
Misc : 1.00/10.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:03:02 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:54 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M





#2
Dichlorodi
Concen: 0.79 ug/L m
RT: 1.81 min Scan# 8
Delta R.T. 0.00 min
Lab File: CALW2.D
Acq: 5 Feb 2020 14:26

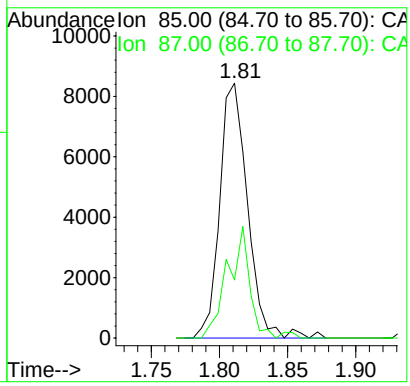
Tgt Ion: 85 Resp: 12019

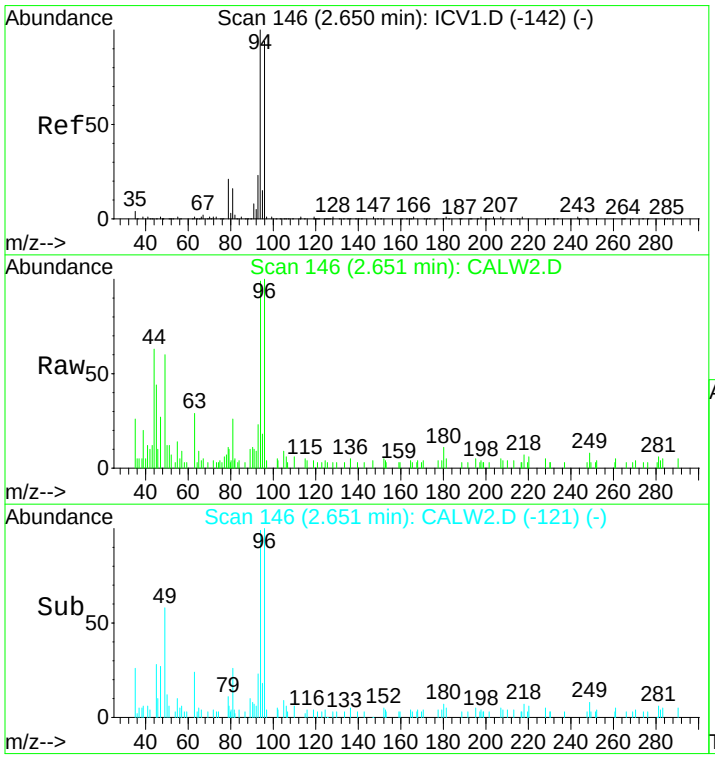
Ion	Ratio	Lower	Upper
85	100		
87	34.6	13.7	53.7

After Manual Integration

RJ 02/11/2020

DGS 02/11/2020

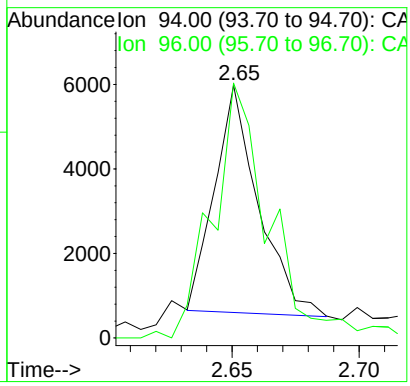


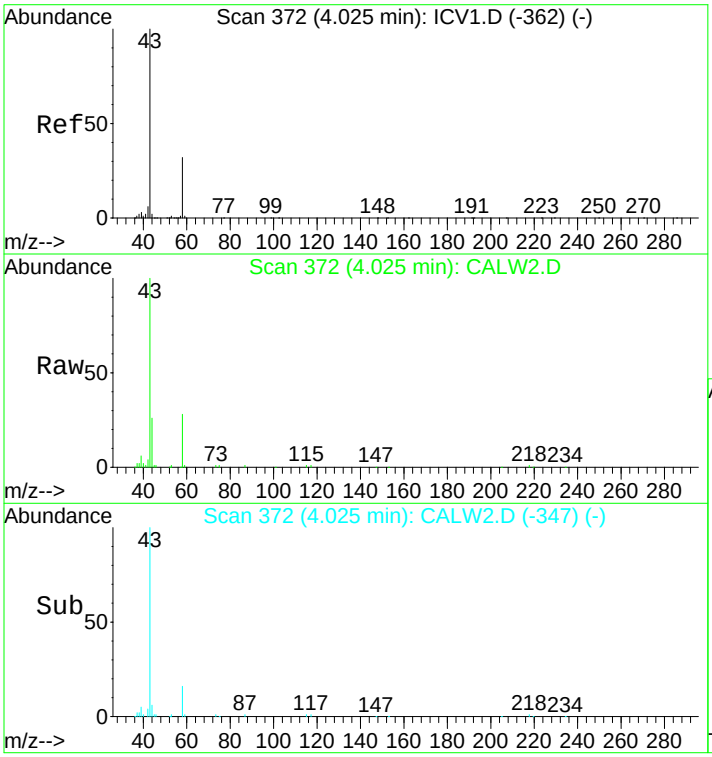


#5
Bromomethane
Concen: 0.86 ug/L m
RT: 2.65 min Scan# 146
Delta R.T. 0.00 min
Lab File: CALW2.D
Acq: 5 Feb 2020 14:26

Tgt Ion: 94 Resp: 6445

Ion	Ratio	Lower	Upper
94	100		
96	144.6	73.0	113.0#

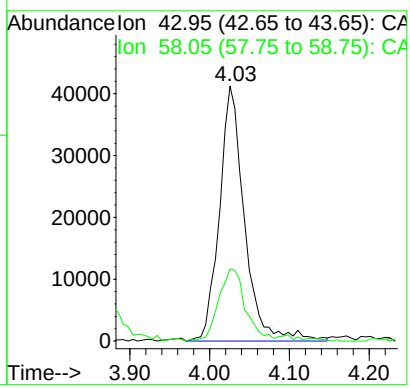




#15
Acetone
Concen: 11.32 ug/L
RT: 4.03 min Scan# 372
Delta R.T. 0.00 min
Lab File: CALW2.D
Acq: 5 Feb 2020 14:26

Tgt Ion: 43 Resp: 90190

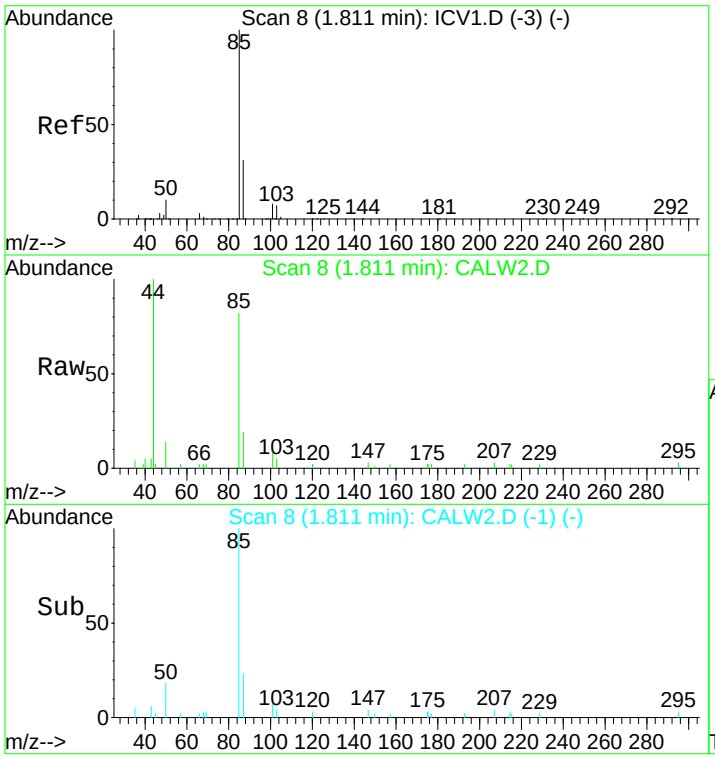
Ion	Ratio	Lower	Upper
43	100		
58	32.3	13.3	53.3



After Manual Integration

02/11/2020

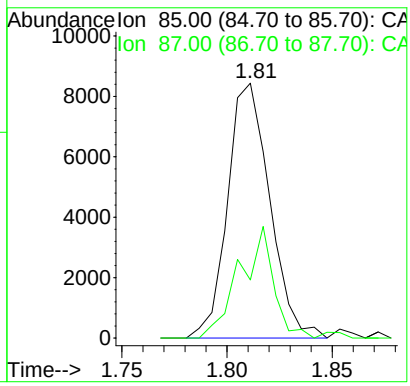
02/11/2020



#2
Dichlorodi
Concen: 0.78 ug/L
RT: 1.81 min Scan# 8
Delta R.T. 0.00 min
Lab File: CALW2.D
Acq: 5 Feb 2020 14:26

Tgt Ion: 85 Resp: 11774

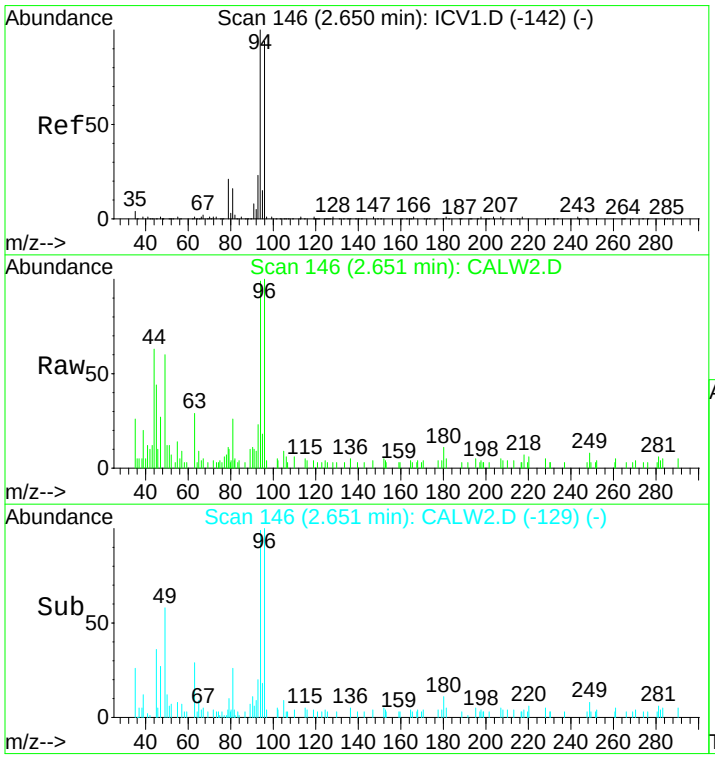
Ion	Ratio	Lower	Upper
85	100		
87	35.3	13.7	53.7



Before Manual Integration

02/11/2020

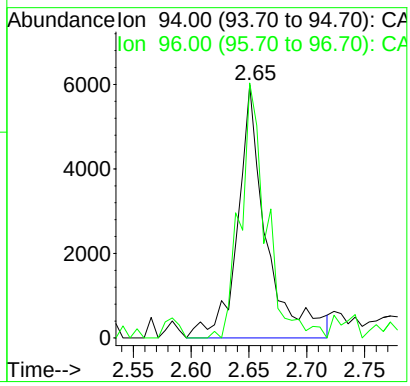
REASON # 2



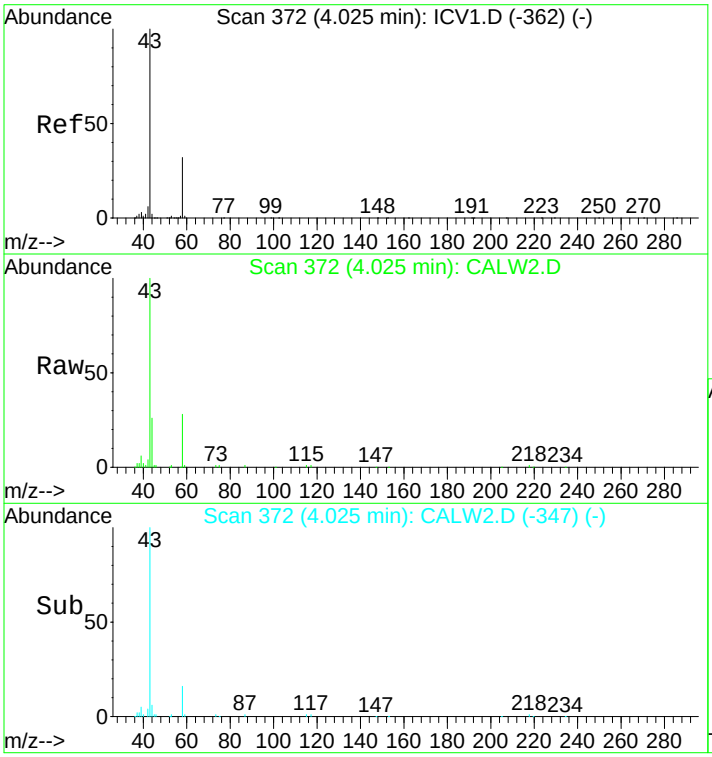
#5
Bromomethane
Concen: 1.51 ug/L
RT: 2.65 min Scan# 146
Delta R.T. 0.00 min
Lab File: CALW2.D
Acq: 5 Feb 2020 14:26

Tgt Ion: 94 Resp: 10269

Ion	Ratio	Lower	Upper
94	100		
96	90.7	73.0	113.0



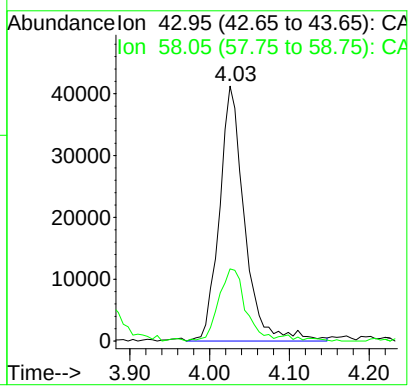
REASON # 2



#15
Acetone
Concen: 11.32 ug/L
RT: 4.03 min Scan# 372
Delta R.T. 0.00 min
Lab File: CALW2.D
Acq: 5 Feb 2020 14:26

Tgt Ion: 43 Resp: 90190

Ion	Ratio	Lower	Upper
43	100		
58	32.3	13.3	53.3



Before Manual Integration

RJ 02/11/2020

REASON # 2

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW3.D Vial: 7
Acq On : 5 Feb 2020 14:55 Operator: RLD-DGS
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 2.00/20.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:15 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	1017710	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1115084	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	656230	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	299166	20.254	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101	%		
45) SURR12DCAd4	7.18	102	67004	20.105	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
61) SURRd8Tolule	9.61	98	1210335	20.167	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.16	95	523764	20.231	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	26899	1.8678	ug/L	92
3) Chloromethan	2.05	50	47056	1.9418	ug/L	99
4) VinylChlorid	2.20	62	31810	1.7859	ug/L	99
5) Bromomethane	2.66	94	14532	1.6748	ug/L	95
6) Chloroethane	2.81	64	20170	2.0530	ug/L	92
7) Dichloroflmethane	3.12	67	56831	1.8884	ug/L	96
8) Trichlorofma	3.19	101	40221	1.8563	ug/L	98
9) Ethylether	3.65	59	31958	2.1137	ug/L	97
10) dichlorotfluoroethan	3.65	67	31906	1.8620	ug/L	98
11) propyleneoxide	3.72	58	43344	18.6561	ug/L	99
12) Acrolein	3.79	56	48736	8.9154	ug/L	99
13) 11dichlorthe	3.90	96	26680	1.8854	ug/L	96
14) Trichlorotfluoroeth	3.94	101	47116	3.4748	ug/L	96
15) Acetone	4.03	43	156406	18.5024	ug/L	99
16) Iodomethane	4.08	127	18572	3.9588	ug/L	89
17) Carbon Dislf	4.17	76	166956	3.8547	ug/L	97
18) allylchloride	4.40	41	121235	4.0110	ug/L	98
19) methylacetate	4.48	74	10766	1.8940	ug/L	89
20) Methylchlorid	4.55	84	40892	1.7317	ug/L	97
21) tbutylalcohol	4.82	59	275825	92.3954	ug/L	98
22) Acrylonitrile	4.88	53	88371	9.1388	ug/L	95
23) t12dichlorte	4.93	96	31983	2.0117	ug/L	96
24) MtBE	4.99	73	92495	1.9677	ug/L	94
25) Hexane	5.30	57	85334	3.6586	ug/L	99
26) 11dichlorota	5.44	63	57726	1.8054	ug/L	96
27) Vinylacetate	5.55	43	860669	19.5460	ug/L	98
28) chloroprene	5.57	53	91823	3.9853	ug/L	97
29) Diisopether	5.61	45	125351	1.8545	ug/L	92
30) ETBE	6.06	59	106937	2.0983	ug/L	97
31) 22dichloropr	6.18	77	45170	1.9048	ug/L	98
32) c12dichlorte	6.18	96	37670	2.0260	ug/L	96
33) 2Butanone	6.23	72	55152	18.4685	ug/L	97
34) propionitrile	6.27	54	76757	19.9887	ug/L	98
35) Ethylacetate	6.33	88	7640	8.9032	ug/L #	85
36) methacrylonitrile	6.46	67	36397	3.8308	ug/L	97
37) Bromochlorma	6.46	128	16790	1.9229	ug/L	97
38) Tetrahydofur	6.60	42	166777	19.4138	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW3.D Vial: 7
Acq On : 5 Feb 2020 14:55 Operator: RLD-DGS
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 2.00/20.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:15 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.57	83	59549	2.1454	ug/L		96
40)	111trichlota	6.81	97	43386	1.9289	ug/L		97
42)	Cyclohexane	6.88	56	50592	1.9106	ug/L		98
43)	Carbtetraclo	7.02	119	35284	1.9684	ug/L		99
44)	11dicloprope	7.01	110	15830	2.0735	ug/L		96
46)	Benzene	7.26	78	137349	2.0179	ug/L		99
47)	12dichlorota	7.27	62	38996	1.9622	ug/L		98
48)	TAME	7.46	73	94014	1.9872	ug/L		98
49)	trichloroete	8.07	95	34282	1.9863	ug/L		94
50)	methylcyclohexane	8.33	83	47949	1.7394	ug/L		94
51)	12dicloropra	8.34	63	39930	2.1618	ug/L		90
52)	23Dicl1propene	8.40	75	52918	1.9452	ug/L		93
53)	Dibromometha	8.48	93	20499	1.8607	ug/L		97
54)	methylmethacrylate	8.52	69	29113	1.9926	ug/L		98
55)	14dioxane	8.57	88	28057	90.0368	ug/L		97
56)	Bromodiclrma	8.68	83	42945	2.0667	ug/L		97
57)	2Nitropropane	8.96	43	99332	18.4970	ug/L		96
58)	2CLEVE	9.07	63	1756	5.1998	ug/L	#	45
59)	c13dicloproe	9.26	75	53743	1.9649	ug/L		97
60)	4Meth2Pentan	9.48	43	474054	19.5938	ug/L		99
62)	Toluene	9.70	92	86409	1.9534	ug/L		100
63)	t13Dicloprop	9.97	75	43546	1.9062	ug/L		83
64)	ethylmethacrylate	10.13	69	96804	3.9460	ug/L		99
65)	112Triclotha	10.21	83	27705	2.0218	ug/L		96
66)	Tetrachlorte	10.43	166	36482	1.8978	ug/L		95
67)	13Diclorpropa	10.43	76	52096	2.0062	ug/L		98
69)	2Hexanone	10.57	43	352857	18.6940	ug/L		98
70)	Clorodibrmta	10.72	129	32226	1.8808	ug/L		95
71)	12Dibrometha	10.88	107	32111	1.9681	ug/L		100
72)	Chlorobenzen	11.56	112	96147	2.0043	ug/L		90
73)	1Clhexane	11.54	91	44898	1.7914	ug/L		87
74)	1112Tetclota	11.67	131	31099	1.9020	ug/L		93
75)	Ethylbenzene	11.72	91	152490	1.9779	ug/L		100
76)	m p-Xylene	11.89	106	114804	3.8126	ug/L		95
77)	o-Xylene	12.43	106	58170	2.0455	ug/L		98
78)	Styrene	12.45	104	91850	1.9439	ug/L		97
79)	Bromoform	12.68	173	23040	1.8267	ug/L		98
80)	Isopropylben	12.96	105	141105	1.9675	ug/L		98
81)	cyclohexanone	13.09	55	40127	34.7166	ug/L		96
84)	Bromobenzene	13.37	156	38680	1.9122	ug/L		95
85)	1122Tetrclta	13.35	83	48162	1.9603	ug/L		94
86)	123Triclproa	13.41	75	53165	2.0048	ug/L		99
87)	14dichloro2butene	13.44	53	9493	1.9111	ug/L		91
88)	n-Propylbenz	13.54	91	175479	1.9957	ug/L		99
89)	2chlorotolue	13.66	91	102560	1.9874	ug/L		93
90)	4chlorotolue	13.81	91	116315	2.0603	ug/L		98
91)	135Trimebenz	13.80	105	112915	2.0623	ug/L		96
92)	tbutylbenzen	14.27	119	100134	2.0489	ug/L		97
93)	124Trimetben	14.34	105	115062	1.9734	ug/L		96
94)	sbutylbenzen	14.59	105	147671	2.0646	ug/L		100
95)	13Diclorbenz	14.73	146	73439	2.0520	ug/L		99
96)	pIsopropylto	14.81	119	114311	1.9357	ug/L		98
97)	14dichlorobe	14.86	146	73331	1.9914	ug/L		92
98)	12dichlorobe	15.40	146	67974	1.9641	ug/L		94
99)	nButylbenzen	15.40	91	115880	1.9567	ug/L		98
100)	12dibromo3cl	16.51	157	9766	1.7075	ug/L		93
101)	135Trichlorobenzene	16.83	180	55934	1.9999	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW3.D Vial: 7
Acq On : 5 Feb 2020 14:55 Operator: RLD-DGS
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 2.00/20.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:15 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.64	180	46263	2.0191	ug/L	100
103) Hexachlorobu	17.88	225	20791	1.9382	ug/L	96
104) Naphthalene	17.95	128	122216	2.0067	ug/L	99
105) 123Trichlben	18.26	180	39714	1.8017	ug/L	91

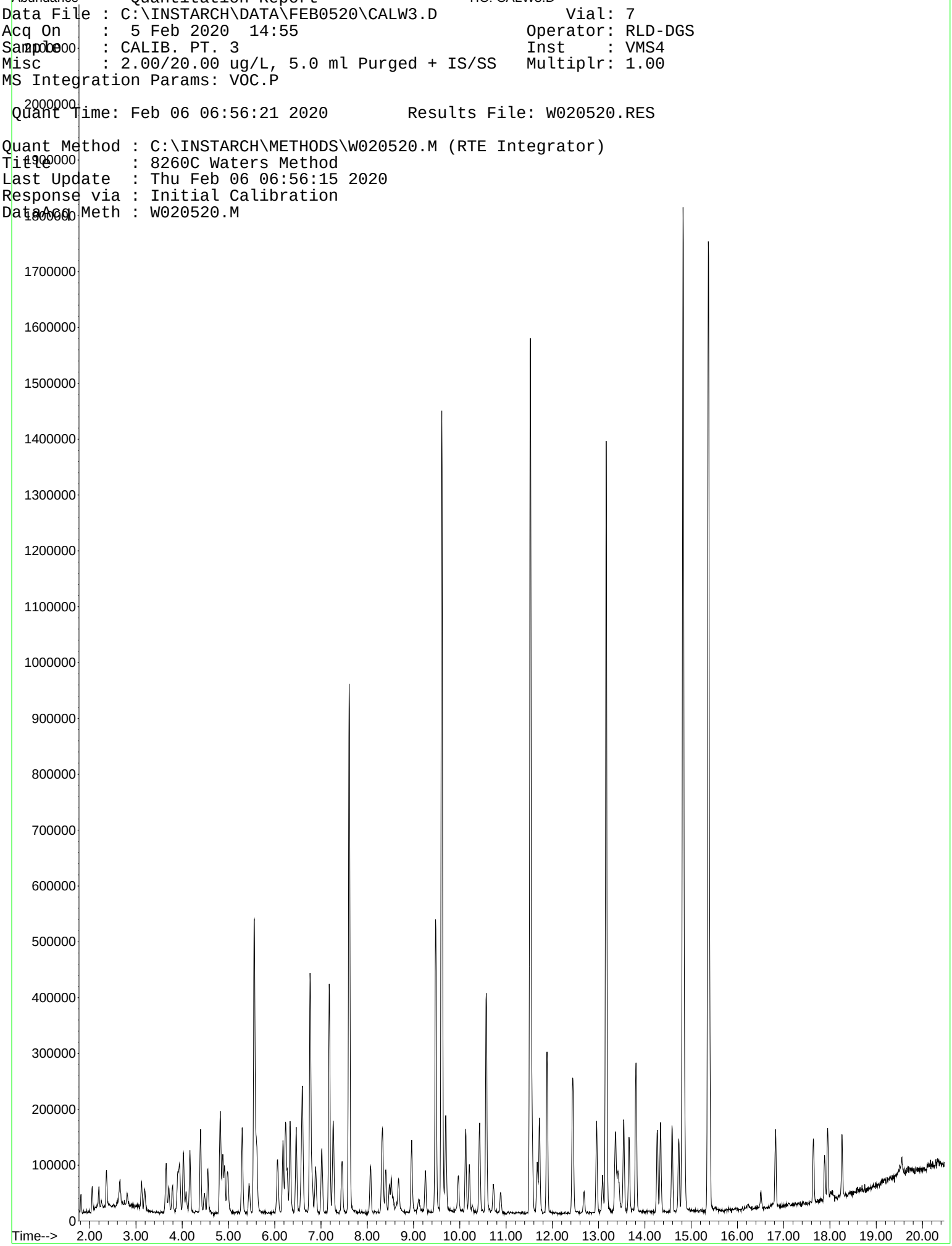
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW3.D

Data File : C:\INSTARCH\DATA\FEB0520\CALW3.D Vial: 7
Acq On : 5 Feb 2020 14:55 Operator: RLD-DGS
Sample : CALIB. PT. 3 Inst : VMS4
Misc : 2.00/20.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:15 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW4.D Vial: 8
Acq On : 5 Feb 2020 15:24 Operator: RLD-DGS
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 5.00/50.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	1023527	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1106540	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	682841	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	301957	20.263	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101	%		
45) SURR12DCAd4	7.18	102	65522	19.523	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98	%		
61) SURRd8Tolule	9.61	98	1225739	20.265	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.16	95	539848	19.982	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	63567	4.4626	ug/L	99
3) Chloromethan	2.05	50	116304	4.8070	ug/L	100
4) VinylChlorid	2.19	62	85945	4.9297	ug/L	100
5) Bromomethane	2.65	94	35982	4.3597	ug/L	93
6) Chloroethane	2.81	64	50983	5.1147	ug/L	95
7) Dichloroflmethane	3.12	67	145951	4.8903	ug/L	99
8) Trichlorofma	3.19	101	106427	4.9734	ug/L	99
9) Ethylether	3.65	59	79140	5.1316	ug/L	98
10) dichlorotfluoroethan	3.64	67	84556	4.9927	ug/L	99
11) propyleneoxide	3.71	58	111731	48.9135	ug/L	98
12) Acrolein	3.79	56	126933	23.9542	ug/L	100
13) 11dichlorthe	3.90	96	67788	4.8325	ug/L	93
14) Trichlorotfluoroeth	3.94	101	127896	9.6971	ug/L	96
15) Acetone	4.03	43	379307	45.4671	ug/L	100
16) Iodomethane	4.09	127	49006	10.4225	ug/L	98
17) Carbon Dislf	4.17	76	440965	10.2161	ug/L	98
18) allylchloride	4.39	41	306061	10.0614	ug/L	99
19) methylacetate	4.48	74	28953	5.1557	ug/L	85
20) Methylchlorid	4.55	84	92177	4.0161	ug/L	99
21) tbutylalcohol	4.82	59	708159	240.4409	ug/L	100
22) Acrylonitrile	4.87	53	235371	24.9176	ug/L	97
23) t12dichlorte	4.92	96	80388	5.0202	ug/L	98
24) MtBE	4.98	73	231398	4.9145	ug/L	97
25) Hexane	5.30	57	239116	10.4157	ug/L	99
26) 11dichlorota	5.45	63	151614	4.8323	ug/L	98
27) Vinylacetate	5.55	43	2151226	48.8544	ug/L	99
28) chloroprene	5.57	53	229386	9.9083	ug/L	97
29) Diisopether	5.61	45	321862	4.8224	ug/L	92
30) ETBE	6.06	59	255405	4.9226	ug/L	99
31) 22dichloropr	6.18	77	108299	4.5956	ug/L	99
32) c12dichlorte	6.18	96	93375	4.9773	ug/L	99
33) 2Butanone	6.23	72	147069	50.2511	ug/L	96
34) propionitrile	6.26	54	191026	49.4728	ug/L	98
35) Ethylacetate	6.33	88	20132	24.2126	ug/L	95
36) methacrylonitrile	6.46	67	94176	9.9967	ug/L	99
37) Bromochlorma	6.46	128	42472	4.8836	ug/L	99
38) Tetrahydofur	6.59	42	404609	47.1769	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW4.D Vial: 8
Acq On : 5 Feb 2020 15:24 Operator: RLD-DGS
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 5.00/50.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.57	83	146422	5.1516 ug/L	99
40) 111trichlota	6.81	97	108132	4.8230 ug/L	99
42) Cyclohexane	6.88	56	130991	4.9743 ug/L	97
43) Carbtetraclo	7.02	119	89398	4.9785 ug/L	98
44) 11dicloprope	7.01	110	36410	4.6847 ug/L	91
46) Benzene	7.26	78	334786	4.8797 ug/L	100
47) 12dichlorota	7.27	62	98687	4.9610 ug/L	99
48) TAME	7.46	73	231766	4.8788 ug/L	99
49) trichloroete	8.07	95	84520	4.8776 ug/L	99
50) methylcyclohexane	8.32	83	137007	5.1083 ug/L	99
51) 12dicloropra	8.33	63	94246	4.9729 ug/L	95
52) 23Dicl1propene	8.39	75	135830	5.0103 ug/L	99
53) Dibromometha	8.48	93	54799	5.0633 ug/L	97
54) methylmethacrylate	8.52	69	71156	4.8485 ug/L	97
55) 14dioxane	8.56	88	72899	240.5988 ug/L	98
56) Bromodiclrma	8.68	83	106086	5.0343 ug/L	94
57) 2Nitropropane	8.95	43	272022	51.3308 ug/L	99
58) 2CLEVE	9.07	63	7557	26.4887 ug/L	92
59) c13dicloproe	9.26	75	135455	4.9459 ug/L	98
60) 4Meth2Pentan	9.48	43	1200863	49.6043 ug/L	98
62) Toluene	9.70	92	222437	5.0292 ug/L	96
63) t13Dicloprop	9.97	75	112568	4.9577 ug/L	98
64) ethylmethacrylate	10.13	69	241436	9.8299 ug/L	98
65) 112Triclotha	10.21	83	68455	4.9492 ug/L	96
66) Tetrachlorte	10.43	166	93443	4.8957 ug/L	98
67) 13Diclorpropa	10.43	76	127016	4.8598 ug/L	99
69) 2Hexanone	10.57	43	906372	49.1926 ug/L	99
70) Clorodibrmta	10.73	129	79374	4.7389 ug/L	99
71) 12Dibrometha	10.88	107	82805	5.1348 ug/L	93
72) Chlorobenzen	11.56	112	240409	5.0476 ug/L	97
73) 1Clhexane	11.54	91	116786	4.8214 ug/L	98
74) 1112Tetclota	11.67	131	78475	4.9168 ug/L	98
75) Ethylbenzene	11.72	91	385297	5.0502 ug/L	99
76) m p-Xylene	11.89	106	300460	10.1744 ug/L	100
77) o-Xylene	12.43	106	143617	5.0603 ug/L	94
78) Styrene	12.45	104	241264	5.1819 ug/L	99
79) Bromoform	12.69	173	61850	5.0885 ug/L	96
80) Isopropylben	12.96	105	367264	5.1816 ug/L	100
81) cyclohexanone	13.08	55	106283	96.9303 ug/L	100
84) Bromobenzene	13.38	156	104511	5.0204 ug/L	95
85) 1122Tetrclta	13.36	83	123997	4.8744 ug/L	97
86) 123Triclproa	13.41	75	139314	5.0446 ug/L	98
87) 14dichloro2butene	13.44	53	23785	4.6710 ug/L	91
88) n-Propylbenz	13.55	91	435198	4.7592 ug/L	99
89) 2chlorotolue	13.66	91	249410	4.6521 ug/L	98
90) 4chlorotolue	13.81	91	291734	4.9290 ug/L	99
91) 135Trimebenz	13.80	105	293920	5.1192 ug/L	99
92) tbutylbenzen	14.27	119	245286	4.7941 ug/L	98
93) 124Trimetben	14.34	105	292967	4.8448 ug/L	100
94) sbutylbenzen	14.59	105	386405	5.1503 ug/L	99
95) 13Diclorbenz	14.74	146	188077	5.0177 ug/L	97
96) pIsopropylto	14.81	119	309456	5.0768 ug/L	98
97) 14dichlorobe	14.86	146	182251	4.7616 ug/L	94
98) 12dichlorobe	15.40	146	171125	4.7733 ug/L	99
99) nButylbenzen	15.40	91	300684	4.9060 ug/L	99
100) 12dibromo3cl	16.51	157	24561	4.3385 ug/L	96
101) 135Trichlorobenzene	16.83	180	142063	4.8815 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW4.D Vial: 8
Acq On : 5 Feb 2020 15:24 Operator: RLD-DGS
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 5.00/50.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.64	180	122559	5.1283	ug/L	97
103) Hexachlorobu	17.89	225	55425	5.0042	ug/L	96
104) Naphthalene	17.95	128	308704	4.8671	ug/L	99
105) 123Trichlben	18.26	180	111083	4.9662	ug/L	98

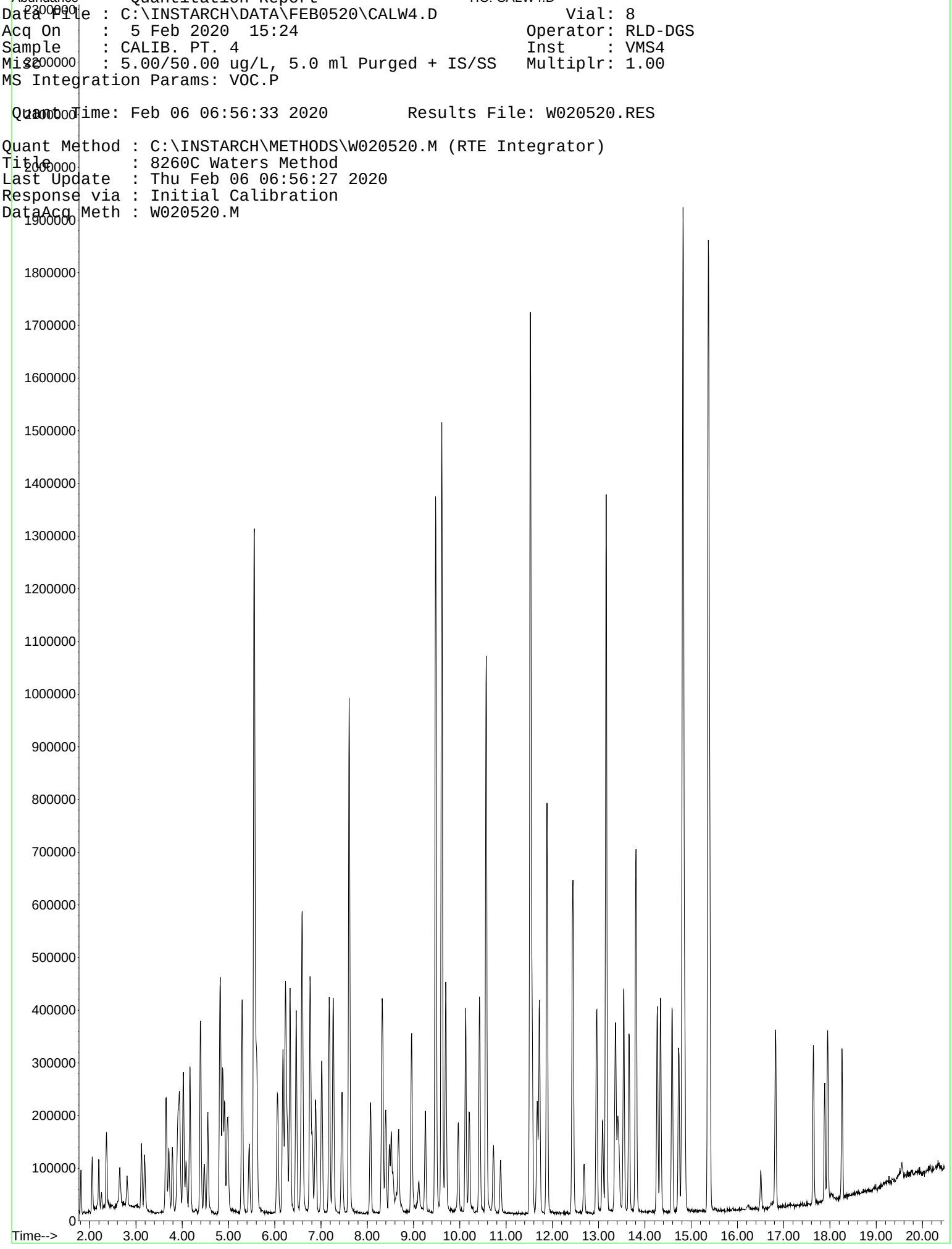
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: CALW4.D)

Data File : C:\INSTARCH\DATA\FEB0520\CALW4.D Vial: 8
Acq On : 5 Feb 2020 15:24 Operator: RLD-DGS
Sample : CALIB. PT. 4 Inst : VMS4
Misc : 5.00/50.00 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:33 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW5.D Vial: 9
Acq On : 5 Feb 2020 15:52 Operator: RLD-DGS
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:46 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:39 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	969568	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1055879	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	641679	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	281218	19.869	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 99 %			
45) SURR12DCAd4	7.18	102	64346	20.336	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %			
61) SURRd8Tolule	9.61	98	1160457	20.200	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101 %			
83) SURR4BrFBenz	13.16	95	514100	20.253	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	124717	9.4458	ug/L	100
3) Chloromethan	2.05	50	223475	9.8265	ug/L	100
4) VinylChlorid	2.20	62	168671	10.2419	ug/L	100
5) Bromomethane	2.65	94	55983	7.3974	ug/L	100
6) Chloroethane	2.81	64	96820	10.1952	ug/L	100
7) Dichloroflmethane	3.12	67	289867	10.2981	ug/L	100
8) Trichlorofma	3.19	101	208728	10.3078	ug/L	99
9) Ethylether	3.65	59	153099	10.4249	ug/L	100
10) dichlorotfluoroethan	3.64	67	163611	10.2012	ug/L	100
11) propyleneoxide	3.71	58	244294	113.5154	ug/L	99
12) Acrolein	3.79	56	254368	51.2102	ug/L	100
13) 11dichlorthe	3.90	96	141928	10.7529	ug/L	100
14) Trichlorotfluoroeth	3.94	101	261362	21.0469	ug/L	100
15) Acetone	4.03	43	753722	97.1372	ug/L	100
16) Iodomethane	4.09	127	110740	24.6029	ug/L	100
17) Carbon Dislf	4.17	76	872149	21.2382	ug/L	100
18) allylchloride	4.40	41	594351	20.6007	ug/L	100
19) methylacetate	4.48	74	54067	10.0850	ug/L	100
20) Methylchlorid	4.55	84	175742	8.4143	ug/L	100
21) tbutylalcohol	4.82	59	1436328	518.7834	ug/L	100
22) Acrylonitrile	4.88	53	481985	53.9096	ug/L	100
23) t12dichlorte	4.92	96	157836	10.3970	ug/L	100
24) MtBE	4.98	73	462687	10.4091	ug/L	100
25) Hexane	5.29	57	466453	21.2723	ug/L	100
26) 11dichlorota	5.44	63	305927	10.3628	ug/L	100
27) Vinylacetate	5.55	43	4129584	99.4580	ug/L	100
28) chloroprene	5.57	53	449785	20.5473	ug/L	100
29) Diisopether	5.61	45	625185	9.9590	ug/L	100
30) ETBE	6.06	59	508567	10.3795	ug/L	100
31) 22dichloropr	6.18	77	203528	9.2672	ug/L	100
32) c12dichlorte	6.18	96	182724	10.2914	ug/L	100
33) 2Butanone	6.23	72	290161	104.5296	ug/L	100
34) propionitrile	6.27	54	369202	101.2058	ug/L	100
35) Ethylacetate	6.33	88	41225	52.7557	ug/L	100
36) methacrylonitrile	6.46	67	188675	21.1440	ug/L	100
37) Bromochlorma	6.46	128	85217	10.3924	ug/L	100
38) Tetrahydofur	6.59	42	815872	101.5708	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW5.D Vial: 9
Acq On : 5 Feb 2020 15:52 Operator: RLD-DGS
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:46 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:39 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.57	83	275295	10.1631 ug/L	100
40) 111trichlota	6.81	97	218622	10.3672 ug/L	100
42) Cyclohexane	6.88	56	254101	10.1968 ug/L	100
43) Carbtetraclo	7.02	119	179292	10.5494 ug/L	100
44) 11dicloprope	7.01	110	75725	10.4502 ug/L	100
46) Benzene	7.26	78	650810	10.0623 ug/L	100
47) 12dichlorota	7.27	62	198155	10.5321 ug/L	100
48) TAME	7.46	73	453696	10.1312 ug/L	100
49) trichloroete	8.07	95	166959	10.2214 ug/L	100
50) methylcyclohexane	8.32	83	271615	10.6447 ug/L	100
51) 12dicloropra	8.33	63	192789	10.7503 ug/L	100
52) 23Dicl1propene	8.40	75	262169	10.2034 ug/L	100
53) Dibromometha	8.48	93	105794	10.2866 ug/L	100
54) methylmethacrylate	8.51	69	143803	10.4229 ug/L	100
55) 14dioxane	8.56	88	144337	507.6598 ug/L	100
56) Bromodiclrma	8.67	83	204643	10.2377 ug/L	100
57) 2Nitropropane	8.96	43	562450	111.4482 ug/L	100
58) 2CLEVE	9.07	63	21572	78.6512 ug/L	100
59) c13dicloproe	9.26	75	271444	10.4856 ug/L	100
60) 4Meth2Pentan	9.48	43	2334162	101.9449 ug/L	100
62) Toluene	9.70	92	425716	10.1490 ug/L	100
63) t13Dicloprop	9.97	75	225687	10.5106 ug/L	100
64) ethylmethacrylate	10.13	69	483296	20.8608 ug/L	100
65) 112Triclotha	10.21	83	135431	10.3628 ug/L	100
66) Tetrachlorte	10.43	166	179492	9.9690 ug/L	100
67) 13Diclorpropa	10.43	76	248145	10.0793 ug/L	100
69) 2Hexanone	10.57	43	1800277	102.7283 ug/L	100
70) Clorodibrmta	10.73	129	159230	10.0679 ug/L	100
71) 12Dibrometha	10.88	107	157431	10.1759 ug/L	100
72) Chlorobenzen	11.56	112	462099	10.1484 ug/L	100
73) 1Clhexane	11.54	91	225613	9.8313 ug/L	100
74) 1112Tetclota	11.68	131	152357	10.0457 ug/L	100
75) Ethylbenzene	11.72	91	760380	10.4237 ug/L	100
76) m p-Xylene	11.89	106	586625	20.7455 ug/L	100
77) o-Xylene	12.43	106	287040	10.5735 ug/L	100
78) Styrene	12.45	104	478303	10.6882 ug/L	100
79) Bromoform	12.68	173	123996	10.6436 ug/L	100
80) Isopropylben	12.96	105	709107	10.4089 ug/L	100
81) cyclohexanone	13.08	55	212208	204.3884 ug/L	100
84) Bromobenzene	13.37	156	199226	10.1758 ug/L	100
85) 1122Tetrclta	13.35	83	240673	10.1187 ug/L	100
86) 123Triclproa	13.42	75	274729	10.5626 ug/L	100
87) 14dichloro2butene	13.44	53	48949	10.4005 ug/L	100
88) n-Propylbenz	13.54	91	875769	10.2906 ug/L	100
89) 2chlorotolue	13.66	91	501301	10.0906 ug/L	100
90) 4chlorotolue	13.81	91	570910	10.2938 ug/L	100
91) 135Trimebenz	13.80	105	577425	10.6514 ug/L	100
92) tbutylbenzen	14.27	119	493539	10.3502 ug/L	100
93) 124Trimetben	14.34	105	591111	10.4673 ug/L	100
94) sbutylbenzen	14.59	105	744512	10.4968 ug/L	100
95) 13Diclorbenz	14.73	146	354651	10.0615 ug/L	100
96) pIsopropylto	14.81	119	622858	10.8405 ug/L	100
97) 14dichlorobe	14.86	146	357448	10.0336 ug/L	100
98) 12dichlorobe	15.40	146	335014	10.0352 ug/L	100
99) nButylbenzen	15.40	91	588962	10.2646 ug/L	100
100) 12dibromo3cl	16.51	157	56110	10.9080 ug/L	100
101) 135Trichlorobenzene	16.83	180	296304	10.8862 ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW5.D Vial: 9
Acq On : 5 Feb 2020 15:52 Operator: RLD-DGS
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:46 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:39 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	235186	10.4188	ug/L	100
103) Hexachlorobu	17.89	225	111119	10.6745	ug/L	100
104) Naphthalene	17.95	128	626752	10.5715	ug/L	100
105) 123Trichlben	18.27	180	222605	10.6047	ug/L	100

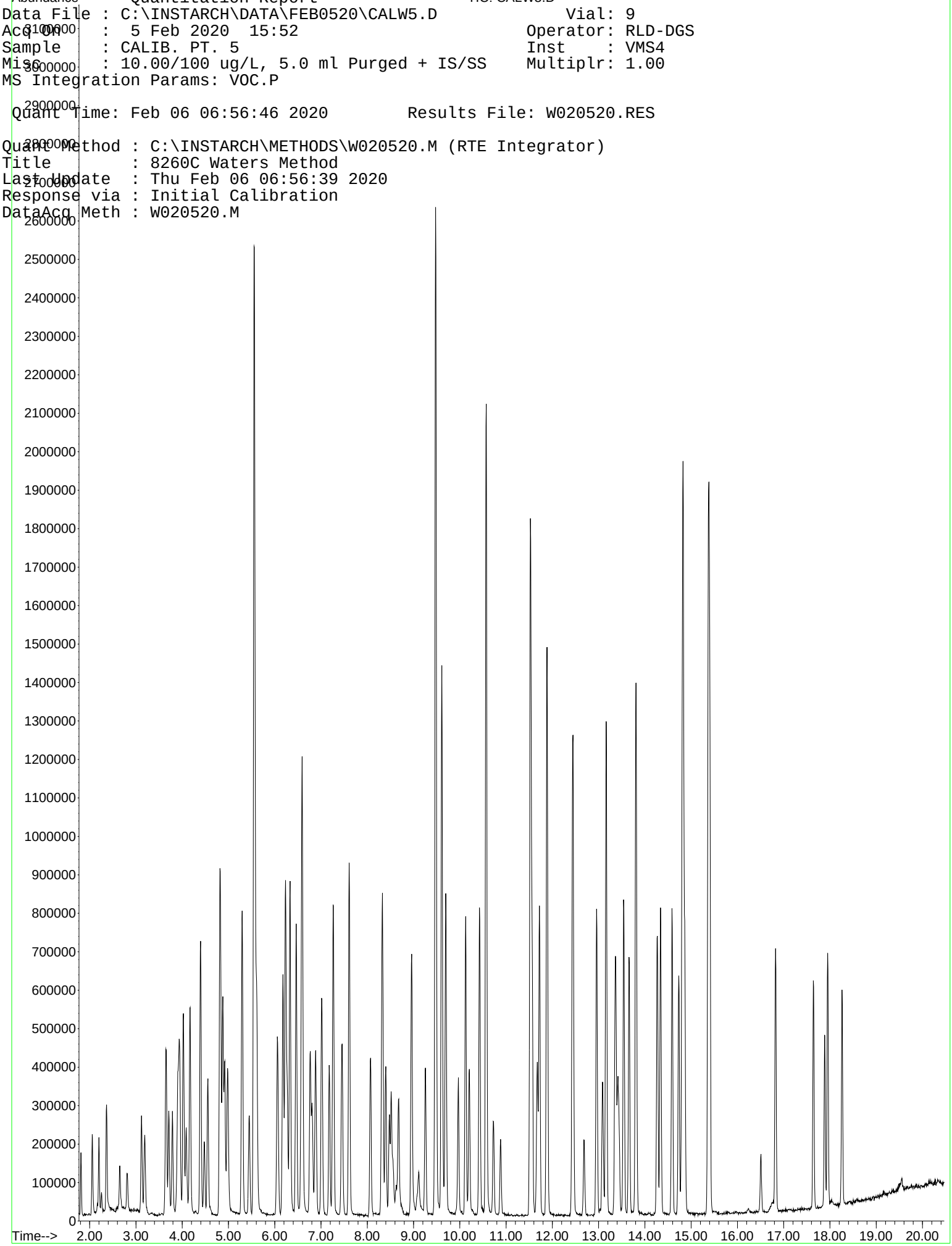
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW5.D

Data File : C:\INSTARCH\DATA\FEB0520\CALW5.D Vial: 9
Acq On : 5 Feb 2020 15:52 Operator: RLD-DGS
Sample : CALIB. PT. 5 Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:56:46 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:39 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW6.D Vial: 10
Acq On : 5 Feb 2020 16:21 Operator: RLD-DGS
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 20.00/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:03 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:57 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	959925	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1062716	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	655726	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	277180	19.781	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 99 %			
45) SURR12DCAd4	7.18	102	63752	20.351	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %			
61) SURRd8Tolule	9.61	98	1139743	20.036	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.16	95	507177	19.553	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	286519	21.9182	ug/L	99
3) Chloromethan	2.05	50	451311	20.0441	ug/L	100
4) VinylChlorid	2.20	62	366135	22.4556	ug/L	100
5) Bromomethane	2.65	94	109641	14.6331	ug/L	97
6) Chloroethane	2.81	64	196671	20.9106	ug/L	100
7) Dichloroflmethane	3.12	67	588389	21.1138	ug/L	99
8) Trichlorofma	3.19	101	467029	23.2966	ug/L	100
9) Ethylether	3.65	59	292690	20.1302	ug/L	97
10) dichlorotfluoroethan	3.64	67	361118	22.7419	ug/L	99
11) propyleneoxide	3.71	58	501388	235.3188	ug/L	99
12) Acrolein	3.79	56	478298	97.2598	ug/L	99
13) 11dichlorthe	3.90	96	296622	22.6934	ug/L	98
14) Trichlorotfluoroeth	3.94	101	582339	47.3655	ug/L	97
15) Acetone	4.03	43	1416462	184.4768	ug/L	99
16) Iodomethane	4.09	127	256108	57.4193	ug/L	99
17) Carbon Dislf	4.17	76	1760567	43.2948	ug/L	100
18) allylchloride	4.40	41	1161670	40.6638	ug/L	99
19) methylacetate	4.48	74	105337	19.8457	ug/L	94
20) Methylchlorid	4.55	84	344896	16.6790	ug/L	97
21) tbutylalcohol	4.82	59	2651153	968.8609	ug/L	100
22) Acrylonitrile	4.88	53	861720	97.3731	ug/L	96
23) t12dichlorte	4.92	96	320254	21.3077	ug/L	98
24) MtBE	4.98	73	875289	19.8955	ug/L	99
25) Hexane	5.30	57	1038080	47.8165	ug/L	99
26) 11dichlorota	5.45	63	584947	20.0133	ug/L	99
27) Vinylacetate	5.55	43	7223140	175.7307	ug/L	98
28) chloroprene	5.57	53	936894	43.2251	ug/L	99
29) Diisopether	5.61	45	1184831	19.0720	ug/L	98
30) ETBE	6.06	59	972050	20.0382	ug/L	99
31) 22dichloropr	6.18	77	411826	18.9400	ug/L	99
32) c12dichlorte	6.18	96	347544	19.7710	ug/L	99
33) 2Butanone	6.23	72	554799	201.4893	ug/L	98
34) propionitrile	6.27	54	697336	193.2580	ug/L	100
35) Ethylacetate	6.33	88	71777	92.7759	ug/L #	89
36) methacrylonitrile	6.46	67	355214	40.2153	ug/L	99
37) Bromochlorma	6.46	128	158941	19.5778	ug/L	97
38) Tetrahydofur	6.59	42	1497096	188.3531	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW6.D Vial: 10
Acq On : 5 Feb 2020 16:21 Operator: RLD-DGS
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 20.00/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:03 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:57 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.57	83	538532	20.0808 ug/L	100
40) 111trichlota	6.81	97	448041	21.4598 ug/L	98
42) Cyclohexane	6.88	56	574582	23.2890 ug/L	99
43) Carbtetraclo	7.02	119	374918	22.2815 ug/L	98
44) 11dicloprope	7.01	110	151688	21.1435 ug/L	94
46) Benzene	7.26	78	1255695	19.6095 ug/L	99
47) 12dichlorota	7.27	62	371305	19.9334 ug/L	98
48) TAME	7.45	73	877780	19.7980 ug/L	99
49) trichloroete	8.07	95	330000	20.4060 ug/L	99
50) methylcyclohexane	8.32	83	627461	24.8375 ug/L	97
51) 12dicloropra	8.33	63	375396	21.1405 ug/L	93
52) 23Dicl1propene	8.40	75	515132	20.2499 ug/L	99
53) Dibromometha	8.48	93	203073	19.9437 ug/L	97
54) methylmethacrylate	8.52	69	278168	20.3643 ug/L	98
55) 14dioxane	8.55	88	262426	936.0653 ug/L	96
56) Bromodiclrma	8.67	83	406387	20.5346 ug/L	97
57) 2Nitropropane	8.96	43	1099577	220.0674 ug/L	99
58) 2CLEVE	9.07	63	50331	185.3496 ug/L	94
59) c13dicloproe	9.26	75	528312	20.6132 ug/L	98
60) 4Meth2Pentan	9.48	43	4240751	187.1183 ug/L	98
62) Toluene	9.70	92	841486	20.2617 ug/L	96
63) t13Dicloprop	9.97	75	443408	20.8576 ug/L	97
64) ethylmethacrylate	10.13	69	947179	41.2944 ug/L	100
65) 112Triclotha	10.21	83	260655	20.1449 ug/L	99
66) Tetrachlorte	10.43	166	374314	20.9983 ug/L	99
67) 13Diclorpropa	10.43	76	494235	20.2767 ug/L	99
69) 2Hexanone	10.57	43	3307023	187.5418 ug/L	98
70) Clorodibrmta	10.73	129	320098	20.1091 ug/L	99
71) 12Dibrometha	10.88	107	316597	20.3324 ug/L	97
72) Chlorobenzen	11.56	112	901824	19.6780 ug/L	99
73) 1Clhexane	11.54	91	493089	21.3486 ug/L	97
74) 1112Tetclota	11.67	131	304363	19.9391 ug/L	99
75) Ethylbenzene	11.72	91	1494310	20.3530 ug/L	99
76) m p-Xylene	11.89	106	1138546	40.0047 ug/L	99
77) o-Xylene	12.44	106	563787	20.6343 ug/L	99
78) Styrene	12.45	104	934500	20.7481 ug/L	98
79) Bromoform	12.68	173	252185	21.5079 ug/L	98
80) Isopropylben	12.96	105	1465253	21.3712 ug/L	100
81) cyclohexanone	13.08	55	395288	378.2727 ug/L	98
84) Bromobenzene	13.38	156	391656	19.5760 ug/L	99
85) 1122Tetrclta	13.35	83	466674	19.2003 ug/L	99
86) 123Triclproa	13.42	75	537846	20.2357 ug/L	99
87) 14dichloro2butene	13.44	53	105496	21.9352 ug/L	97
88) n-Propylbenz	13.54	91	1781094	20.4802 ug/L	100
89) 2chlorotolue	13.66	91	986592	19.4336 ug/L	98
90) 4chlorotolue	13.81	91	1116527	19.7003 ug/L	99
91) 135Trimebenz	13.80	105	1165534	21.0413 ug/L	100
92) tbutylbenzen	14.27	119	1023100	20.9961 ug/L	100
93) 124Trimetben	14.34	105	1161343	20.1244 ug/L	99
94) sbutylbenzen	14.59	105	1563860	21.5785 ug/L	99
95) 13Diclorbenz	14.73	146	711573	19.7550 ug/L	99
96) pIsopropylto	14.81	119	1277974	21.7601 ug/L	100
97) 14dichlorobe	14.86	146	703619	19.3276 ug/L	99
98) 12dichlorobe	15.40	146	654217	19.1770 ug/L	98
99) nButylbenzen	15.40	91	1232276	21.0192 ug/L	100
100) 12dibromo3cl	16.51	157	111649	21.2399 ug/L	98
101) 135Trichlorobenzene	16.83	180	604209	21.7230 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW6.D Vial: 10
Acq On : 5 Feb 2020 16:21 Operator: RLD-DGS
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 20.00/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:03 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:57 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.64	180	497798	21.5802	ug/L	98
103) Hexachlorobu	17.88	225	239771	22.5399	ug/L	98
104) Naphthalene	17.95	128	1222491	20.1796	ug/L	100
105) 123Trichlben	18.26	180	454791	21.2018	ug/L	100

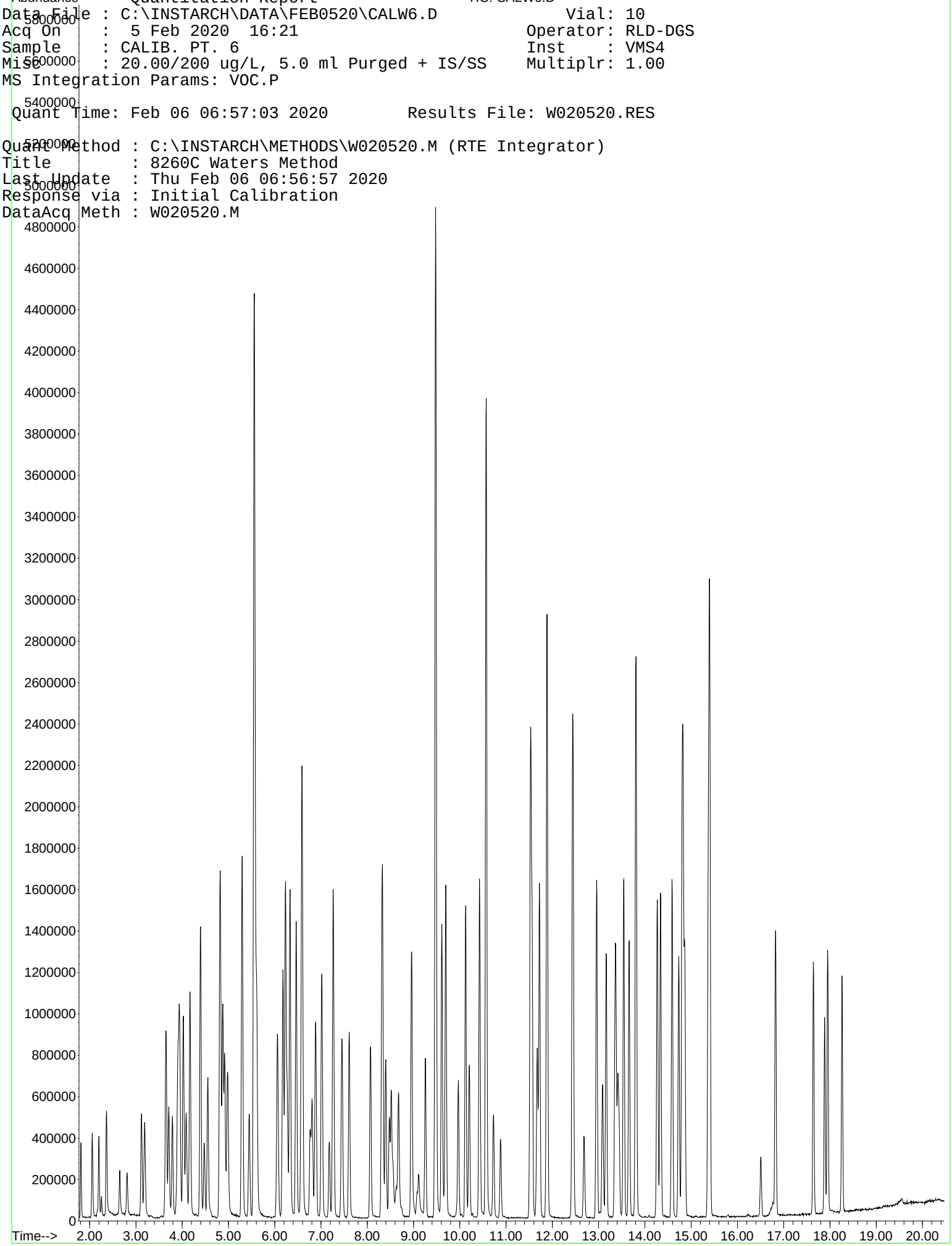
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW6.D

Data File : C:\INSTARCH\DATA\FEB0520\CALW6.D Vial: 10
Acq On : 5 Feb 2020 16:21 Operator: RLD-DGS
Sample : CALIB. PT. 6 Inst : VMS4
Misc : 20.00/200 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:03 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:56:57 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW7.D Vial: 11
Acq On : 5 Feb 2020 16:49 Operator: RLD-DGS
Sample : CALIB. PT. 7 Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:18 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:11 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	994169	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1095276	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	674246	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	296720	20.483	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 102	%		
45) SURR12DCAd4	7.18	102	66327	20.384	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
61) SURRd8Tolule	9.61	98	1176087	19.957	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.16	95	533534	20.079	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	450187	32.7291	ug/L	98
3) Chloromethan	2.05	50	670858	28.7580	ug/L	97
4) VinylChlorid	2.20	62	558230	32.3949	ug/L	99
5) Bromomethane	2.65	94	177749	24.2050	ug/L	98
6) Chloroethane	2.80	64	303051	30.8307	ug/L	99
7) Dichloroflmethane	3.12	67	849185	29.1520	ug/L	98
8) Trichlorofma	3.19	101	714607	33.4983	ug/L	99
9) Ethylether	3.65	59	442979	29.3853	ug/L	99
10) dichlorotfluoroethan	3.64	67	541893	32.2149	ug/L	98
11) propyleneoxide	3.71	58	776565	339.9097	ug/L	100
12) Acrolein	3.79	56	726807	143.4886	ug/L	97
13) 11dichlorthe	3.90	96	448206	32.3826	ug/L	98
14) Trichlorotfluoroeth	3.94	101	880504	67.0914	ug/L	96
15) Acetone	4.02	43	2073349	264.1442	ug/L	99
16) Iodomethane	4.09	127	409491	81.5433	ug/L	97
17) Carbon Dislf	4.17	76	2627308	61.5389	ug/L	100
18) allylchloride	4.39	41	1724919	58.1395	ug/L	99
19) methylacetate	4.48	74	155624	28.3537	ug/L	93
20) Methylchlorid	4.55	84	511245	24.5514	ug/L	96
21) tbutylalcohol	4.82	59	3883803	1377.5923	ug/L	100
22) Acrylonitrile	4.88	53	1326380	145.4808	ug/L	98
23) t12dichlorte	4.92	96	474429	30.1498	ug/L	98
24) MtBE	4.98	73	1322813	29.0574	ug/L	99
25) Hexane	5.30	57	1600477	68.9374	ug/L	99
26) 11dichlorota	5.45	63	875456	28.9178	ug/L	100
27) Vinylacetate	5.55	43	9711111	232.8311	ug/L	96
28) chloroprene	5.57	53	1400961	61.5817	ug/L	99
29) Diisopether	5.61	45	1759268	27.5562	ug/L	90
30) ETBE	6.06	59	1465680	29.1641	ug/L	98
31) 22dichloropr	6.18	77	609933	27.3261	ug/L	98
32) c12dichlorte	6.18	96	530453	29.1926	ug/L	98
33) 2Butanone	6.23	72	822836	288.1114	ug/L	99
34) propionitrile	6.27	54	1025653	276.3191	ug/L	99
35) Ethylacetate	6.33	88	112111	141.9697	ug/L	96
36) methacrylonitrile	6.46	67	525777	57.4133	ug/L	100
37) Bromochlorma	6.46	128	241957	28.8785	ug/L	95
38) Tetrahydofur	6.59	42	2198423	269.6790	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW7.D Vial: 11
Acq On : 5 Feb 2020 16:49 Operator: RLD-DGS
Sample : CALIB. PT. 7 Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:18 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:11 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.57	83	804678	28.9519 ug/L	100
40) 111trichlota	6.81	97	680889	31.1108 ug/L	99
42) Cyclohexane	6.88	56	868445	33.0807 ug/L	99
43) Carbtetraclo	7.02	119	583478	32.8572 ug/L	98
44) 11dicloprope	7.01	110	233992	31.1362 ug/L	97
46) Benzene	7.26	78	1860555	28.1461 ug/L	100
47) 12dichlorota	7.27	62	552720	28.6664 ug/L	96
48) TAME	7.45	73	1342321	29.2820 ug/L	99
49) trichloroete	8.07	95	494775	29.4416 ug/L	98
50) methylcyclohexane	8.32	83	961347	35.3194 ug/L	98
51) 12dicloropra	8.33	63	528211	28.4512 ug/L	97
52) 23Dicl1propene	8.40	75	773249	29.2764 ug/L	99
53) Dibromometha	8.48	93	307973	29.2205 ug/L	99
54) methylmethacrylate	8.52	69	419936	29.5763 ug/L	99
55) 14dioxane	8.56	88	405859	1415.9263 ug/L	99
56) Bromodiclrma	8.67	83	610022	29.6305 ug/L	98
57) 2Nitropropane	8.96	43	1681007	319.5024 ug/L	97
58) 2CLEVE	9.07	63	106436	323.2782 ug/L	95
59) c13dicloproe	9.26	75	800430	30.0014 ug/L	97
60) 4Meth2Pentan	9.48	43	6002714	258.5148 ug/L	95
62) Toluene	9.70	92	1261956	29.2755 ug/L	95
63) t13Dicloprop	9.97	75	680398	30.6837 ug/L	98
64) ethylmethacrylate	10.13	69	1434504	59.9980 ug/L	99
65) 112Triclotha	10.20	83	390316	29.0846 ug/L	99
66) Tetrachlorte	10.43	166	559079	30.0332 ug/L	98
67) 13Diclorpropa	10.43	76	743965	29.4031 ug/L	100
69) 2Hexanone	10.57	43	4768215	265.1201 ug/L	97
70) Clorodibrmta	10.73	129	497715	30.3103 ug/L	98
71) 12Dibrometha	10.88	107	479201	29.7777 ug/L	98
72) Chlorobenzen	11.56	112	1354514	28.7544 ug/L	98
73) 1Clhexane	11.54	91	755172	31.3711 ug/L	96
74) 1112Tetclota	11.67	131	470975	29.9550 ug/L	100
75) Ethylbenzene	11.72	91	2225746	29.3280 ug/L	98
76) m p-Xylene	11.89	106	1724476	58.7900 ug/L	99
77) o-Xylene	12.43	106	858554	30.3282 ug/L	98
78) Styrene	12.45	104	1420717	30.4159 ug/L	98
79) Bromoform	12.69	173	385183	31.4008 ug/L	99
80) Isopropylben	12.96	105	2199594	30.7764 ug/L	99
81) cyclohexanone	13.08	55	574786	539.5541 ug/L	96
84) Bromobenzene	13.37	156	600292	29.2835 ug/L	98
85) 1122Tetrclta	13.35	83	707632	28.5043 ug/L	98
86) 123Triclproa	13.42	75	832394	30.3858 ug/L	97
87) 14dichloro2butene	13.44	53	160200	31.7796 ug/L	97
88) n-Propylbenz	13.54	91	2659850	29.6261 ug/L	98
89) 2chlorotolue	13.66	91	1478187	28.4514 ug/L	99
90) 4chlorotolue	13.81	91	1692436	29.1143 ug/L	99
91) 135Trimebenz	13.80	105	1764225	30.7082 ug/L	99
92) tbutylbenzen	14.27	119	1565932	30.9961 ug/L	100
93) 124Trimetben	14.34	105	1766306	29.7360 ug/L	99
94) sbutylbenzen	14.59	105	2382532	31.5566 ug/L	99
95) 13Diclorbenz	14.73	146	1090564	29.5053 ug/L	99
96) pIsopropylto	14.81	119	1942182	31.6964 ug/L	100
97) 14dichlorobe	14.86	146	1071669	28.7902 ug/L	98
98) 12dichlorobe	15.40	146	1007597	28.9227 ug/L	98
99) nButylbenzen	15.40	91	1879834	30.9213 ug/L	99
100) 12dibromo3cl	16.50	157	172934	31.6032 ug/L	99
101) 135Trichlorobenzene	16.83	180	932400	32.1401 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

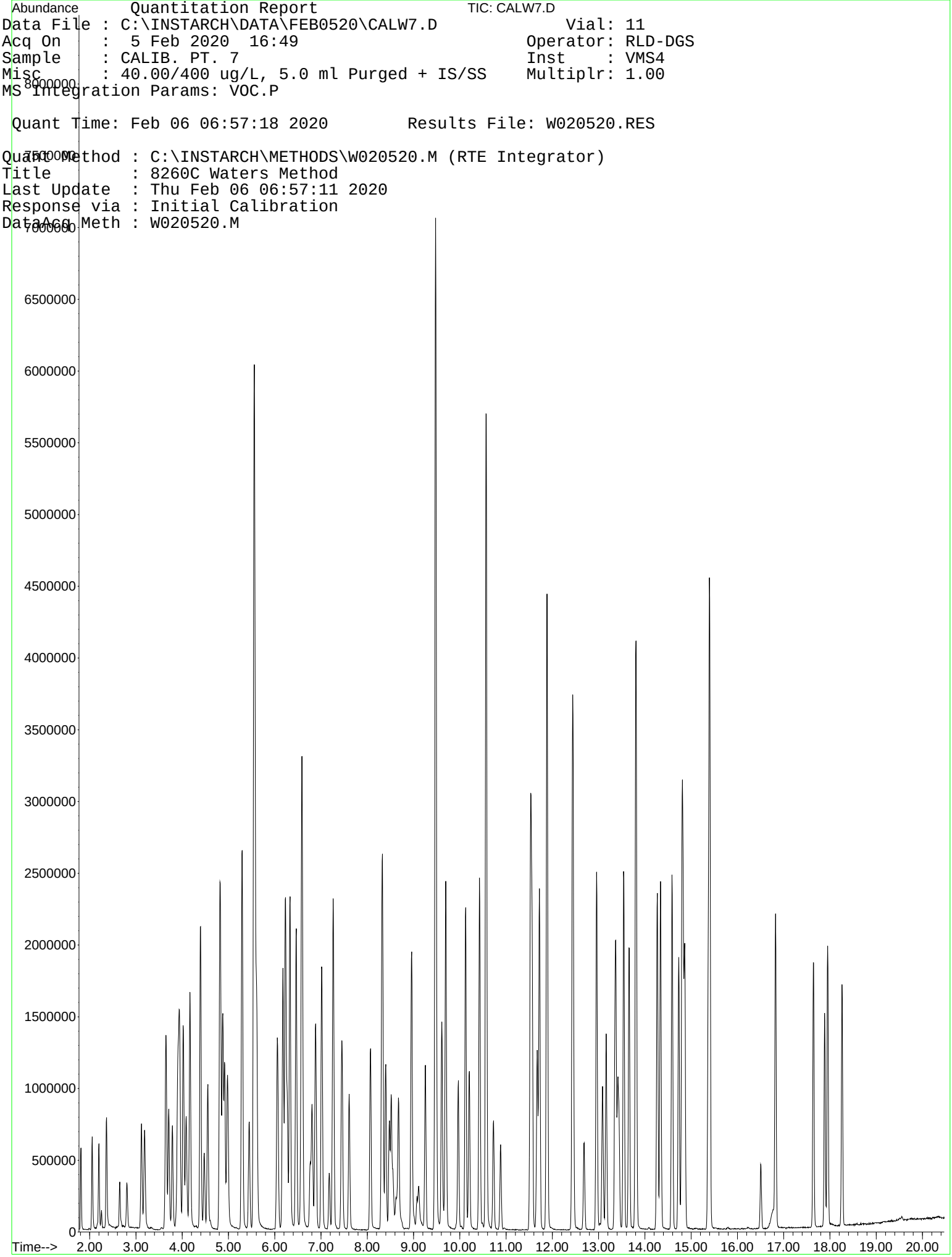
Data File : C:\INSTARCH\DATA\FEB0520\CALW7.D Vial: 11
Acq On : 5 Feb 2020 16:49 Operator: RLD-DGS
Sample : CALIB. PT. 7 Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:18 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:11 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	765293	31.8458	ug/L	98
103) Hexachlorobu	17.89	225	370910	33.2072	ug/L	98
104) Naphthalene	17.95	128	1868544	29.9519	ug/L	100
105) 123Trichlben	18.26	180	697429	31.3067	ug/L	98

(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: CALW7.D
Data File : C:\INSTARCH\DATA\FEB0520\CALW7.D
Vial: 11
Acq On : 5 Feb 2020 16:49
Operator: RLD-DGS
Sample : CALIB. PT. 7
Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Feb 06 06:57:18 2020
Results File: W020520.RES
Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:11 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
8000000
7500000
7000000
6500000
6000000
5500000
5000000
4500000
4000000
3500000
3000000
2500000
2000000
1500000
1000000
500000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW8.D Vial: 12
Acq On : 5 Feb 2020 17:18 Operator: RLD-DGS
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:32 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:26 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	997433	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1118263	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	686803	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	295421	20.257	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 101	%		
45) SURR12DCAd4	7.18	102	66358	20.271	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
61) SURRd8Tolule	9.61	98	1195726	20.230	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.16	95	543943	20.085	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	596973	42.7037	ug/L	99
3) Chloromethan	2.05	50	870781	37.4274	ug/L	96
4) VinylChlorid	2.20	62	740213	42.3323	ug/L	99
5) Bromomethane	2.65	94	264331	37.0709	ug/L	98
6) Chloroethane	2.80	64	395233	39.8930	ug/L	100
7) Dichloroflmethane	3.12	67	1129552	38.8066	ug/L	98
8) Trichlorofma	3.19	101	945085	43.4338	ug/L	100
9) Ethylether	3.65	59	605864	40.1764	ug/L	99
10) dichlorotfluoroethan	3.65	67	725928	42.5654	ug/L	99
11) propyleneoxide	3.71	58	1145819	489.0511	ug/L	98
12) Acrolein	3.79	56	972694	192.7989	ug/L	100
13) 11dichlorthe	3.90	96	589977	42.0093	ug/L	98
14) Trichlorotfluoroeth	3.94	101	1184687	88.4798	ug/L	97
15) Acetone	4.03	43	2769305	357.7628	ug/L	99
16) Iodomethane	4.09	127	548788	102.7741	ug/L	96
17) Carbon Dislf	4.17	76	3484846	81.0607	ug/L	100
18) allylchloride	4.40	41	2252378	76.0061	ug/L	98
19) methylacetate	4.48	74	214310	39.2774	ug/L	94
20) Methylchlorid	4.55	84	665902	32.7229	ug/L	99
21) tbutylalcohol	4.82	59	5190481	1856.6939	ug/L	99
22) Acrylonitrile	4.88	53	1785993	196.2367	ug/L	99
23) t12dichlorte	4.92	96	624820	39.5489	ug/L	98
24) MtBE	4.98	73	1779399	39.1347	ug/L	97
25) Hexane	5.30	57	2115819	88.9438	ug/L	100
26) 11dichlorota	5.45	63	1155435	38.2381	ug/L	98
27) Vinylacetate	5.55	43	12008666	296.4568	ug/L	92
28) chloroprene	5.57	53	1824407	79.6327	ug/L	99
29) Diisopether	5.61	45	2348755	37.1010	ug/L	90
30) ETBE	6.06	59	1980356	39.4331	ug/L	99
31) 22dichloropr	6.18	77	816862	36.9476	ug/L	98
32) c12dichlorte	6.18	96	701678	38.6379	ug/L	99
33) 2Butanone	6.23	72	1100033	386.4624	ug/L	99
34) propionitrile	6.27	54	1385056	376.8823	ug/L	99
35) Ethylacetate	6.33	88	150407	191.5509	ug/L	96
36) methacrylonitrile	6.46	67	715137	78.3986	ug/L	100
37) Bromochlorma	6.46	128	320251	38.3027	ug/L	94
38) Tetrahydofur	6.59	42	2960597	367.2891	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW8.D Vial: 12
Acq On : 5 Feb 2020 17:18 Operator: RLD-DGS
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:32 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:26 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.57	83	1071447	38.6166	ug/L	100
40)	111trichlota	6.81	97	899896	40.7673	ug/L	99
42)	Cyclohexane	6.88	56	1163142	43.5228	ug/L	100
43)	Carbtetraclo	7.02	119	782525	43.3323	ug/L	97
44)	11dicloprope	7.01	110	310459	40.9179	ug/L	96
46)	Benzene	7.26	78	2459241	37.4114	ug/L	99
47)	12dichlorota	7.27	62	767289	39.9181	ug/L	98
48)	TAME	7.45	73	1811571	39.5243	ug/L	99
49)	trichloroete	8.06	95	662410	39.3925	ug/L	98
50)	methylcyclohexane	8.32	83	1272445	45.4449	ug/L	98
51)	12dicloropra	8.33	63	743430	40.2092	ug/L	95
52)	23Dicl1propene	8.40	75	1046972	39.6697	ug/L	99
53)	Dibromometha	8.48	93	421713	40.0547	ug/L	100
54)	methylmethacrylate	8.52	69	584417	41.1228	ug/L	98
55)	14dioxane	8.56	88	553438	1942.6161	ug/L	98
56)	Bromodiclrma	8.67	83	826343	40.0770	ug/L	99
57)	2Nitropropane	8.96	43	2301873	432.0638	ug/L	98
58)	2CLEVE	9.07	63	189043	479.9049	ug/L	99
59)	c13dicloproe	9.26	75	1091161	40.7643	ug/L	99
60)	4Meth2Pentan	9.48	43	7678479	336.2442	ug/L	92
62)	Toluene	9.70	92	1661805	38.5583	ug/L	95
63)	t13Dicloprop	9.97	75	924114	41.4034	ug/L	98
64)	ethylmethacrylate	10.13	69	1930877	80.4949	ug/L	99
65)	112Triclotha	10.21	83	517191	38.6090	ug/L	96
66)	Tetrachlorte	10.43	166	761299	40.7559	ug/L	98
67)	13Diclorpropa	10.43	76	1005878	39.7373	ug/L	100
69)	2Hexanone	10.57	43	6175762	342.0039	ug/L	95
70)	Clorodibrmta	10.73	129	681371	40.5818	ug/L	98
71)	12Dibrometha	10.88	107	662827	40.3844	ug/L	96
72)	Chlorobenzen	11.56	112	1792757	37.4978	ug/L	98
73)	1Clhexane	11.54	91	998296	40.3549	ug/L	96
74)	1112Tetclota	11.67	131	636764	39.6770	ug/L	99
75)	Ethylbenzene	11.72	91	2931982	37.9611	ug/L	98
76)	m p-Xylene	11.89	106	2276455	76.2321	ug/L	98
77)	o-Xylene	12.43	106	1133186	39.1455	ug/L	98
78)	Styrene	12.45	104	1887262	39.4953	ug/L	98
79)	Bromoform	12.69	173	547105	43.3468	ug/L	100
80)	Isopropylben	12.96	105	2892956	39.4997	ug/L	99
81)	cyclohexanone	13.08	55	791733	740.3569	ug/L	96
84)	Bromobenzene	13.38	156	806462	38.7539	ug/L	99
85)	1122Tetrclta	13.35	83	991341	39.4836	ug/L	100
86)	123Triclproa	13.41	75	1144499	40.9274	ug/L	96
87)	14dichloro2butene	13.44	53	227589	43.8885	ug/L	96
88)	n-Propylbenz	13.55	91	3496984	38.3064	ug/L	98
89)	2chlorotolue	13.66	91	1961181	37.3330	ug/L	100
90)	4chlorotolue	13.81	91	2230204	37.8234	ug/L	99
91)	135Trimebenz	13.80	105	2343035	39.9027	ug/L	99
92)	tbutylbenzen	14.27	119	2060226	39.8456	ug/L	99
93)	124Trimetben	14.34	105	2348001	38.8550	ug/L	99
94)	sbutylbenzen	14.59	105	3129215	40.3893	ug/L	98
95)	13Diclorbenz	14.73	146	1456590	38.7791	ug/L	99
96)	pIsopropylto	14.81	119	2570383	40.8516	ug/L	99
97)	14dichlorobe	14.86	146	1454691	38.5878	ug/L	97
98)	12dichlorobe	15.40	146	1378003	39.0321	ug/L	97
99)	nButylbenzen	15.40	91	2503865	40.2564	ug/L	99
100)	12dibromo3cl	16.51	157	244757	43.5232	ug/L	97
101)	135Trichlorobenzene	16.83	180	1270103	42.5468	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW8.D Vial: 12
Acq On : 5 Feb 2020 17:18 Operator: RLD-DGS
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:32 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:26 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.64	180	1048416	42.4565	ug/L	98
103) Hexachlorobu	17.88	225	524291	45.3878	ug/L	98
104) Naphthalene	17.95	128	2540652	39.9901	ug/L	100
105) 123Trichlben	18.26	180	967996	42.3938	ug/L	100

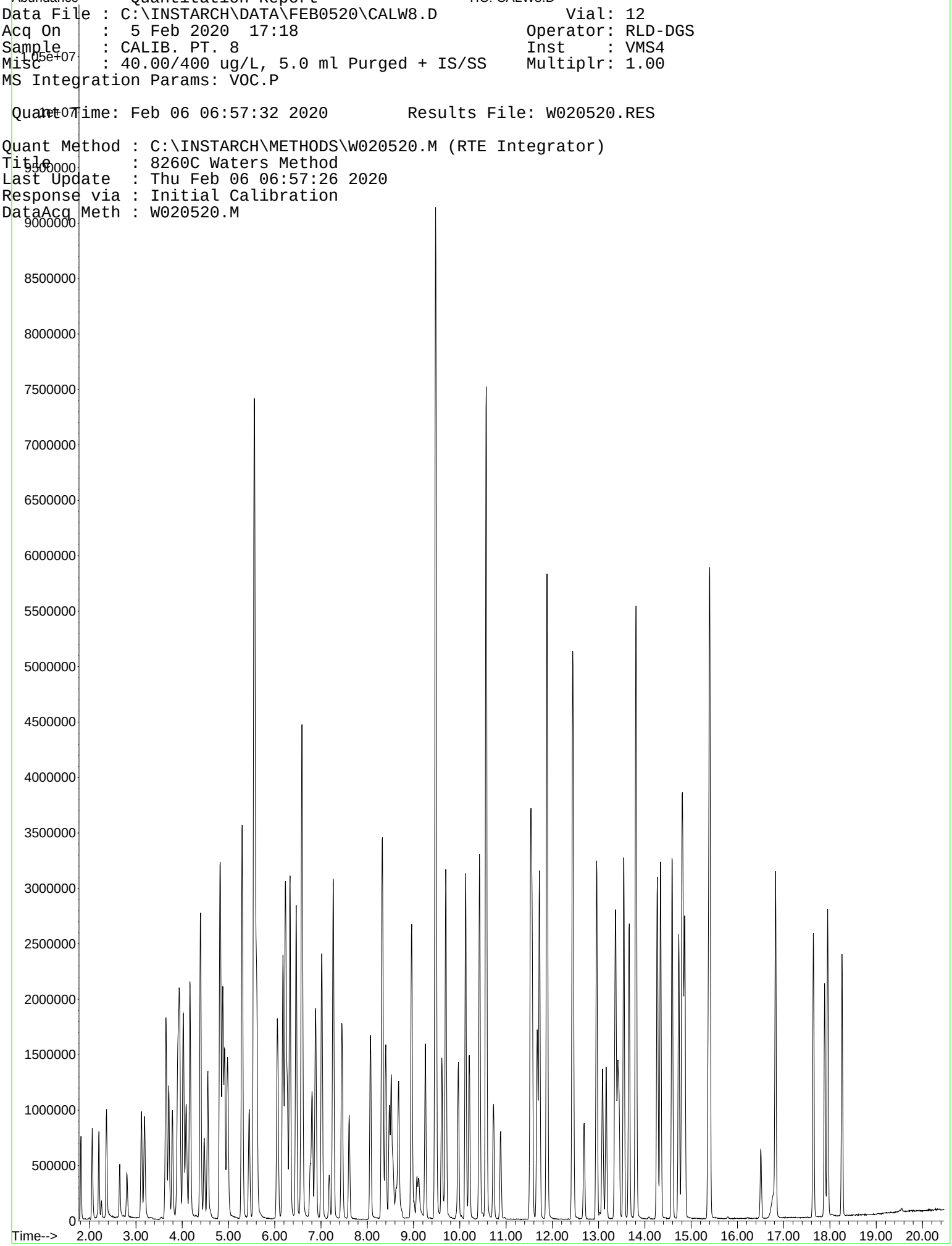
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW8.D

Data File : C:\INSTARCH\DATA\FEB0520\CALW8.D Vial: 12
Acq On : 5 Feb 2020 17:18 Operator: RLD-DGS
Sample : CALIB. PT. 8 Inst : VMS4
Misc : 40.00/400 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:32 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:26 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW9.D Vial: 13
Acq On : 5 Feb 2020 17:47 Operator: RLD-DGS
Sample : CALIB. PT. 9 Inst : VMS4
Misc : 80.00/800 ug/L, 25.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:47 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:41 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	1007803	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1138944	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	712838	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.77	113	295312	20.009	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	68969	20.817	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
61) SURRd8Tolule	9.61	98	1205415	20.155	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 101	%		
83) SURR4BrFBenz	13.16	95	547545	19.469	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	1252528	87.9330	ug/L	98
3) Chloromethan	2.05	50	1756463	75.3240	ug/L	97
4) VinylChlorid	2.20	62	1519121	85.3614	ug/L	98
5) Bromomethane	2.65	94	576792	80.9058	ug/L	98
6) Chloroethane	2.80	64	785815	78.5305	ug/L	100
7) Dichloroflmethane	3.12	67	2280134	77.8199	ug/L	98
8) Trichlorofma	3.19	101	1925945	86.6709	ug/L	99
9) Ethylether	3.65	59	1217571	79.8655	ug/L	98
10) dichlorotfluoroethan	3.64	67	1429727	82.3108	ug/L	97
11) propyleneoxide	3.71	58	2391948	979.2664	ug/L	99
12) Acrolein	3.79	56	1933067	381.1737	ug/L	97
13) 11dichlorthe	3.90	96	1206315	84.4814	ug/L	100
14) Trichlorotfluoroeth	3.94	101	2364453	172.4896	ug/L	96
15) Acetone	4.03	43	5191060	672.6033	ug/L	98
16) Iodomethane	4.09	127	1186030	211.2373	ug/L	94
17) Carbon Dislf	4.17	76	6585343	151.3540	ug/L	97
18) allylchloride	4.40	41	4340729	145.8802	ug/L	96
19) methylacetate	4.48	74	426935	77.6412	ug/L	92
20) Methylchlorid	4.55	84	1326253	66.0033	ug/L	98
21) tbutylalcohol	4.82	59	9397532	3357.0819	ug/L	97
22) Acrylonitrile	4.88	53	3456481	376.8875	ug/L	97
23) t12dichlorte	4.92	96	1259216	78.9951	ug/L	98
24) MtBE	4.98	73	3524237	76.9197	ug/L	96
25) Hexane	5.30	57	4210794	172.7755	ug/L	99
26) 11dichlorota	5.45	63	2300236	75.7581	ug/L	99
27) Vinylacetate	5.55	43	17090135	431.5242	ug/L	81
28) chloroprene	5.57	53	3580507	154.7646	ug/L	100
29) Diisopether	5.61	45	4475825	70.6124	ug/L	87
30) ETBE	6.06	59	3882151	76.6423	ug/L	97
31) 22dichloropr	6.18	77	1633289	73.8195	ug/L	98
32) c12dichlorte	6.18	96	1421223	77.7854	ug/L	99
33) 2Butanone	6.23	72	2182818	762.6618	ug/L	99
34) propionitrile	6.27	54	2721977	739.1482	ug/L	99
35) Ethylacetate	6.33	88	300873	381.5368	ug/L	96
36) methacrylonitrile	6.46	67	1442330	156.9407	ug/L	96
37) Bromochlorma	6.47	128	614331	73.1070	ug/L	95
38) Tetrahydofur	6.59	42	5572935	691.3263	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW9.D Vial: 13
Acq On : 5 Feb 2020 17:47 Operator: RLD-DGS
Sample : CALIB. PT. 9 Inst : VMS4
Misc : 80.00/800 ug/L, 25.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:47 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:41 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.57	83	2139977	76.6659	ug/L	99
40)	111trichlota	6.81	97	1828158	81.7714	ug/L	100
42)	Cyclohexane	6.88	56	2375729	87.0231	ug/L	99
43)	Carbtetraclo	7.02	119	1617517	87.7346	ug/L	98
44)	11dicloprope	7.01	110	639922	83.1998	ug/L	98
46)	Benzene	7.26	78	4802293	72.8932	ug/L	99
47)	12dichlorota	7.27	62	1519148	78.2403	ug/L	97
48)	TAME	7.45	73	3640879	78.7352	ug/L	99
49)	trichloroete	8.07	95	1341019	79.0778	ug/L	97
50)	methylcyclohexane	8.32	83	2625161	91.2395	ug/L	98
51)	12dicloropra	8.33	63	1495413	79.9964	ug/L	96
52)	23Dicl1propene	8.40	75	2119386	79.5709	ug/L	99
53)	Dibromometha	8.48	93	863233	81.1311	ug/L	98
54)	methylmethacrylate	8.51	69	1180311	81.8703	ug/L	98
55)	14dioxane	8.56	88	1086964	3791.6218	ug/L	97
56)	Bromodiclrma	8.67	83	1676909	80.4725	ug/L	99
57)	2Nitropropane	8.96	43	4535525	834.2039	ug/L	98
58)	2CLEVE	9.07	63	597477	1251.0284	ug/L	98
59)	c13dicloproe	9.26	75	2183369	80.5361	ug/L	97
60)	4Meth2Pentan	9.48	43	11974997	529.5454	ug/L	78
62)	Toluene	9.70	92	3349233	77.2595	ug/L	89
63)	t13Dicloprop	9.97	75	1914928	84.5415	ug/L	97
64)	ethylmethacrylate	10.13	69	3820851	157.5064	ug/L	98
65)	112Triclotha	10.21	83	1071804	79.5837	ug/L	98
66)	Tetrachlorte	10.43	166	1546827	81.7638	ug/L	97
67)	13Diclorpropa	10.43	76	2028982	79.3956	ug/L	98
69)	2Hexanone	10.57	43	10109407	559.8234	ug/L	85
70)	Clorodibrmta	10.73	129	1422523	83.0347	ug/L	99
71)	12Dibrometha	10.88	107	1353195	80.8526	ug/L	96
72)	Chlorobenzen	11.56	112	3590710	74.3216	ug/L	98
73)	1Clhexane	11.54	91	2057112	81.5558	ug/L	95
74)	1112Tetclota	11.67	131	1311418	80.3238	ug/L	99
75)	Ethylbenzene	11.72	91	5651602	72.3048	ug/L	94
76)	m p-Xylene	11.89	106	4534684	149.9794	ug/L	87
77)	o-Xylene	12.43	106	2339704	79.5691	ug/L	92
78)	Styrene	12.45	104	3810918	78.4278	ug/L	97
79)	Bromoform	12.69	173	1165002	89.5559	ug/L	99
80)	Isopropylben	12.96	105	5603696	75.2399	ug/L	96
81)	cyclohexanone	13.08	55	1575554	1462.1353	ug/L	96
84)	Bromobenzene	13.37	156	1656479	76.9933	ug/L	99
85)	1122Tetrclta	13.36	83	1962977	75.4486	ug/L	99
86)	123Triclproa	13.42	75	2363296	81.1563	ug/L	96
87)	14dichloro2butene	13.44	53	498162	91.2897	ug/L	96
88)	n-Propylbenz	13.55	91	6576989	69.7831	ug/L	94
89)	2chlorotolue	13.66	91	3870420	71.5829	ug/L	97
90)	4chlorotolue	13.81	91	4435460	72.9726	ug/L	96
91)	135Trimebenz	13.80	105	4630204	75.9972	ug/L	97
92)	tbutylbenzen	14.27	119	4130761	77.0099	ug/L	98
93)	124Trimetben	14.34	105	4635284	74.1692	ug/L	96
94)	sbutylbenzen	14.59	105	6066147	75.3454	ug/L	96
95)	13Diclorbenz	14.73	146	2962875	76.2912	ug/L	99
96)	pIsopropylto	14.81	119	5062989	77.3224	ug/L	96
97)	14dichlorobe	14.86	146	2955449	75.8691	ug/L	98
98)	12dichlorobe	15.40	146	2794049	76.4826	ug/L	99
99)	nButylbenzen	15.40	91	4960340	76.7766	ug/L	95
100)	12dibromo3cl	16.51	157	528089	89.3519	ug/L	96
101)	135Trichlorobenzene	16.83	180	2617987	83.8290	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\CALW9.D Vial: 13
Acq On : 5 Feb 2020 17:47 Operator: RLD-DGS
Sample : CALIB. PT. 9 Inst : VMS4
Misc : 80.00/800 ug/L, 25.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:47 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:41 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	2164657	83.8146	ug/L	99
103) Hexachlorobu	17.89	225	1092870	89.6449	ug/L	98
104) Naphthalene	17.95	128	4944890	74.9926	ug/L	98
105) 123Trichlben	18.26	180	1968046	82.4269	ug/L	98

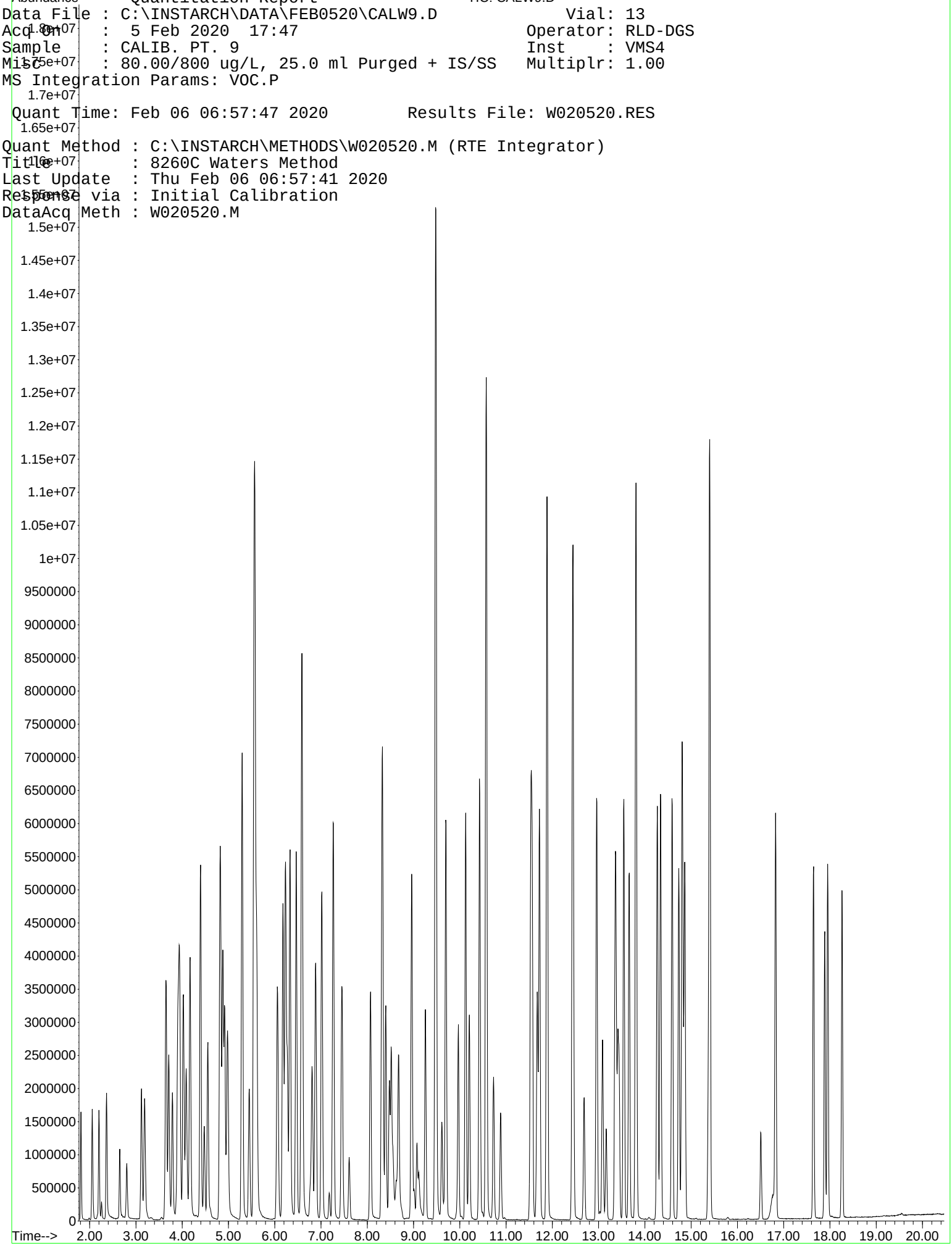
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CALW9.D

Data File : C:\INSTARCH\DATA\FEB0520\CALW9.D Vial: 13
Acq On : 5 Feb 2020 17:47 Operator: RLD-DGS
Sample : CALIB. PT. 9 Inst : VMS4
Misc : 80.00/800 ug/L, 25.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 06:57:47 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 06:57:41 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0520\ICV1.D Vial: 15
Acq On : 5 Feb 2020 18:44 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 06 07:10:07 2020

Quant Method : C:\INSTARCH\METHODS\W020520.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020520.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	105	0.00
2	PT	Dichlorodi	0.2863	0.3062	-6.95	125	0.00
3	PT	Chloromethan	0.4598	0.4677	-1.72	106	0.00
4	PT	VinylChlorid	0.3558	0.3877	-8.97	117	0.00
5	PT	Bromomethane	0.1287	0.1330	-3.34	121	0.00
6	PT	Chloroethane	0.1981	0.2095	-5.75	110	0.00
7	T	Dichloroflmethane	0.5797	0.5501	5.11	97	0.00
8	PT	Trichlorofma	0.4451	0.4871	-9.44	119	0.00
9	T	Ethylether	0.3025	0.2898	4.20	96	0.00
10	T	dichlorotfluoroethan	0.3458	0.3395	1.82	106	0.00
11	T	propyleneoxide	0.0498	0.0510	-2.41	106	0.00
12	T	Acrolein	0.1000	0.0984	1.60	98	0.00
13	PT	11dichlorthe	0.2851	0.3123	-9.54	112	0.00
14	PT	Trichlorotfluoroeth	0.2744	0.2698	1.68	105	0.00
15	PT	Acetone	0.1505	0.1420	5.65	96	0.00
16	T	Iodomethane	0.1169	0.0995	14.88	91	0.00
17	PT	Carbon Dislf	0.8583	0.8841	-3.01	103	0.00
18	T	allylchloride	0.5847	0.5604	4.16	96	0.00
19	PT	methylacetate	0.1087	0.1049	3.50	99	0.00
20	PT	Methylchlorid	0.3910	0.3636	7.01	105	0.00
21	T	tbutylalcohol	0.0546	0.0556	-1.83	98	0.00
22	T	Acrylonitrile	0.1807	0.1709	5.42	90	0.00
23	PT	t12dichlorte	0.3159	0.3403	-7.72	110	0.00
24	PT	MtBE	0.9054	0.8865	2.09	98	0.00
25	T	Hexane	0.4879	0.5160	-5.76	113	0.00
26	PT	11dichlorota	0.5990	0.6075	-1.42	101	0.00
27	T	Vinylacetate	0.7859	0.8206	-4.42	101	0.00
28	T	chloroprene	0.4575	0.4687	-2.45	106	0.00
29	T	Diisopether	1.2415	1.1767	5.22	96	0.00
30	T	ETBE	1.0005	0.9716	2.89	97	0.00
31	T	22dichloropr	0.4353	0.4321	0.74	108	0.00
32	PT	c12dichlorte	0.3615	0.3808	-5.34	106	0.00
33	PT	2Butanone	0.0565	0.0564#	0.18	99	0.00
34	T	propionitrile	0.0724	0.0713	1.52	98	0.00
35	T	Ethylacetate	0.0156	0.0162#	-3.85	100	0.00
36	T	methacrylonitrile	0.1819	0.1805	0.77	97	0.00
37	T	Bromochlorma	0.1652	0.1774	-7.38	106	0.00
38	T	Tetrahydofur	0.1576	0.1509	4.25	94	0.00
39	PT	Chloroform	0.5514	0.5724	-3.81	106	0.00
40	PT	111trichlota	0.4448	0.4701	-5.69	109	0.00
41	S	SURRDibrflma	0.2929	0.2904	0.85	105	0.00
42	PT	Cyclohexane	0.5471	0.5563	-1.68	111	0.00
43	PT	Carbtetraclo	0.3698	0.4069	-10.03	115	0.00
44	T	11dicloprope	0.1534	0.1585	-3.32	106	0.00
45	S	SURR12DCAd4	0.0660	0.0660	0.00	104	0.00
46	PT	Benzene	1.2945	1.3376	-3.33	105	0.00
47	PT	12dichlorota	0.3844	0.3982	-3.59	102	0.00
48	T	TAME	0.9161	0.8732	4.68	98	0.00

49	PT	trichloroete	0.3361	0.3541	-5.36	108	0.00
50	PT	methylcyclohexane	0.5799	0.6184	-6.64	116	0.00
51	PT	12dicloropra	0.3710	0.3940	-6.20	104	0.00
52	T	23Dicl1propene	0.5282	0.5125	2.97	99	0.00
53	T	Dibromometha	0.2115	0.2232	-5.53	107	0.00
54	T	methylmethacrylate	0.2869	0.2755	3.97	97	0.00
55	T	14dioxane	0.0057	0.0055#	3.51	97	0.00
56	PT	Bromodiclrma	0.4138	0.4284	-3.53	107	0.00
57	T	2Nitropropane	0.1084	0.1119	-3.23	101	0.00
58	T	2CLEVE	0.0120	0.0102#	15.00	121	0.00
59	PT	c13dicloproe	0.5384	0.5666	-5.24	106	0.00
60	PT	4Meth2Pentan	0.4319	0.4486	-3.87	98	0.00
61	S	SURRd8Tolule	1.1879	1.1738	1.19	103	0.00
62	PT	Toluene	0.8570	0.8949	-4.42	107	0.00
63	PT	t13Dicloprop	0.4523	0.4782	-5.73	108	0.00
64	T	ethylmethacrylate	0.4805	0.4729	1.58	100	0.00
65	PT	112Triclotha	0.2671	0.2738	-2.51	103	0.00
66	PT	Tetrachlorte	0.3764	0.4011	-6.56	114	0.00
67	T	13Diclorpropa	0.5067	0.5324	-5.07	109	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	105	0.00
69	PT	2Hexanone	0.3065	0.3167	-3.33	98	0.00
70	PT	Clorodibrmta	0.3021	0.3113	-3.05	109	0.00
71	PT	12Dibrometha	0.2942	0.3127	-6.29	110	0.00
72	PT	Chlorobenzen	0.8417	0.8818	-4.76	106	0.00
73	T	1Clhexane	0.4439	0.4490	-1.15	111	0.00
74	T	1112Tetclota	0.2868	0.2966	-3.42	108	0.00
75	PT	Ethylbenzene	1.3579	1.4741	-8.56	108	0.00
76	PT	m p-Xylene	0.5272	0.5620	-6.60	107	0.00
77	PT	o-Xylene	0.5160	0.5636	-9.22	109	0.00
78	PT	Styrene	0.8514	0.9046	-6.25	105	0.00
79	PT	Bromoform	0.2318	0.2536	-9.40	114	0.00
80	PT	Isopropylben	1.2992	1.4468	-11.36	113	0.00
81	T	cyclohexanone	0.0187	0.0186#	0.53	97	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	107	0.00
83	S	SURR4BrFBenz	0.7867	0.7803	0.81	104	0.00
84	T	Bromobenzene	0.6011	0.6311	-4.99	109	0.00
85	PT	1122Tetrclta	0.7254	0.7707	-6.24	110	0.00
86	T	123Triclproa	0.8185	0.8625	-5.38	108	0.00
87	T	14dichloro2butene	0.1558	0.1522	2.31	107	0.00
88	T	n-Propylbenz	2.6068	2.8293	-8.54	111	0.00
89	T	2chlorotolue	1.4993	1.5918	-6.17	109	0.00
90	T	4chlorotolue	1.6887	1.8151	-7.49	109	0.00
91	T	135Trimebenz	1.6999	1.8503	-8.85	110	0.00
92	T	tbutylbenzen	1.4987	1.6599	-10.76	115	0.00
93	T	124Trimetben	1.7392	1.8924	-8.81	110	0.00
94	T	sbutylbenzen	2.2443	2.5398	-13.17	117	0.00
95	PT	13Diclorbenz	1.0840	1.1696	-7.90	113	0.00
96	T	pIsopropylto	1.8303	2.0326	-11.05	112	0.00
97	PT	14dichlorobe	1.0867	1.1512	-5.94	110	0.00
98	PT	12dichlorobe	1.0200	1.0524	-3.18	108	0.00
99	T	nButylbenzen	1.8046	1.9759	-9.49	115	0.00
100	PT	12dibromo3cl	0.1682	0.1881	-11.83	115	0.00
101	T	135Trichlorobenzene	0.8809	0.9101	-3.31	105	0.00
102	PT	124Trichlobe	0.7285	0.8120	-11.46	118	0.00
103	T	Hexachlorobu	0.3466	0.3772	-8.83	116	0.00
104	T	Naphthalene	1.8372	2.0425	-11.17	112	0.00
105	T	123Trichlben	0.6722	0.7517	-11.83	116	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W020520.M Tue Feb 11 13:43:01 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0520\ICV1.D Vial: 15
Acq On : 5 Feb 2020 18:44 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 06 07:10:07 2020

Quant Method : C:\INSTARCH\METHODS\W020520.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020520.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	105	0.00
2	PT	Dichlorodi	10.0000	10.6940	-6.94	125	0.00
3	PT	Chloromethan	10.0000	10.1720	-1.72	106	0.00
4	PT	VinylChlorid	10.0000	10.8966	-8.97	117	0.00
5	PT	Bromomethane	10.0000	10.3317	-3.32	121	0.00
6	PT	Chloroethane	10.0000	10.5741	-5.74	110	0.00
7	T	Dichloroflmethane	10.0000	9.4899	5.10	97	0.00
8	PT	Trichlorofma	10.0000	10.9448	-9.45	119	0.00
9	T	Ethylether	10.0000	9.5813	4.19	96	0.00
10	T	dichlorotfluoroethan	10.0000	9.8182	1.82	106	0.00
11	T	propyleneoxide	100.0000	102.2719	-2.27	106	0.00
12	T	Acrolein	50.0000	49.1674	1.67	98	0.00
13	PT	11dichlorthe	10.0000	10.9533	-9.53	112	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.6637	1.68	105	0.00
15	PT	Acetone	100.0000	94.3958	5.60	96	0.00
16	T	Iodomethane	20.0000	16.4885	17.56	91	0.00
17	PT	Carbon Dislf	20.0000	20.6018	-3.01	103	0.00
18	T	allylchloride	20.0000	19.1679	4.16	96	0.00
19	PT	methylacetate	10.0000	9.6483	3.52	99	0.00
20	PT	Methylchlorid	10.0000	10.2294	-2.29	105	0.00
21	T	tbutylalcohol	500.0000	509.2100	-1.84	98	0.00
22	T	Acrylonitrile	50.0000	47.2837	5.43	90	0.00
23	PT	t12dichlorte	10.0000	10.7721	-7.72	110	0.00
24	PT	MtBE	10.0000	9.7916	2.08	98	0.00
25	T	Hexane	20.0000	21.1494	-5.75	113	0.00
26	PT	11dichlorota	10.0000	10.1422	-1.42	101	0.00
27	T	Vinylacetate	100.0000	104.4050	-4.41	101	0.00
28	T	chloroprene	20.0000	20.4909	-2.45	106	0.00
29	T	Diisopether	10.0000	9.4779	5.22	96	0.00
30	T	ETBE	10.0000	9.7113	2.89	97	0.00
31	T	22dichloropr	10.0000	9.9251	0.75	108	0.00
32	PT	c12dichlorte	10.0000	10.5349	-5.35	106	0.00
33	PT	2Butanone	100.0000	99.7921	0.21	99	0.00
34	T	propionitrile	100.0000	98.5401	1.46	98	0.00
35	T	Ethylacetate	50.0000	51.9145	-3.83	100	0.00
36	T	methacrylonitrile	20.0000	19.8389	0.81	97	0.00
37	T	Bromochlorma	10.0000	10.7400	-7.40	106	0.00
38	T	Tetrahydofur	100.0000	95.7699	4.23	94	0.00
39	PT	Chloroform	10.0000	10.3810	-3.81	106	0.00
40	PT	111trichlota	10.0000	10.5695	-5.69	109	0.00
41	S	SURRDibrflma	20.0000	19.8287	0.86	105	0.00
42	PT	Cyclohexane	10.0000	10.1683	-1.68	111	0.00
43	PT	Carbtetraclo	10.0000	11.0031	-10.03	115	0.00
44	T	11dicloprope	10.0000	10.3303	-3.30	106	0.00
45	S	SURR12DCAd4	20.0000	19.9725	0.14	104	0.00
46	PT	Benzene	10.0000	10.3331	-3.33	105	0.00
47	PT	12dichlorota	10.0000	10.3584	-3.58	102	0.00
48	T	TAME	10.0000	9.5323	4.68	98	0.00

49	PT	trichloroete	10.0000	10.5360	-5.36	108	0.00
50	PT	methylcyclohexane	10.0000	10.6631	-6.63	116	0.00
51	PT	12dicloropra	10.0000	10.6197	-6.20	104	0.00
52	T	23Dicl1propene	10.0000	9.7014	2.99	99	0.00
53	T	Dibromometha	10.0000	10.5525	-5.53	107	0.00
54	T	methylmethacrylate	10.0000	9.5998	4.00	97	0.00
55	T	14dioxane	500.0000	488.1624	2.37	97	0.00
56	PT	Bromodiclrma	10.0000	10.3535	-3.54	107	0.00
57	T	2Nitropropane	100.0000	103.2184	-3.22	101	0.00
58	T	2CLEVE	50.0000	56.8863	-13.77	121	0.00
59	PT	c13dicloproe	10.0000	10.5236	-5.24	106	0.00
60	PT	4Meth2Pentan	100.0000	103.8582	-3.86	98	0.00
61	S	SURRd8Tolule	20.0000	19.7619	1.19	103	0.00
62	PT	Toluene	10.0000	10.4418	-4.42	107	0.00
63	PT	t13Dicloprop	10.0000	10.5726	-5.73	108	0.00
64	T	ethylmethacrylate	20.0000	19.6835	1.58	100	0.00
65	PT	112Triclotha	10.0000	10.2495	-2.49	103	0.00
66	PT	Tetrachlorte	10.0000	10.6566	-6.57	114	0.00
67	T	13Diclorpropa	10.0000	10.5077	-5.08	109	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	105	0.00
69	PT	2Hexanone	100.0000	103.3253	-3.33	98	0.00
70	PT	Clorodibrmta	10.0000	10.3055	-3.06	109	0.00
71	PT	12Dibrometha	10.0000	10.6258	-6.26	110	0.00
72	PT	Chlorobenzen	10.0000	10.4763	-4.76	106	0.00
73	T	1Clhexane	10.0000	10.1159	-1.16	111	0.00
74	T	1112Tetclota	10.0000	10.3396	-3.40	108	0.00
75	PT	Ethylbenzene	10.0000	10.8556	-8.56	108	0.00
76	PT	m p-Xylene	20.0000	21.3186	-6.59	107	0.00
77	PT	o-Xylene	10.0000	10.9225	-9.22	109	0.00
78	PT	Styrene	10.0000	10.6245	-6.24	105	0.00
79	PT	Bromoform	10.0000	10.9399	-9.40	114	0.00
80	PT	Isopropylben	10.0000	11.1365	-11.36	113	0.00
81	T	cyclohexanone	200.0000	198.7977	0.60	97	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	107	0.00
83	S	SURR4BrFBenz	20.0000	19.8350	0.82	104	0.00
84	T	Bromobenzene	10.0000	10.4991	-4.99	109	0.00
85	PT	1122Tetrclta	10.0000	10.6251	-6.25	110	0.00
86	T	123Triclproa	10.0000	10.5376	-5.38	108	0.00
87	T	14dichloro2butene	10.0000	9.7687	2.31	107	0.00
88	T	n-Propylbenz	10.0000	10.8535	-8.54	111	0.00
89	T	2chlorotolue	10.0000	10.6170	-6.17	109	0.00
90	T	4chlorotolue	10.0000	10.7482	-7.48	109	0.00
91	T	135Trimebenz	10.0000	10.8851	-8.85	110	0.00
92	T	tbutylbenzen	10.0000	11.0757	-10.76	115	0.00
93	T	124Trimetben	10.0000	10.8803	-8.80	110	0.00
94	T	sbutylbenzen	10.0000	11.3167	-13.17	117	0.00
95	PT	13Diclorbenz	10.0000	10.7893	-7.89	113	0.00
96	T	pIsopropylto	10.0000	11.1054	-11.05	112	0.00
97	PT	14dichlorobe	10.0000	10.5941	-5.94	110	0.00
98	PT	12dichlorobe	10.0000	10.3179	-3.18	108	0.00
99	T	nButylbenzen	10.0000	10.9493	-9.49	115	0.00
100	PT	12dibromo3cl	10.0000	11.1804	-11.80	115	0.00
101	T	135Trichlorobenzene	10.0000	10.3319	-3.32	105	0.00
102	PT	124Trichlobe	10.0000	11.1466	-11.47	118	0.00
103	T	Hexachlorobu	10.0000	10.8820	-8.82	116	0.00
104	T	Naphthalene	10.0000	11.1178	-11.18	112	0.00
105	T	123Trichlben	10.0000	11.1837	-11.84	116	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020520.M Tue Feb 11 13:43:19 2020

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICV1.D Vial: 15
Acq On : 5 Feb 2020 18:44 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:08:53 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	1017815	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1111693	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	686012	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	295575	19.829	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 99	%		
45) SURR12DCAd4	7.18	102	67132	19.972	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
61) SURRd8Tolule	9.61	98	1194682	19.762	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 99	%		
83) SURR4BrFBenz	13.16	95	535261	19.835	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	155815	10.6940	ug/L	97
3) Chloromethan	2.05	50	237999	10.1720	ug/L	97
4) VinylChlorid	2.20	62	197304	10.8966	ug/L	100
5) Bromomethane	2.65	94	67669	10.3317	ug/L	96
6) Chloroethane	2.81	64	106615	10.5741	ug/L	97
7) Dichloroflmethane	3.12	67	279967	9.4899	ug/L	96
8) Trichlorofma	3.19	101	247900	10.9448	ug/L	100
9) Ethylether	3.65	59	147493	9.5813	ug/L	99
10) dichlorotfluoroethan	3.64	67	172787	9.8182	ug/L	98
11) propyleneoxide	3.71	58	259357	102.2719	ug/L	99
12) Acrolein	3.79	56	250341	49.1674	ug/L	97
13) 11dichlorthe	3.90	96	158940	10.9533	ug/L	98
14) Trichlorotfluoroeth	3.94	101	274585	19.6637	ug/L	97
15) Acetone	4.03	43	722753	94.3958	ug/L	99
16) Iodomethane	4.09	127	101232	16.4885	ug/L #	96
17) Carbon Dislf	4.17	76	899844	20.6018	ug/L	99
18) allylchloride	4.40	41	570368	19.1679	ug/L	98
19) methylacetate	4.48	74	53384	9.6483	ug/L	95
20) Methylchlorid	4.55	84	185053	10.2294	ug/L	98
21) tbutylalcohol	4.82	59	1413891	509.2100	ug/L	100
22) Acrylonitrile	4.88	53	434789	47.2837	ug/L	96
23) t12dichlorte	4.92	96	173175	10.7721	ug/L	97
24) MtBE	4.98	73	451140	9.7916	ug/L	100
25) Hexane	5.29	57	525182	21.1494	ug/L	98
26) 11dichlorota	5.45	63	309175	10.1422	ug/L	99
27) Vinylacetate	5.55	43	4175944	104.4050	ug/L	100
28) chloroprene	5.58	53	477030	20.4909	ug/L	99
29) Diisopether	5.61	45	598819	9.4779	ug/L	88
30) ETBE	6.06	59	494477	9.7113	ug/L	99
31) 22dichloropr	6.18	77	219875	9.9251	ug/L	99
32) c12dichlorte	6.18	96	193799	10.5349	ug/L	99
33) 2Butanone	6.23	72	286770	99.7921	ug/L	96
34) propionitrile	6.27	54	363003	98.5401	ug/L	99
35) Ethylacetate	6.32	88	41107	51.9145	ug/L #	94
36) methacrylonitrile	6.46	67	183696	19.8389	ug/L	98
37) Bromochlorma	6.47	128	90274	10.7400	ug/L	93
38) Tetrahydofur	6.59	42	767924	95.7699	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICV1.D Vial: 15
Acq On : 5 Feb 2020 18:44 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:08:53 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.57	83	291289	10.3810 ug/L		99
40)	111trichlota	6.81	97	239237	10.5695 ug/L		99
42)	Cyclohexane	6.88	56	283088	10.1683 ug/L		98
43)	Carbtetraclo	7.02	119	207074	11.0031 ug/L		100
44)	11dicloprope	7.01	110	80645	10.3303 ug/L	#	87
46)	Benzene	7.26	78	680736	10.3331 ug/L		100
47)	12dichlorota	7.27	62	202625	10.3584 ug/L		99
48)	TAME	7.45	73	444390	9.5323 ug/L		99
49)	trichloroete	8.07	95	180215	10.5360 ug/L		99
50)	methylcyclohexane	8.32	83	314685	10.6631 ug/L		97
51)	12dicloropra	8.33	63	200490	10.6197 ug/L		94
52)	23Dicl1propene	8.40	75	260791	9.7014 ug/L		98
53)	Dibromometha	8.48	93	113594	10.5525 ug/L		99
54)	methylmethacrylate	8.51	69	140182	9.5998 ug/L		98
55)	14dioxane	8.55	88	140414	488.1624 ug/L		94
56)	Bromodiclrma	8.68	83	218036	10.3535 ug/L		97
57)	2Nitropropane	8.96	43	569461	103.2184 ug/L		98
58)	2CLEVE	9.07	63	26047	56.8863 ug/L		93
59)	c13dicloproe	9.26	75	288348	10.5236 ug/L		97
60)	4Meth2Pentan	9.48	43	2282856	103.8582 ug/L		99
62)	Toluene	9.70	92	455413	10.4418 ug/L		96
63)	t13Dicloprop	9.96	75	243381	10.5726 ug/L		98
64)	ethylmethacrylate	10.13	69	481295	19.6835 ug/L		99
65)	112Triclotha	10.20	83	139317	10.2495 ug/L		98
66)	Tetrachlorte	10.43	166	204106	10.6566 ug/L		97
67)	13Diclorpropa	10.43	76	270967	10.5077 ug/L		98
69)	2Hexanone	10.57	43	1760473	103.3253 ug/L		99
70)	Clorodibrmta	10.73	129	173052	10.3055 ug/L		99
71)	12Dibrometha	10.89	107	173790	10.6258 ug/L		97
72)	Chlorobenzen	11.56	112	490138	10.4763 ug/L		99
73)	1Clhexane	11.54	91	249589	10.1159 ug/L		98
74)	1112Tetclota	11.68	131	164855	10.3396 ug/L		97
75)	Ethylbenzene	11.72	91	819360	10.8556 ug/L		98
76)	m p-Xylene	11.89	106	624775	21.3186 ug/L		98
77)	o-Xylene	12.43	106	313300	10.9225 ug/L		98
78)	Styrene	12.45	104	502808	10.6245 ug/L		97
79)	Bromoform	12.68	173	140983	10.9399 ug/L		98
80)	Isopropylben	12.96	105	804224	11.1365 ug/L		98
81)	cyclohexanone	13.08	55	206841	198.7977 ug/L		99
84)	Bromobenzene	13.37	156	216475	10.4991 ug/L		98
85)	1122Tetrclta	13.35	83	264352	10.6251 ug/L		100
86)	123Triclproa	13.41	75	295843	10.5376 ug/L		99
87)	14dichloro2butene	13.44	53	52206	9.7687 ug/L		95
88)	n-Propylbenz	13.55	91	970471	10.8535 ug/L		99
89)	2chlorotolue	13.66	91	545988	10.6170 ug/L		96
90)	4chlorotolue	13.81	91	622579	10.7482 ug/L		99
91)	135Trimebenz	13.80	105	634678	10.8851 ug/L		100
92)	tbutylbenzen	14.27	119	569359	11.0757 ug/L		99
93)	124Trimetben	14.34	105	649088	10.8803 ug/L		100
94)	sbutylbenzen	14.59	105	871168	11.3167 ug/L		100
95)	13Diclorbenz	14.73	146	401170	10.7893 ug/L		98
96)	pIsopropylto	14.81	119	697200	11.1054 ug/L		99
97)	14dichlorobe	14.86	146	394878	10.5941 ug/L		99
98)	12dichlorobe	15.40	146	360975	10.3179 ug/L		99
99)	nButylbenzen	15.40	91	677736	10.9493 ug/L		98
100)	12dibromo3cl	16.51	157	64521	11.1804 ug/L		94
101)	135Trichlorobenzene	16.83	180	312176	10.3319 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICV1.D Vial: 15
Acq On : 5 Feb 2020 18:44 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:08:53 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.64	180	278515	11.1466	ug/L	98
103) Hexachlorobu	17.88	225	129381	10.8820	ug/L	98
104) Naphthalene	17.95	128	700596	11.1178	ug/L	99
105) 123Trichlben	18.26	180	257843	11.1837	ug/L	99

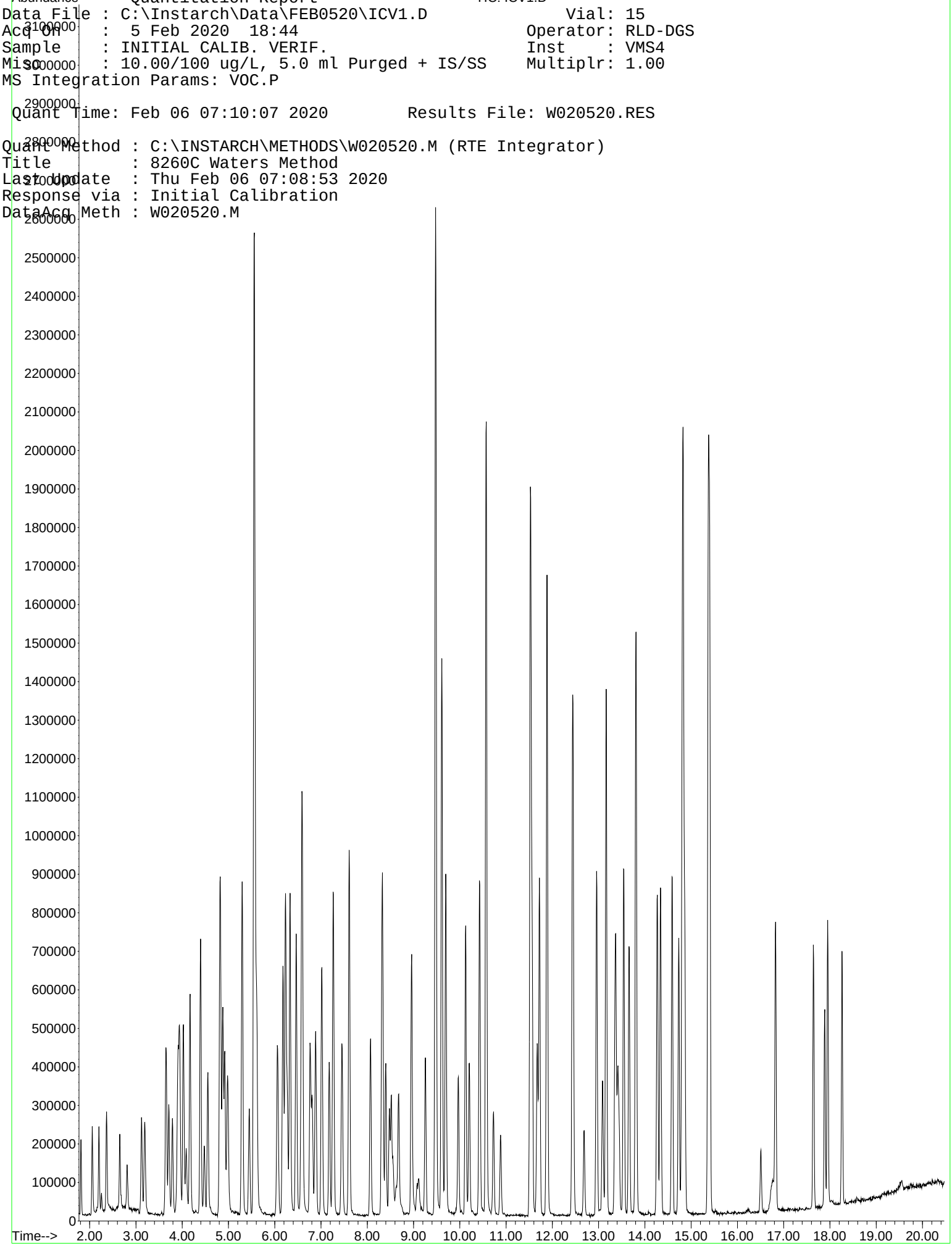
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : C:\Instarch\Data\FEB0520\ICV1.D Vial: 15
Acq On : 5 Feb 2020 18:44 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 10.00/100 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:07 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:08:53 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0520\ICV2.D Vial: 16
Acq On : 5 Feb 2020 19:12 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.00/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 06 07:10:26 2020

Quant Method : C:\INSTARCH\METHODS\W020520.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020520.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	97	0.00
2	PT	Dichlorodi	30.0000	35.5215	-18.41	109	0.00
3	PT	Chloromethan	30.0000	32.0305	-6.77	106	0.00
4	PT	VinylChlorid	30.0000	34.7366	-15.79	107	0.00
5	PT	Bromomethane	30.0000	37.4398	-24.80#	131	0.00
6	PT	Chloroethane	30.0000	32.4594	-8.20	102	0.00
7	T	Dichloroflmethane	30.0000	30.3514	-1.17	100	0.00
8	PT	Trichlorofma	30.0000	35.4294	-18.10	106	0.00
9	T	Ethylether	30.0000	29.8575	0.47	98	0.00
10	T	dichlorotfluoroethan	30.0000	32.1756	-7.25	99	0.00
11	T	propyleneoxide	300.0000	332.9776	-10.99	103	0.00
12	T	Acrolein	150.0000	146.0920	2.61	97	0.00
13	PT	11dichlorthe	30.0000	35.0106	-16.70	107	0.00
14	PT	Trichlorotfluoroeth	60.0000	65.3138	-8.86	98	0.00
15	PT	Acetone	300.0000	277.9840	7.34	97	0.00
16	T	Iodomethane	60.0000	57.6028	4.00	91	0.00
17	PT	Carbon Dislf	60.0000	63.4850	-5.81	100	0.00
18	T	allylchloride	60.0000	59.5202	0.80	97	0.00
19	PT	methylacetate	30.0000	28.8421	3.86	97	0.00
20	PT	Methylchlorid	30.0000	32.4529	-8.18	104	0.00
21	T	tbutylalcohol	1500.0000	1502.7574	-0.18	102	0.00
22	T	Acrylonitrile	150.0000	148.4014	1.07	97	0.00
23	PT	t12dichlorte	30.0000	33.2926	-10.98	107	0.00
24	PT	MtBE	30.0000	29.7339	0.89	98	0.00
25	T	Hexane	60.0000	66.6595	-11.10	98	0.00
26	PT	11dichlorota	30.0000	31.8168	-6.06	105	0.00
27	T	Vinylacetate	300.0000	252.9960	15.67	99	0.00
28	T	chloroprene	60.0000	63.2772	-5.46	99	0.00
29	T	Diisopether	30.0000	28.6838	4.39	97	0.00
30	T	ETBE	30.0000	29.6882	1.04	98	0.00
31	T	22dichloropr	30.0000	30.0948	-0.32	103	0.00
32	PT	c12dichlorte	30.0000	31.6888	-5.63	104	0.00
33	PT	2Butanone	300.0000	297.3812	0.87	98	0.00
34	T	propionitrile	300.0000	290.8651	3.04	99	0.00
35	T	Ethylacetate	150.0000	153.1491	-2.10	102	0.00
36	T	methacrylonitrile	60.0000	59.7579	0.40	100	0.00
37	T	Bromochlorma	30.0000	32.3740	-7.91	106	0.00
38	T	Tetrahydofur	300.0000	281.5534	6.15	97	0.00
39	PT	Chloroform	30.0000	32.0383	-6.79	106	0.00
40	PT	111trichlota	30.0000	33.3779	-11.26	105	0.00
41	S	SURRDibrflma	20.0000	19.8191	0.90	94	0.00
42	PT	Cyclohexane	30.0000	32.5086	-8.36	99	0.00
43	PT	Carbtetraclo	30.0000	34.9186	-16.40	107	0.00
44	T	11dicloprope	30.0000	33.8778	-12.93	107	0.00
45	S	SURR12DCAd4	20.0000	20.1356	-0.68	97	0.00
46	PT	Benzene	30.0000	31.4843	-4.95	105	0.00
47	PT	12dichlorota	30.0000	31.5870	-5.29	106	0.00
48	T	TAME	30.0000	29.7150	0.95	98	0.00

49	PT	trichloroete	30.0000	32.7330	-9.11	107	0.00
50	PT	methylcyclohexane	30.0000	35.1484	-17.16	102	0.00
51	PT	12dicloropra	30.0000	32.5185	-8.40	110	0.00
52	T	23Dicl1propene	30.0000	30.1308	-0.44	99	0.00
53	T	Dibromometha	30.0000	33.0569	-10.19	109	0.00
54	T	methylmethacrylate	30.0000	30.6888	-2.30	101	0.00
55	T	14dioxane	1500.0000	1493.0731	0.46	100	0.00
56	PT	Bromodiclrma	30.0000	32.5205	-8.40	106	0.00
57	T	2Nitropropane	300.0000	317.1088	-5.70	98	0.00
58	T	2CLEVE	150.0000	171.9982	-14.67	127	0.00
59	PT	c13dicloproe	30.0000	32.2057	-7.35	104	0.00
60	PT	4Meth2Pentan	300.0000	289.4328	3.52	100	0.00
61	S	SURRd8Tolule	20.0000	19.6374	1.81	95	0.00
62	PT	Toluene	30.0000	32.0544	-6.85	105	0.00
63	PT	t13Dicloprop	30.0000	32.7478	-9.16	105	0.00
64	T	ethylmethacrylate	60.0000	61.2080	-2.01	99	0.00
65	PT	112Triclotha	30.0000	31.7361	-5.79	105	0.00
66	PT	Tetrachlorte	30.0000	33.2681	-10.89	108	0.00
67	T	13Diclorpropa	30.0000	32.4685	-8.23	106	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	97	0.00
69	PT	2Hexanone	300.0000	289.8032	3.40	99	0.00
70	PT	Clorodibrmta	30.0000	33.1652	-10.55	107	0.00
71	PT	12Dibrometha	30.0000	32.7020	-9.01	107	0.00
72	PT	Chlorobenzen	30.0000	32.3218	-7.74	107	0.00
73	T	1Clhexane	30.0000	31.4427	-4.81	99	0.00
74	T	1112Tetclota	30.0000	33.2672	-10.89	108	0.00
75	PT	Ethylbenzene	30.0000	32.8431	-9.48	107	0.00
76	PT	m p-Xylene	60.0000	65.3335	-8.89	107	0.00
77	PT	o-Xylene	30.0000	33.4656	-11.55	107	0.00
78	PT	Styrene	30.0000	33.1228	-10.41	106	0.00
79	PT	Bromoform	30.0000	34.6398	-15.47	111	0.00
80	PT	Isopropylben	30.0000	34.0815	-13.60	107	0.00
81	T	cyclohexanone	600.0000	590.8637	1.52	103	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	98	0.00
83	S	SURR4BrFBenz	20.0000	19.6986	1.51	96	0.00
84	T	Bromobenzene	30.0000	32.5443	-8.48	108	0.00
85	PT	1122Tetrclta	30.0000	31.8373	-6.12	108	0.00
86	T	123Triclproa	30.0000	32.3418	-7.81	105	0.00
87	T	14dichloro2butene	30.0000	31.9887	-6.63	103	0.00
88	T	n-Propylbenz	30.0000	32.7692	-9.23	106	0.00
89	T	2chlorotolue	30.0000	31.7952	-5.98	107	0.00
90	T	4chlorotolue	30.0000	32.1380	-7.13	106	0.00
91	T	135Trimebenz	30.0000	33.4627	-11.54	107	0.00
92	T	tbutylbenzen	30.0000	33.7812	-12.60	107	0.00
93	T	124Trimetben	30.0000	33.0988	-10.33	108	0.00
94	T	sbutylbenzen	30.0000	34.6783	-15.59	108	0.00
95	PT	13Diclorbenz	30.0000	32.4413	-8.14	107	0.00
96	T	pIsopropylto	30.0000	34.6649	-15.55	108	0.00
97	PT	14dichlorobe	30.0000	32.3583	-7.86	109	0.00
98	PT	12dichlorobe	30.0000	32.4418	-8.14	109	0.00
99	T	nButylbenzen	30.0000	33.5582	-11.86	107	0.00
100	PT	12dibromo3cl	30.0000	35.5140	-18.38	114	0.00
101	T	135Trichlorobenzene	30.0000	32.7391	-9.13	102	0.00
102	PT	124Trichlobe	30.0000	34.7689	-15.90	110	0.00
103	T	Hexachlorobu	30.0000	36.7567	-22.52#	114	0.00
104	T	Naphthalene	30.0000	33.6749	-12.25	110	0.00
105	T	123Trichlben	30.0000	34.5306	-15.10	110	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020520.M Tue Feb 11 13:44:01 2020

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICV2.D Vial: 16
Acq On : 5 Feb 2020 19:12 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.00/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:26 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	962876	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1066983	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	662600	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	279486	19.819	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 99 %			
45) SURR12DCAd4	7.18	102	64027	20.136	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %			
61) SURRd8Tolule	9.61	98	1123078	19.637	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 98 %			
83) SURR4BrFBenz	13.16	95	513440	19.699	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	489622	35.5215	ug/L	97
3) Chloromethan	2.05	50	708981	32.0305	ug/L	98
4) VinylChlorid	2.20	62	595024	34.7366	ug/L	99
5) Bromomethane	2.65	94	231980	37.4398	ug/L	98
6) Chloroethane	2.80	64	309613	32.4594	ug/L	99
7) Dichloroflmethane	3.12	67	847082	30.3514	ug/L	97
8) Trichlorofma	3.19	101	759161	35.4294	ug/L	100
9) Ethylether	3.65	59	434812	29.8575	ug/L	98
10) dichlorotfluoroethan	3.65	67	535684	32.1756	ug/L	98
11) propyleneoxide	3.71	58	798837	332.9776	ug/L	98
12) Acrolein	3.79	56	703692	146.0920	ug/L	98
13) 11dichlorthe	3.90	96	480606	35.0106	ug/L	98
14) Trichlorotfluoroeth	3.94	101	862815	65.3138	ug/L	96
15) Acetone	4.02	43	2013531	277.9840	ug/L	99
16) Iodomethane	4.09	127	374489	57.6028	ug/L	96
17) Carbon Dislf	4.17	76	2623221	63.4850	ug/L	100
18) allylchloride	4.40	41	1675505	59.5202	ug/L	99
19) methylacetate	4.48	74	150969	28.8421	ug/L	92
20) Methylchlorid	4.55	84	533571	32.4529	ug/L	98
21) tbutylalcohol	4.82	59	3947384	1502.7574	ug/L	100
22) Acrylonitrile	4.88	53	1290943	148.4014	ug/L	100
23) t12dichlorte	4.91	96	506333	33.2926	ug/L	97
24) MtBE	4.97	73	1296022	29.7339	ug/L	98
25) Hexane	5.30	57	1565938	66.6595	ug/L	100
26) 11dichlorota	5.44	63	917546	31.8168	ug/L	100
27) Vinylacetate	5.55	43	9573013	252.9960	ug/L	96
28) chloroprene	5.57	53	1393584	63.2772	ug/L	100
29) Diisopether	5.61	45	1714442	28.6838	ug/L	89
30) ETBE	6.06	59	1430054	29.6882	ug/L	98
31) 22dichloropr	6.17	77	630717	30.0948	ug/L	99
32) c12dichlorte	6.18	96	551476	31.6888	ug/L	99
33) 2Butanone	6.23	72	808449	297.3812	ug/L	98
34) propionitrile	6.27	54	1013655	290.8651	ug/L	99
35) Ethylacetate	6.32	88	114721	153.1491	ug/L	98
36) methacrylonitrile	6.46	67	523456	59.7579	ug/L	98
37) Bromochlorma	6.46	128	257429	32.3740	ug/L	95
38) Tetrahydofur	6.59	42	2135755	281.5534	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICV2.D Vial: 16
Acq On : 5 Feb 2020 19:12 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.00/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:26 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.57	83	850462	32.0383 ug/L	99
40) 111trichlota	6.81	97	714715	33.3779 ug/L	99
42) Cyclohexane	6.88	56	856193	32.5086 ug/L	98
43) Carbtetraclo	7.02	119	621684	34.9186 ug/L	98
44) 11dicloprope	7.01	110	250196	33.8778 ug/L	98
46) Benzene	7.26	78	1962199	31.4843 ug/L	99
47) 12dichlorota	7.27	62	584535	31.5870 ug/L	97
48) TAME	7.45	73	1310523	29.7150 ug/L	99
49) trichloroete	8.07	95	529669	32.7330 ug/L	98
50) methylcyclohexane	8.32	83	981296	35.1484 ug/L	97
51) 12dicloropra	8.33	63	580782	32.5185 ug/L	96
52) 23Dicl1propene	8.40	75	766248	30.1308 ug/L	99
53) Dibromometha	8.48	93	336639	33.0569 ug/L	99
54) methylmethacrylate	8.52	69	423947	30.6888 ug/L	98
55) 14dioxane	8.56	88	406283	1493.0731 ug/L	99
56) Bromodiclrma	8.67	83	647887	32.5205 ug/L	98
57) 2Nitropropane	8.96	43	1655071	317.1088 ug/L	98
58) 2CLEVE	9.07	63	135083	171.9982 ug/L	97
59) c13dicloproe	9.26	75	834809	32.2057 ug/L	98
60) 4Meth2Pentan	9.48	43	6018481	289.4328 ug/L	95
62) Toluene	9.70	92	1322575	32.0544 ug/L	95
63) t13Dicloprop	9.97	75	713165	32.7478 ug/L	98
64) ethylmethacrylate	10.13	69	1415852	61.2080 ug/L	99
65) 112Triclotha	10.20	83	408091	31.7361 ug/L	97
66) Tetrachlorte	10.43	166	602790	33.2681 ug/L	98
67) 13Diclorpropa	10.43	76	792089	32.4685 ug/L	100
69) 2Hexanone	10.57	43	4739130	289.8032 ug/L	96
70) Clorodibrmta	10.72	129	534520	33.1652 ug/L	99
71) 12Dibrometha	10.88	107	513346	32.7020 ug/L	97
72) Chlorobenzen	11.56	112	1451369	32.3218 ug/L	98
73) 1Clhexane	11.54	91	744588	31.4427 ug/L	97
74) 1112Tetclota	11.67	131	509082	33.2672 ug/L	99
75) Ethylbenzene	11.72	91	2379236	32.8431 ug/L	98
76) m p-Xylene	11.89	106	1837696	65.3335 ug/L	98
77) o-Xylene	12.43	106	921319	33.4656 ug/L	97
78) Styrene	12.45	104	1504499	33.1228 ug/L	98
79) Bromoform	12.69	173	428450	34.6398 ug/L	99
80) Isopropylben	12.96	105	2362215	34.0815 ug/L	100
81) cyclohexanone	13.08	55	590045	590.8637 ug/L	97
84) Bromobenzene	13.38	156	648114	32.5443 ug/L	97
85) 1122Tetrclta	13.35	83	765079	31.8373 ug/L	98
86) 123Triclproa	13.41	75	877011	32.3418 ug/L	98
87) 14dichloro2butene	13.44	53	165120	31.9887 ug/L	96
88) n-Propylbenz	13.55	91	2830068	32.7692 ug/L	98
89) 2chlorotolue	13.66	91	1579298	31.7952 ug/L	100
90) 4chlorotolue	13.81	91	1798035	32.1380 ug/L	98
91) 135Trimebenz	13.80	105	1884530	33.4627 ug/L	99
92) tbutylbenzen	14.27	119	1677301	33.7812 ug/L	99
93) 124Trimetben	14.34	105	1907190	33.0988 ug/L	98
94) sbutylbenzen	14.59	105	2578445	34.6783 ug/L	99
95) 13Diclorbenz	14.73	146	1165076	32.4413 ug/L	99
96) pIsopropylto	14.81	119	2102006	34.6649 ug/L	99
97) 14dichlorobe	14.86	146	1164947	32.3583 ug/L	99
98) 12dichlorobe	15.40	146	1096250	32.4418 ug/L	97
99) nButylbenzen	15.40	91	2006286	33.5582 ug/L	98
100) 12dibromo3cl	16.51	157	197954	35.5140 ug/L	99
101) 135Trichlorobenzene	16.83	180	955443	32.7391 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICV2.D Vial: 16
Acq On : 5 Feb 2020 19:12 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.00/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:26 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	839104	34.7689	ug/L	98
103) Hexachlorobu	17.89	225	422104	36.7567	ug/L	97
104) Naphthalene	17.95	128	2049624	33.6749	ug/L	99
105) 123Trichlben	18.26	180	768940	34.5306	ug/L	98

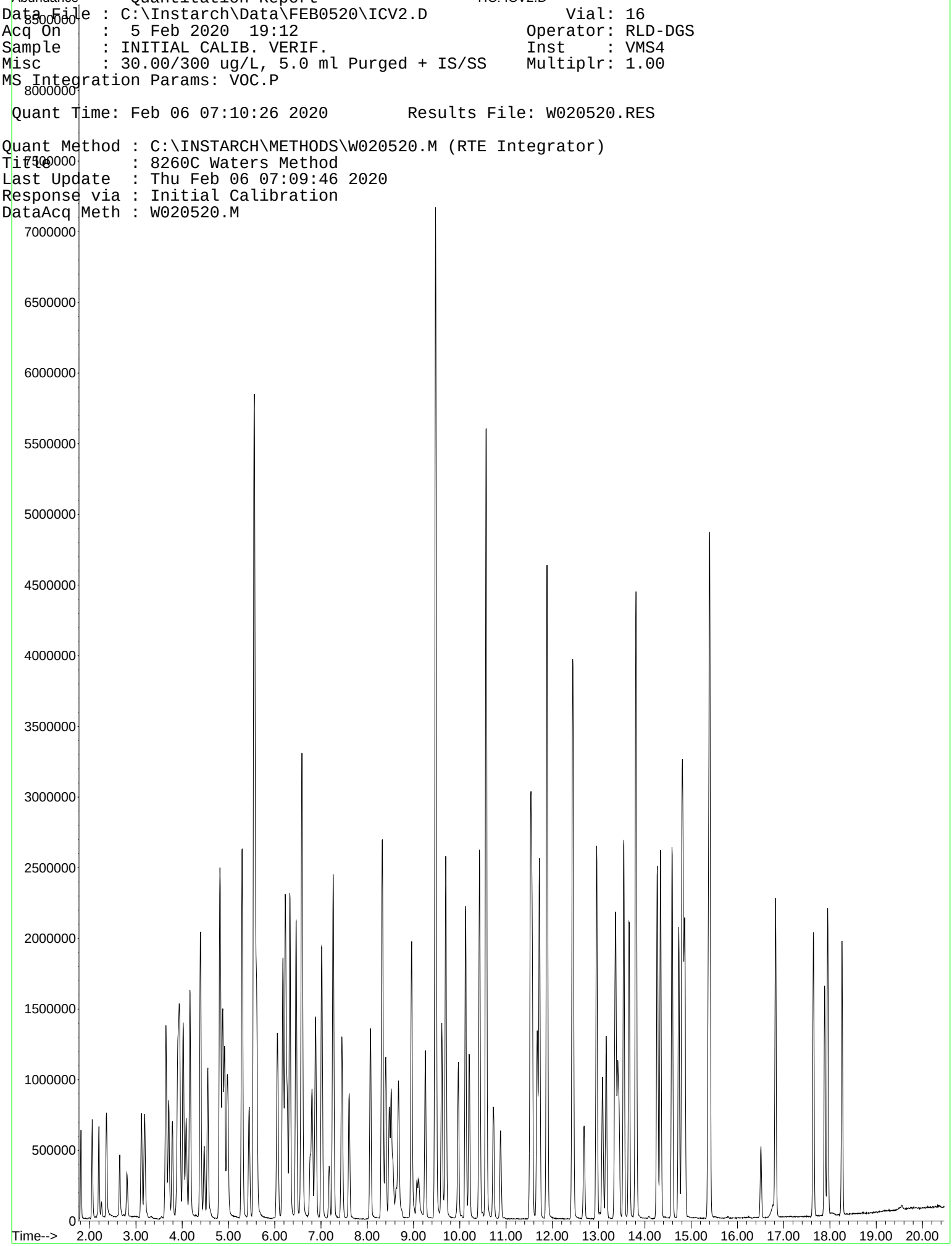
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV2.D

Data File : C:\Instarch\Data\FEB0520\ICV2.D Vial: 16
Acq On : 5 Feb 2020 19:12 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS4
Misc : 30.00/300 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:10:26 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICB1.D Vial: 19
Acq On : 5 Feb 2020 20:37 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:11:38 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	953104	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1044455	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	632672	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	274772	19.685	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 98 %			
45) SURR12DCAd4	7.18	102	60683	19.280	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 96 %			
61) SURRd8Tolule	9.61	98	1133208	20.018	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100 %			
83) SURR4BrFBenz	13.16	95	501868	20.166	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.11	50	1472	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.65	94	3914	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.02	43	8006	N.D.		
16) Iodomethane	4.09	127	2068	2.1545	ug/L #	86
17) Carbon Dislf	4.17	76	3425	N.D.		
18) allylchloride	4.41	41	1544	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.55	84	2533	Below Cal	#	76
21) tbutylalcohol	4.83	59	1889	N.D.		
22) Acrylonitrile	4.89	53	1044	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.56	43	3999	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	5.64	45	1619	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.18	77	1529	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.59	42	2203	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICB1.D Vial: 19
Acq On : 5 Feb 2020 20:37 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:11:38 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.24	78	2591	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	8.95	43	3155	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	9.48	43	2667	N.D.	
62) Toluene	9.71	92	1048	N.D.	
63) t13Dicloprop	9.97	75	1311	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	10.57	43	4283	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	11.56	112	1021	N.D.	
73) 1Clhexane	11.53	91	2662	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.72	91	1320	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	12.46	104	1344	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.16	55	1587	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	13.54	91	2194	N.D.	
89) 2chlorotolue	13.65	91	1257	N.D.	
90) 4chlorotolue	13.81	91	1426	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.33	105	2030	N.D.	
94) sbutylbenzen	14.58	105	1425	N.D.	
95) 13Diclorbenz	14.73	146	1665	N.D.	
96) pIsopropylto	14.79	119	2108	N.D.	
97) 14dichlorobe	14.85	146	1285	N.D.	
98) 12dichlorobe	15.37	146	1275	N.D.	
99) nButylbenzen	15.39	91	4379	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	16.83	180	1542	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\ICB1.D Vial: 19
Acq On : 5 Feb 2020 20:37 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:11:38 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.64	180	1648	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.96	128	6526	N.D.	
105) 123Trichlben	18.25	180	1530	N.D.	

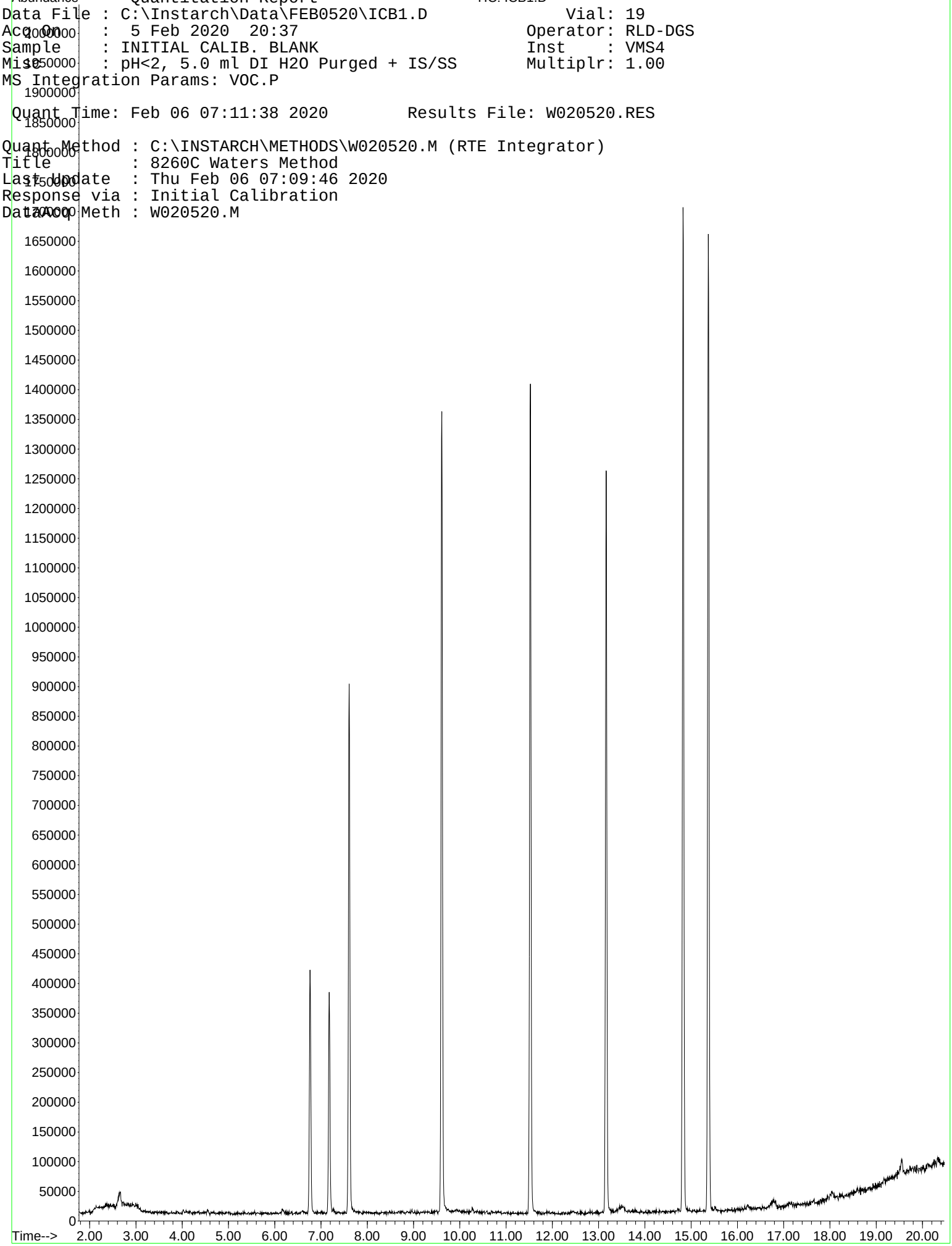
(#) = qualifier out of range (m) = manual integration

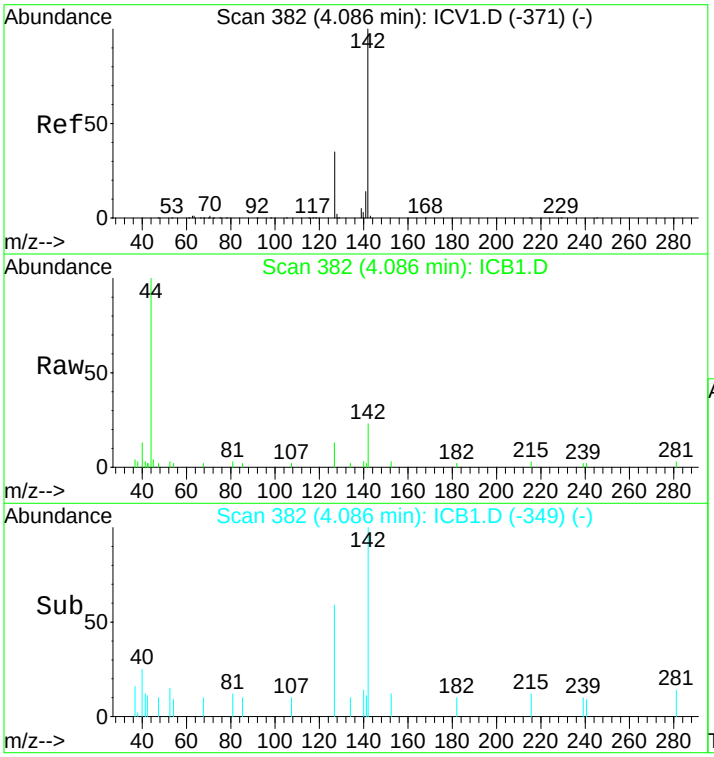
Abundance Quantitation Report TIC: ICB1.D

Data File : C:\Instarch\Data\FEB0520\ICB1.D Vial: 19
Acq On : 5 Feb 2020 20:37 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 07:11:38 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

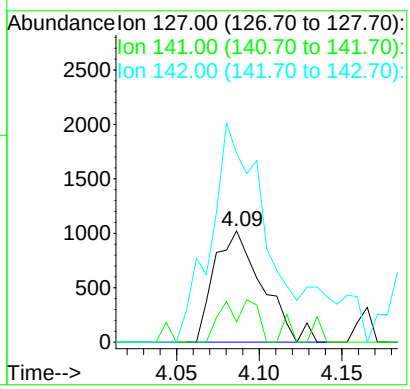




#16
Iodomethane
Concen: 2.15 ug/L
RT: 4.09 min Scan# 382
Delta R.T. 0.00 min
Lab File: ICB1.D
Acq: 5 Feb 2020 20:37

Tgt Ion:127 Resp: 2068

Ion	Ratio	Lower	Upper
127	100		
141	0.0	18.5	58.5#
142	262.6	255.5	295.5



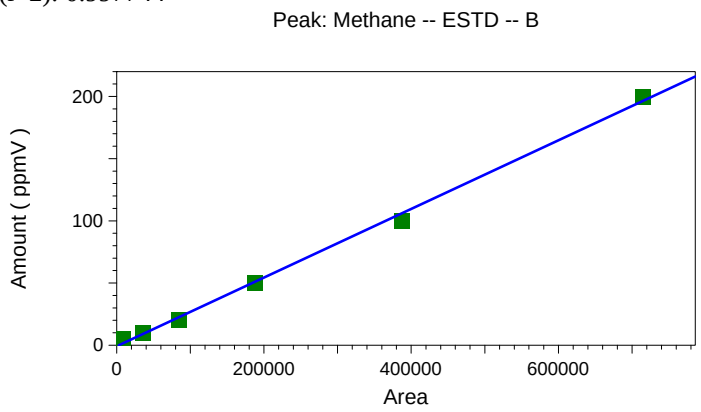
Negative Library Identification

[redacted]

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:30
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000329987 RF StDev: 0.000126154 RF %RSD: 38.2302
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000275856x - 0.771544
Goodness of fit (r^2): 0.997744



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	5030	8460	35927	84034	187484
RF	0.000397614	0.00059101654	0.000278342193	0.000237998905	0.0002666894
	314115308	8463357	893172	205036	24164195
Last Area					
Residual	1.38399	3.4378	0.860857	-2.40976	-0.947087
Rep StDev					
Rep %RSD					
Rep 1 Area	5030	8460	35927	84034	187484
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\001.dat	C:\Instarch\PVOC4\Data\121319icdg\002.dat	C:\Instarch\PVOC4\Data\121319icdg\003.dat	C:\Instarch\PVOC4\Data\121319icdg\017.dat	C:\Instarch\PVOC4\Data\121319icdg\018.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Dec 13, 2019 11:03:20	Dec 13, 2019 11:08:54	Dec 13, 2019 11:12:33	Dec 13, 2019 12:20:46	Dec 13, 2019 12:24:12

	Level 6	Level 7
Amount	100	200
Area	387182	714366

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:30
User: AGK
Instrument: PVOC4

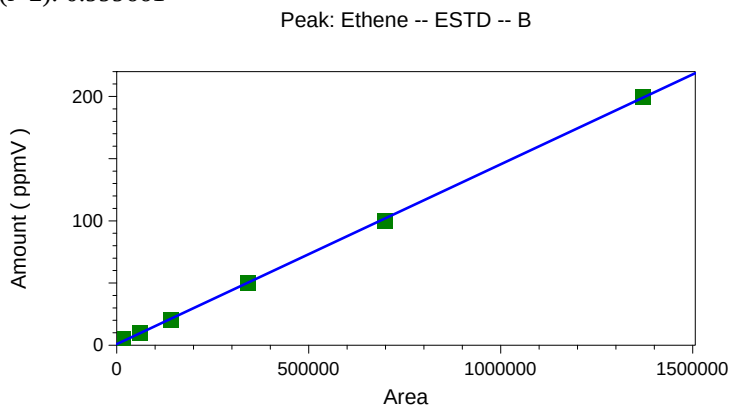
RF	0.000258276469463973	0.00027996853 1537055
Last Area Residual	-6.03503	3.70923
Rep StDev		
Rep %RSD		
Rep 1 Area	387182	714366
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:47
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 0.000194500 RF StDev: 7.92626e-005 RF %RSD: 40.7519
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000144547x + 0.886235
Goodness of fit (r^2): 0.999661



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	6741	15526	60017	142264	341448
RF	0.000296691	0.00032204044	0.000166619457	0.000140583703	0.0001464351
	885476932	8280304	820284	537086	8193107
Last Area					
Residual	0.139376	1.86953	0.438507	-1.45002	-0.241407
Rep StDev					
Rep %RSD					
Rep 1 Area	6741	15526	60017	142264	341448
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\1	OC4\Data\1213	C4\Data\121319	C4\Data\121319	OC4\Data\121
	21319icdg\00	19icdg\002.dat	icdg\003.dat	icdg\017.dat	319icdg\018.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019
	11:03:20	11:08:54	11:12:33	12:20:46	12:24:12

	Level 6	Level 7
Amount	100	200
Area	698761	1369661

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:47
User: AGK
Instrument: PVOC4

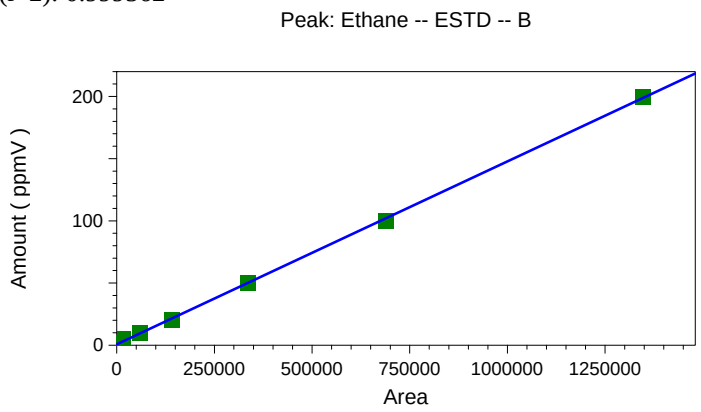
RF	0.000143110448350724	0.000146021533795589
Last Area Residual	-1.88981	1.13383
Rep StDev		
Rep %RSD		
Rep 1 Area	698761	1369661
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:07:05
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 0.000201411 RF StDev: 8.94581e-005 RF %RSD: 44.4156
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000147091x + 0.704169
Goodness of fit (r^2): 0.999562



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	6087	14916	60913	142761	337378
RF	0.000328569 081649417	0.00033521051 2201663	0.000164168568 285916	0.000140094283 452764	0.0001482017 2032557
Last Area Residual	0.400487	2.10182	0.336069	-1.70305	-0.329479
Rep StDev					
Rep %RSD					
Rep 1 Area	6087	14916	60913	142761	337378
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\001.dat	C:\Instarch\PVOC4\Data\121319icdg\002.dat	C:\Instarch\PVOC4\Data\121319icdg\003.dat	C:\Instarch\PVOC4\Data\121319icdg\017.dat	C:\Instarch\PVOC4\Data\121319icdg\018.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Dec 13, 2019 11:03:20	Dec 13, 2019 11:08:54	Dec 13, 2019 11:12:33	Dec 13, 2019 12:20:46	Dec 13, 2019 12:24:12

	Level 6	Level 7
Amount	100	200
Area	689400	1346056

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:07:05
User: AGK
Instrument: PVOC4

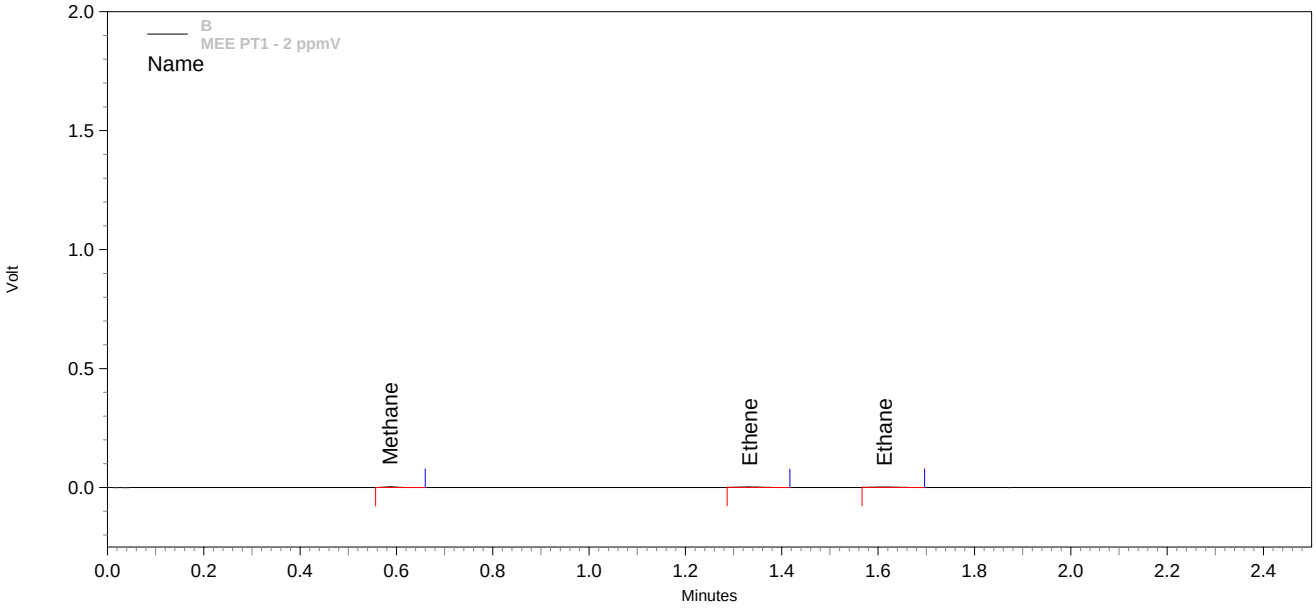
RF	0.000145053669857847	0.000148582228376828
Last Area Residual	-2.10879	1.30294
Rep StDev		
Rep %RSD		
Rep 1 Area	689400	1346056
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Dec 13, 2019 10:58:16
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



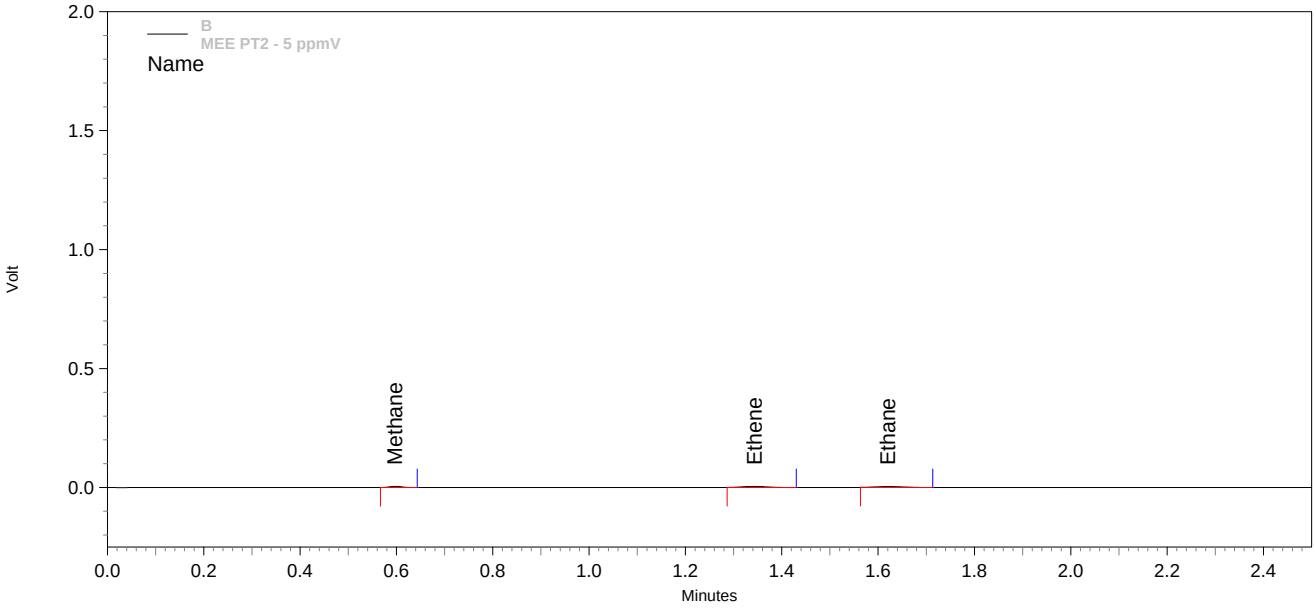
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.587**	**0.577**	**5030**	**2.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.310**	**6741**	**2.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.593**	**6087**	**2.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Dec 13, 2019 11:06:00
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



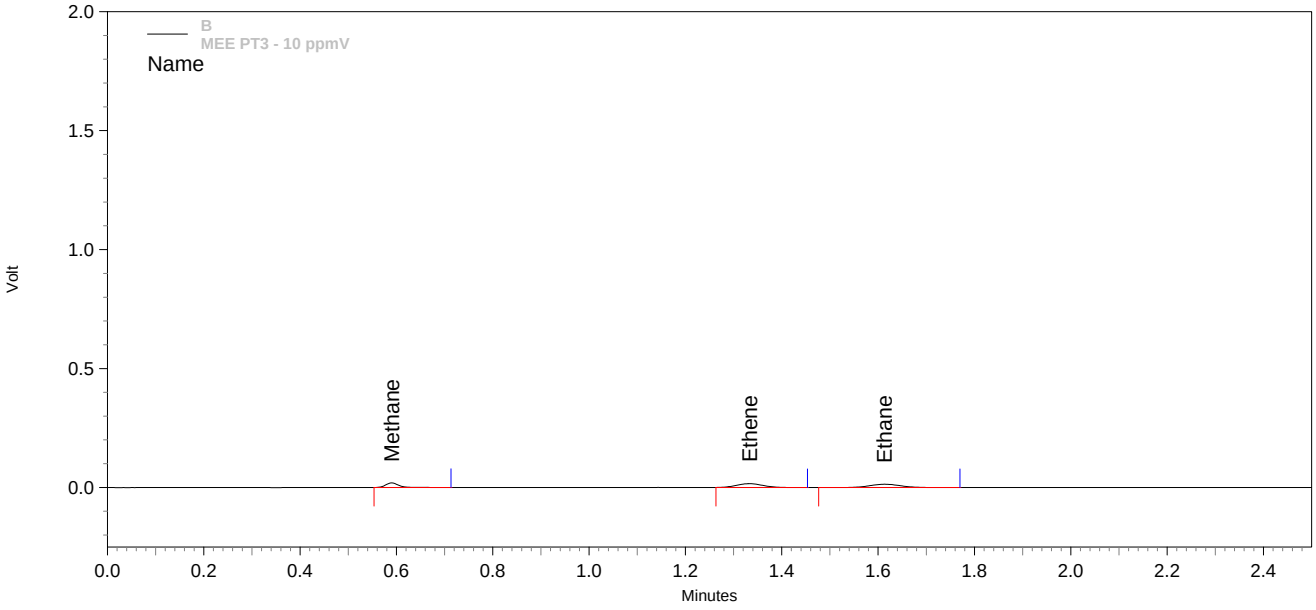
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.587**	**8460**	**5.000 CAL**	**ppmV**
2	**Ethene**	**1.343**	**1.333**	**15526**	**5.000 CAL**	**ppmV**
3	**Ethane**	**1.620**	**1.613**	**14916**	**5.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Dec 13, 2019 11:09:45
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



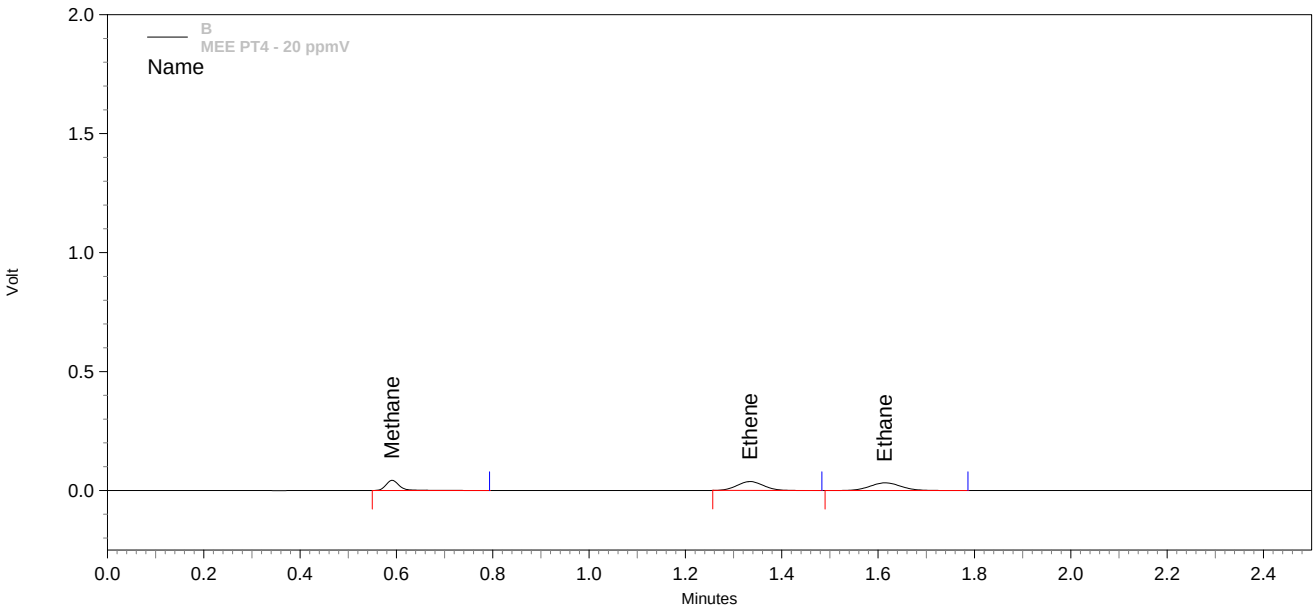
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.597**	**35927**	**10.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.343**	**60017**	**10.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.620**	**60913**	**10.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Dec 13, 2019 12:18:01
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



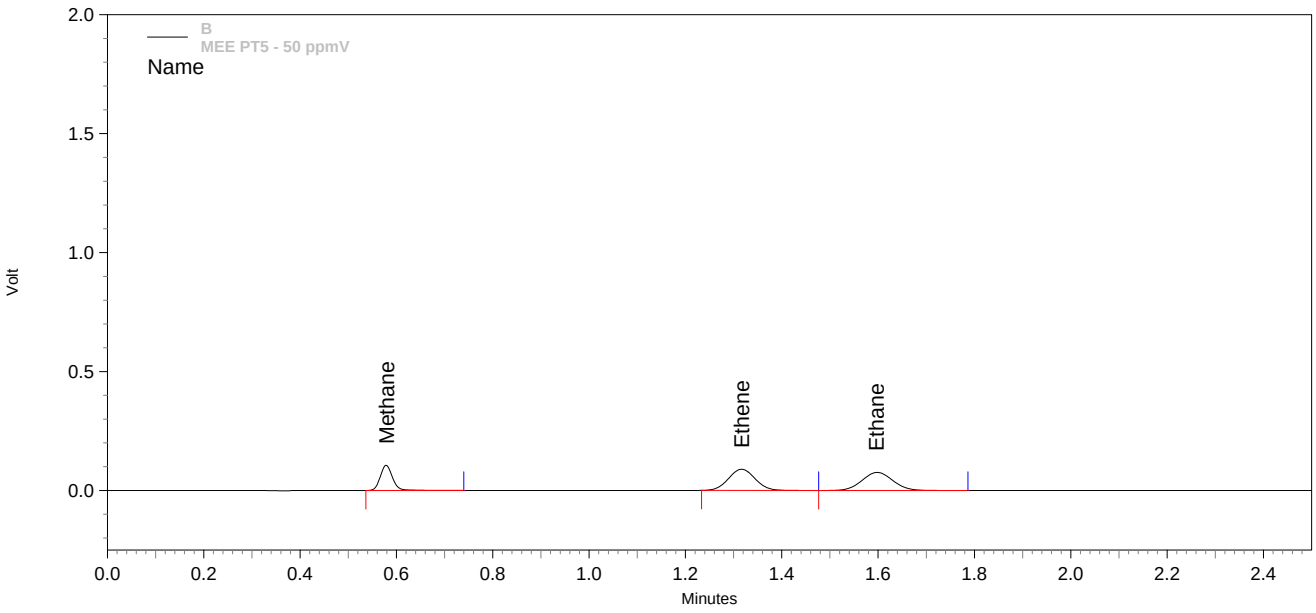
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.580**	**84034**	**20.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.320**	**142264**	**20.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.600**	**142761**	**20.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Dec 13, 2019 12:21:29
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



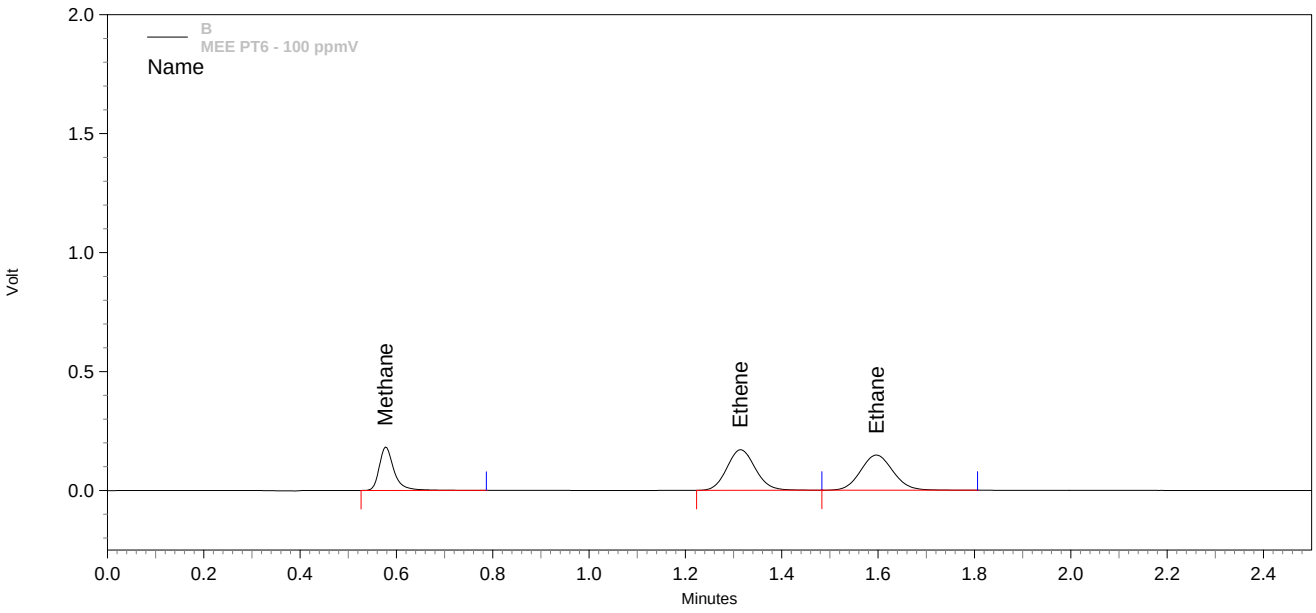
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.580**	**0.590**	**187484**	**50.000 CAL**	**ppmV**
2	**Ethene**	**1.317**	**1.333**	**341448**	**50.000 CAL**	**ppmV**
3	**Ethane**	**1.597**	**1.613**	**337378**	**50.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Dec 13, 2019 12:24:55
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



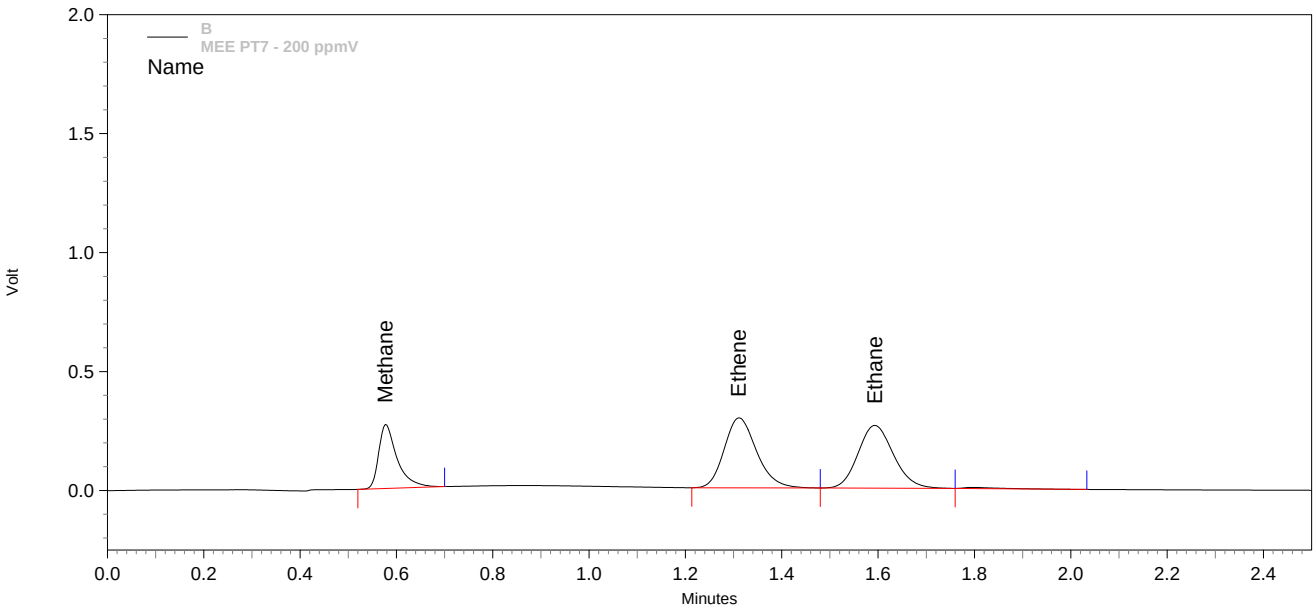
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.577**	**0.580**	**387182**	**100.000 CAL**	**ppmV**
2	**Ethene**	**1.313**	**1.317**	**698761**	**100.000 CAL**	**ppmV**
3	**Ethane**	**1.597**	**1.597**	**689400**	**100.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Dec 13, 2019 13:46:48
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



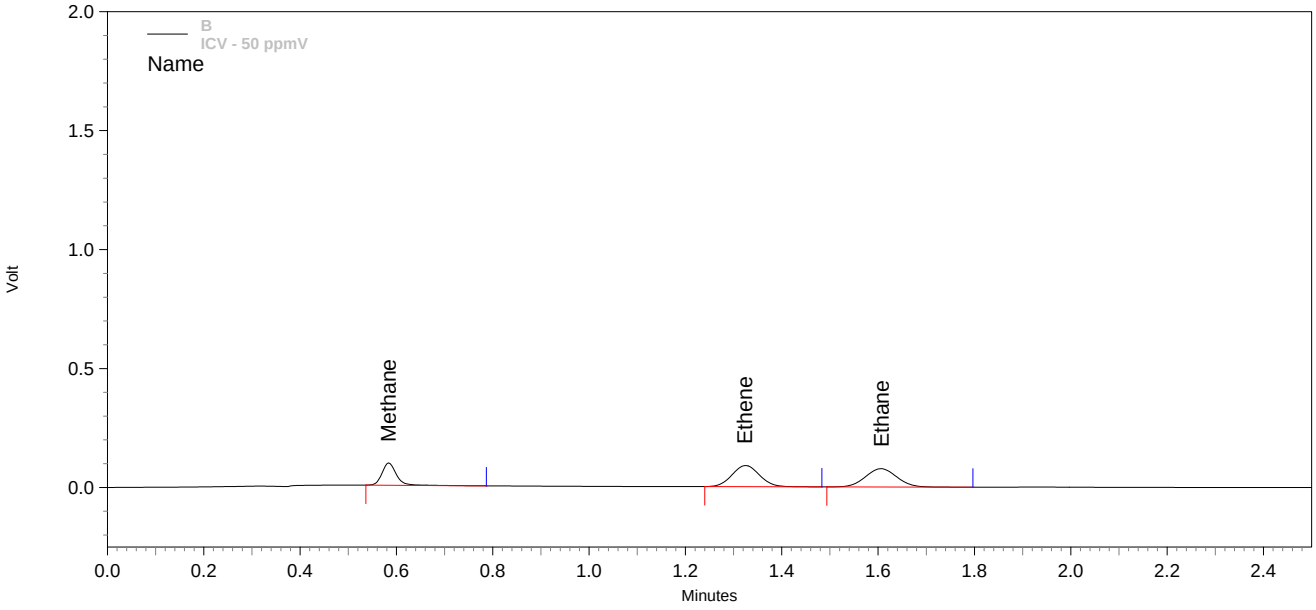
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.577**	**0.580**	**714366**	**200.000 CAL**	**ppmV**
2	**Ethene**	**1.310**	**1.317**	**1369661**	**200.000 CAL**	**ppmV**
3	**Ethane**	**1.593**	**1.600**	**1346056**	**200.000 CAL**	**ppmV**
4		**1.797**	**0.000**	**24582**	**0.000**	

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\025.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: ICV - 50 ppmV
Acquired: Dec 13, 2019 13:51:32
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



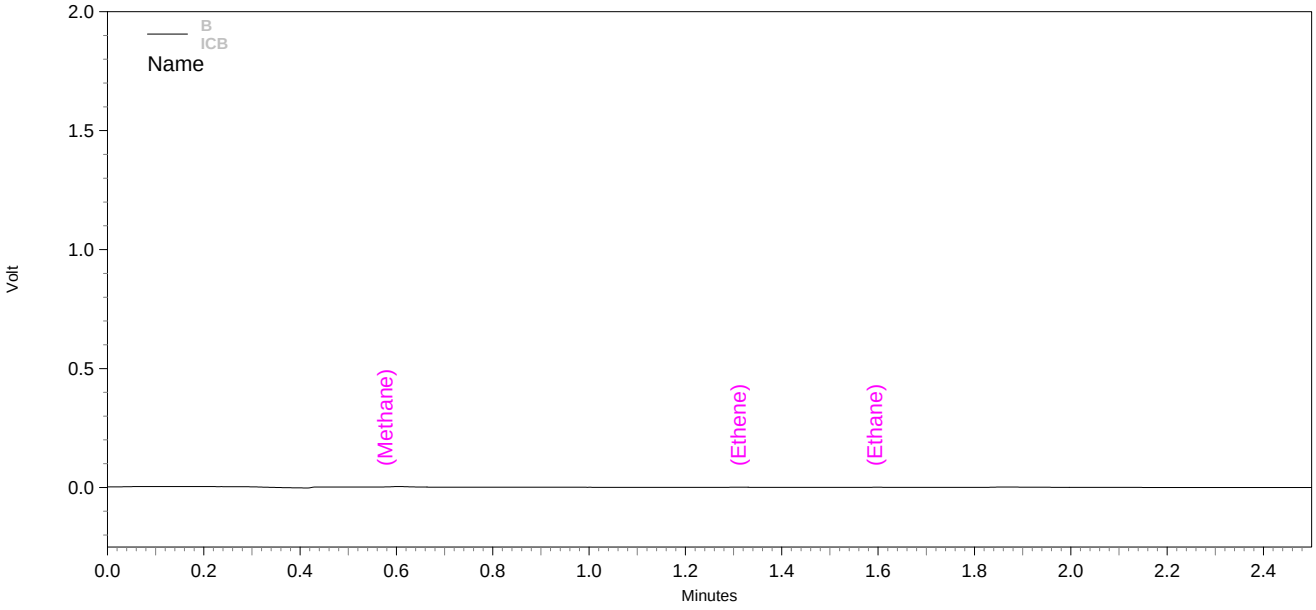
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.583**	**0.577**	**193552**	**52.621**	**ppmV**
2	**Ethene**	**1.323**	**1.310**	**352785**	**51.880**	**ppmV**
3	**Ethane**	**1.607**	**1.593**	**348500**	**51.965**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\026.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: ICB
Acquired: Dec 13, 2019 14:03:04
File Desc. INITIAL CALIB. BLANK



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.577**		**0.000 BDL**	**ppmV**
	Ethene		**1.310**		**0.000 BDL**	**ppmV**
	Ethane		**1.593**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\Instarch\Data\FEB0520\BFB1.D Vial: 1
Acq On : 5 Feb 2020 8:00 Operator: RLD-DGS
Sample : 168563,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020420.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.669 to 4.675 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.6	19643	PASS
75	95	30	60	49.9	49896	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	9.0	8986	PASS
173	174	0.00	2	1.2	822	PASS
174	95	50	100	66.3	66347	PASS
175	174	5	9	8.9	5905	PASS
176	174	95	101	97.0	64343	PASS
177	176	5	9	7.0	4488	PASS

W020420.M Thu Feb 06 08:09:16 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 05 09:06:13 2020

Quant Method : C:\INSTARCH\METHODS\W020420.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020420.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	104	0.00
2	PT	Dichlorodi	0.2181	0.2555	-17.15	121	0.00
3	PT	Chloromethan	0.2971	0.3109	-4.64	105	0.00
4	PT	VinylChlorid	0.2766	0.3114	-12.58	117	0.00
5	PT	Bromomethane	0.1484	0.1614	-8.76	110	0.00
6	PT	Chloroethane	0.1608	0.1785	-11.01	114	0.00
7	T	Dichloroflmethane	0.4147	0.4461	-7.57	112	0.00
8	PT	Trichlorofma	0.2993	0.3478	-16.20	121	0.00
9	T	Ethylether	0.2404	0.2386	0.75	99	0.00
10	T	dichlorotfluoroethan	0.2510	0.2898	-15.46	118	0.00
11	T	propyleneoxide	0.0485	0.0497	-2.47	103	0.00
12	T	Acrolein	0.0458	0.0495	-8.08	106	0.00
13	PT	11dichlorthe	0.2061	0.2290	-11.11	118	0.00
14	PT	Trichlorotfluoroeth	0.1900	0.2281	-20.05#	126	0.00
15	PT	Acetone	0.0622	0.0628#	-0.96	104	0.00
16	T	Iodomethane	0.1851	0.1866	-0.81	106	0.00
17	PT	Carbon Dislf	0.6550	0.7122	-8.73	112	0.00
18	T	allylchloride	0.4058	0.4327	-6.63	106	0.00
19	PT	methylacetate	0.0654	0.0666#	-1.83	108	0.00
20	PT	Methylchlorid	0.2959	0.2702	8.69	98	0.00
21	T	tbutylalcohol	0.0155	0.0152#	1.94	93	0.00
22	T	Acrylonitrile	0.0972	0.1007	-3.60	105	0.00
23	PT	t12dichlorte	0.2507	0.2590	-3.31	106	0.00
24	PT	MtBE	0.7153	0.7181	-0.39	101	0.00
25	T	Hexane	0.3808	0.4530	-18.96	120	0.00
26	PT	11dichlorota	0.4613	0.4837	-4.86	104	0.00
27	T	Vinylacetate	0.4718	0.4652	1.40	98	0.00
28	T	chloroprene	0.3596	0.4053	-12.71	112	0.00
29	T	Diisopether	0.8343	0.8598	-3.06	100	0.00
30	T	ETBE	0.7753	0.8014	-3.37	101	0.00
31	T	22dichloropr	0.3574	0.3833	-7.25	114	0.00
32	PT	c12dichlorte	0.2782	0.2852	-2.52	103	0.00
33	PT	2Butanone	0.0304	0.0311#	-2.30	103	0.00
34	T	propionitrile	0.0330	0.0345	-4.55	104	0.00
35	T	Ethylacetate	0.0123	0.0121#	1.63	104	0.00
36	T	methacrylonitrile	0.1271	0.1260	0.87	105	0.00
37	T	Bromochlorma	0.1159	0.1135	2.07	103	0.00
38	T	Tetrahydofur	0.0752	0.0763	-1.46	100	0.00
39	PT	Chloroform	0.4393	0.4540	-3.35	105	0.00
40	PT	111trichlota	0.3458	0.3789	-9.57	113	0.00
41	S	SURRDibrflma	0.2372	0.2385	-0.55	104	0.00
42	PT	Cyclohexane	0.4322	0.5075	-17.42	123	0.00
43	PT	Carbtetraclo	0.2611	0.2925	-12.03	114	0.00
44	T	11dicloprope	0.1182	0.1283	-8.54	115	0.00
45	S	SURR12DCAd4	0.0716	0.0732	-2.23	109	0.00
46	PT	Benzene	1.0241	1.0868	-6.12	104	0.00
47	PT	12dichlorota	0.3310	0.3359	-1.48	101	0.00
48	T	TAME	0.7309	0.7520	-2.89	101	0.00

49	PT	trichloroete	0.2544	0.2669	-4.91	105	0.00
50	PT	methylcyclohexane	0.4623	0.5433	-17.52	121	0.00
51	PT	12dicloropra	0.3087	0.3149	-2.01	101	0.00
52	T	23Dicl1propene	0.4320	0.4428	-2.50	101	0.00
53	T	Dibromometha	0.1524	0.1540	-1.05	98	0.00
54	T	methylmethacrylate	0.2077	0.2095	-0.87	102	0.00
55	T	14dioxane	0.0008	0.0008#	0.00	95	-0.01
56	PT	Bromodiclrma	0.3403	0.3278	3.67	95	0.00
57	T	2Nitropropane	0.0650	0.0697	-7.23	102	0.00
58	T	2CLEVE	0.1719	0.1828	-6.34	100	0.00
59	PT	c13dicloproe	0.4500	0.4595	-2.11	102	0.00
60	PT	4Meth2Pentan	0.2221	0.2251	-1.35	99	0.00
61	S	SURRd8Tolule	0.9713	0.9782	-0.71	104	0.00
62	PT	Toluene	0.6800	0.6987	-2.75	102	0.00
63	PT	t13Dicloprop	0.3816	0.3804	0.31	100	0.00
64	T	ethylmethacrylate	0.3441	0.3648	-6.02	99	0.00
65	PT	112Triclotha	0.2073	0.2063	0.48	103	0.00
66	PT	Tetrachlorte	0.2457	0.2571	-4.64	109	0.00
67	T	13Diclorpropa	0.4343	0.4344	-0.02	99	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	105	0.00
69	PT	2Hexanone	0.2217	0.2272	-2.48	99	0.00
70	PT	Clorodibrmta	0.3048	0.3049	-0.03	100	0.00
71	PT	12Dibrometha	0.3201	0.3114	2.72	99	0.00
72	PT	Chlorobenzen	0.9262	0.9062	2.16	97	0.00
73	T	1Clhexane	0.5126	0.5376	-4.88	112	0.00
74	T	1112Tetclota	0.3085	0.2963	3.95	97	0.00
75	PT	Ethylbenzene	1.5128	1.6452	-8.75	105	0.00
76	PT	m p-Xylene	0.6055	0.6294	-3.95	104	0.00
77	PT	o-Xylene	0.6127	0.6447	-5.22	106	0.00
78	PT	Styrene	0.9472	1.0028	-5.87	102	0.00
79	PT	Bromoform	0.1962	0.1891	3.62	101	0.00
80	PT	Isopropylben	1.4093	1.5703	-11.42	109	0.00
81	T	cyclohexanone	0.0060	0.0055#	8.33	94	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	101	0.00
83	S	SURR4BrFBenz	1.0559	1.0839	-2.65	105	0.00
84	T	Bromobenzene	0.7641	0.7656	-0.20	101	0.00
85	PT	1122Tetrclta	0.9076	0.9157	-0.89	103	0.00
86	T	123Triclproa	1.1550	1.1902	-3.05	100	0.00
87	T	14dichloro2butene	0.2859	0.3040	-6.33	107	0.00
88	T	n-Propylbenz	3.4842	3.7247	-6.90	103	0.00
89	T	2chlorotolue	2.1031	2.2932	-9.04	102	0.00
90	T	4chlorotolue	2.4696	2.5868	-4.75	101	0.00
91	T	135Trimebenz	2.3290	2.5765	-10.63	103	0.00
92	T	tbutylbenzen	1.9137	2.1173	-10.64	105	0.00
93	T	124Trimetben	2.3451	2.6166	-11.58	104	0.00
94	T	sbutylbenzen	2.7865	3.2276	-15.83	107	0.00
95	PT	13Diclorbenz	1.3207	1.3308	-0.76	98	0.00
96	T	pIsopropylto	2.2555	2.5333	-12.32	104	0.00
97	PT	14dichlorobe	1.3841	1.3668	1.25	99	0.00
98	PT	12dichlorobe	1.2226	1.2321	-0.78	99	0.00
99	T	nButylbenzen	2.2691	2.5205	-11.08	108	0.00
100	PT	12dibromo3cl	0.1439	0.1356	5.77	103	0.00
101	T	135Trichlorobenzene	0.9169	0.9766	-6.51	103	0.00
102	PT	124Trichlobe	0.7390	0.7295	1.29	100	0.00
103	T	Hexachlorobu	0.3270	0.3569	-9.14	111	0.00
104	T	Naphthalene	1.5950	1.7290	-8.40	103	0.00
105	T	123Trichlben	0.6442	0.6577	-2.10	101	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W020420.M Thu Feb 06 08:12:31 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 05 09:06:13 2020

Quant Method : C:\INSTARCH\METHODS\W020420.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020420.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	104	0.00
2	PT	Dichlorodi	10.0000	11.7135	-17.13	121	0.00
3	PT	Chloromethan	10.0000	10.4670	-4.67	105	0.00
4	PT	VinylChlorid	10.0000	11.2574	-12.57	117	0.00
5	PT	Bromomethane	10.0000	10.8740	-8.74	110	0.00
6	PT	Chloroethane	10.0000	11.0984	-10.98	114	0.00
7	T	Dichloroflmethane	10.0000	10.7590	-7.59	112	0.00
8	PT	Trichlorofma	10.0000	11.6219	-16.22	121	0.00
9	T	Ethylether	10.0000	9.9258	0.74	99	0.00
10	T	dichlorotfluoroethan	10.0000	11.5465	-15.47	118	0.00
11	T	propyleneoxide	100.0000	102.4748	-2.47	103	0.00
12	T	Acrolein	50.0000	54.0599	-8.12	106	0.00
13	PT	11dichlorthe	10.0000	11.1138	-11.14	118	0.00
14	PT	Trichlorotfluoroeth	20.0000	24.0189	-20.09#	126	0.00
15	PT	Acetone	100.0000	108.2981	-8.30	104	0.00
16	T	Iodomethane	20.0000	18.0272	9.86	106	0.00
17	PT	Carbon Dislf	20.0000	21.7486	-8.74	112	0.00
18	T	allylchloride	20.0000	21.3258	-6.63	106	0.00
19	PT	methylacetate	10.0000	10.1857	-1.86	108	0.00
20	PT	Methylchlorid	10.0000	9.7647	2.35	98	0.00
21	T	tbutylalcohol	500.0000	519.0570	-3.81	93	0.00
22	T	Acrylonitrile	50.0000	51.8134	-3.63	105	0.00
23	PT	t12dichlorte	10.0000	10.3329	-3.33	106	0.00
24	PT	MtBE	10.0000	10.0387	-0.39	101	0.00
25	T	Hexane	20.0000	23.7903	-18.95	120	0.00
26	PT	11dichlorota	10.0000	10.4845	-4.85	104	0.00
27	T	Vinylacetate	100.0000	102.9343	-2.93	98	0.00
28	T	chloroprene	20.0000	22.5458	-12.73	112	0.00
29	T	Diisopether	10.0000	10.3061	-3.06	100	0.00
30	T	ETBE	10.0000	10.3357	-3.36	101	0.00
31	T	22dichloropr	10.0000	10.7242	-7.24	114	0.00
32	PT	c12dichlorte	10.0000	10.2500	-2.50	103	0.00
33	PT	2Butanone	100.0000	102.5568	-2.56	103	0.00
34	T	propionitrile	100.0000	104.7990	-4.80	104	0.00
35	T	Ethylacetate	50.0000	49.3997	1.20	104	0.00
36	T	methacrylonitrile	20.0000	19.8197	0.90	105	0.00
37	T	Bromochlorma	10.0000	9.7882	2.12	103	0.00
38	T	Tetrahydofur	100.0000	101.5173	-1.52	100	0.00
39	PT	Chloroform	10.0000	10.3367	-3.37	105	0.00
40	PT	111trichlota	10.0000	10.9560	-9.56	113	0.00
41	S	SURRDibrflma	20.0000	20.1139	-0.57	104	0.00
42	PT	Cyclohexane	10.0000	11.7417	-17.42	123	0.00
43	PT	Carbtetraclo	10.0000	11.2043	-12.04	114	0.00
44	T	11dicloprope	10.0000	10.8545	-8.54	115	0.00
45	S	SURR12DCAd4	20.0000	20.4265	-2.13	109	0.00
46	PT	Benzene	10.0000	10.6118	-6.12	104	0.00
47	PT	12dichlorota	10.0000	10.1463	-1.46	101	0.00
48	T	TAME	10.0000	10.2884	-2.88	101	0.00

49	PT	trichloroete	10.0000	10.4933	-4.93	105	0.00
50	PT	methylcyclohexane	10.0000	11.7537	-17.54	121	0.00
51	PT	12dicloropra	10.0000	10.2012	-2.01	101	0.00
52	T	23Dicl1propene	10.0000	10.2496	-2.50	101	0.00
53	T	Dibromometha	10.0000	10.0995	-1.00	98	0.00
54	T	methylmethacrylate	10.0000	10.0888	-0.89	102	0.00
55	T	14dioxane	500.0000	594.1969	-18.84	95	-0.01
56	PT	Bromodiclrma	10.0000	9.6329	3.67	95	0.00
57	T	2Nitropropane	100.0000	107.1848	-7.18	102	0.00
58	T	2CLEVE	50.0000	53.1762	-6.35	100	0.00
59	PT	c13dicloproe	10.0000	10.2115	-2.11	102	0.00
60	PT	4Meth2Pentan	100.0000	99.4959	0.50	99	0.00
61	S	SURRd8Tolule	20.0000	20.1416	-0.71	104	0.00
62	PT	Toluene	10.0000	10.2750	-2.75	102	0.00
63	PT	t13Dicloprop	10.0000	9.9684	0.32	100	0.00
64	T	ethylmethacrylate	20.0000	21.2068	-6.03	99	0.00
65	PT	112Triclotha	10.0000	9.9544	0.46	103	0.00
66	PT	Tetrachlorte	10.0000	10.4627	-4.63	109	0.00
67	T	13Diclorpropa	10.0000	10.0025	-0.02	99	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	105	0.00
69	PT	2Hexanone	100.0000	102.4905	-2.49	99	0.00
70	PT	Clorodibrmta	10.0000	10.0044	-0.04	100	0.00
71	PT	12Dibrometha	10.0000	9.7271	2.73	99	0.00
72	PT	Chlorobenzen	10.0000	9.7839	2.16	97	0.00
73	T	1Clhexane	10.0000	10.4859	-4.86	112	0.00
74	T	1112Tetclota	10.0000	9.6044	3.96	97	0.00
75	PT	Ethylbenzene	10.0000	10.8748	-8.75	105	0.00
76	PT	m p-Xylene	20.0000	20.7905	-3.95	104	0.00
77	PT	o-Xylene	10.0000	10.5219	-5.22	106	0.00
78	PT	Styrene	10.0000	10.5867	-5.87	102	0.00
79	PT	Bromoform	10.0000	9.6339	3.66	101	0.00
80	PT	Isopropylben	10.0000	11.1428	-11.43	109	0.00
81	T	cyclohexanone	200.0000	197.7496	1.13	94	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	101	0.00
83	S	SURR4BrFBenz	20.0000	20.5306	-2.65	105	0.00
84	T	Bromobenzene	10.0000	10.0196	-0.20	101	0.00
85	PT	1122Tetrclta	10.0000	10.0891	-0.89	103	0.00
86	T	123Triclproa	10.0000	10.3051	-3.05	100	0.00
87	T	14dichloro2butene	10.0000	10.6322	-6.32	107	0.00
88	T	n-Propylbenz	10.0000	10.6904	-6.90	103	0.00
89	T	2chlorotolue	10.0000	10.9043	-9.04	102	0.00
90	T	4chlorotolue	10.0000	10.4746	-4.75	101	0.00
91	T	135Trimebenz	10.0000	11.0630	-10.63	103	0.00
92	T	tbutylbenzen	10.0000	11.0639	-10.64	105	0.00
93	T	124Trimetben	10.0000	11.1578	-11.58	104	0.00
94	T	sbutylbenzen	10.0000	11.5828	-15.83	107	0.00
95	PT	13Diclorbenz	10.0000	10.0764	-0.76	98	0.00
96	T	pIsopropylto	10.0000	11.2320	-12.32	104	0.00
97	PT	14dichlorobe	10.0000	9.8744	1.26	99	0.00
98	PT	12dichlorobe	10.0000	10.0777	-0.78	99	0.00
99	T	nButylbenzen	10.0000	11.1082	-11.08	108	0.00
100	PT	12dibromo3cl	10.0000	9.4201	5.80	103	0.00
101	T	135Trichlorobenzene	10.0000	10.6503	-6.50	103	0.00
102	PT	124Trichlobe	10.0000	9.8712	1.29	100	0.00
103	T	Hexachlorobu	10.0000	10.9132	-9.13	111	0.00
104	T	Naphthalene	10.0000	10.8400	-8.40	103	0.00
105	T	123Trichlben	10.0000	10.2097	-2.10	101	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020420.M Thu Feb 06 08:13:24 2020

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1370059	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1006807	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	496845	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	326827	20.114	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	100257	20.426	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1340135	20.142	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	538517	20.531	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	175015	11.7135	ug/L	99
3) Chloromethan	2.09	50	212994	10.4670	ug/L	98
4) VinylChlorid	2.25	62	213307	11.2574	ug/L	100
5) Bromomethane	2.73	94	110580	10.8740	ug/L	95
6) Chloroethane	2.89	64	122273	11.0984	ug/L	97
7) Dichloroflmethane	3.19	67	305616	10.7590	ug/L	99
8) Trichlorofma	3.28	101	238280	11.6219	ug/L	98
9) Ethylether	3.73	59	163465	9.9258	ug/L	98
10) dichlorotfluoroethan	3.73	67	198513	11.5465	ug/L	98
11) propyleneoxide	3.78	58	340736	102.4748	ug/L	99
12) Acrolein	3.86	56	169654	54.0599	ug/L	99
13) 11dichlorthe	4.00	96	156880	11.1138	ug/L	96
14) Trichlorotfluoroeth	4.04	101	312570	24.0189	ug/L	98
15) Acetone	4.09	43	429997	108.2981	ug/L	98
16) Iodomethane	4.18	142	255654	18.0272	ug/L	99
17) Carbon Dislf	4.27	76	975811	21.7486	ug/L	99
18) allylchloride	4.49	41	592806	21.3258	ug/L	99
19) methylacetate	4.56	74	45657	10.1857	ug/L	92
20) Methylchlorid	4.64	84	185110	9.7647	ug/L	96
21) tbutylalcohol	4.88	59	520133	519.0570	ug/L	97
22) Acrylonitrile	4.95	53	344907	51.8134	ug/L	96
23) t12dichlorte	5.02	96	177439	10.3329	ug/L	99
24) MtBE	5.08	73	491913	10.0387	ug/L	99
25) Hexane	5.41	57	620669	23.7903	ug/L	99
26) 11dichlorota	5.55	63	331338	10.4845	ug/L	98
27) Vinylacetate	5.65	43	3186606	102.9343	ug/L	99
28) chloroprene	5.68	53	555348	22.5458	ug/L	98
29) Diisopether	5.71	45	589018	10.3061	ug/L	100
30) ETBE	6.16	59	548952	10.3357	ug/L	100
31) 22dichloropr	6.29	77	262541	10.7242	ug/L	99
32) c12dichlorte	6.27	96	195349	10.2500	ug/L	97
33) 2Butanone	6.32	72	213374	102.5568	ug/L	99
34) propionitrile	6.35	54	236665	104.7990	ug/L	96
35) Ethylacetate	6.42	88	41535	49.3997	ug/L #	91
36) methacrylonitrile	6.55	67	172622	19.8197	ug/L	97
37) Bromochlorma	6.56	128	77718	9.7882	ug/L	99
38) Tetrahydofur	6.68	42	522675	101.5173	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	311034	10.3367	ug/L	97
40)	111trichlota	6.92	97	259548	10.9560	ug/L	99
42)	Cyclohexane	7.00	56	347626	11.7417	ug/L	98
43)	Carbtetraclo	7.13	119	200364	11.2043	ug/L	98
44)	11dicloprope	7.12	110	87922	10.8545	ug/L	99
46)	Benzene	7.37	78	744497	10.6118	ug/L	99
47)	12dichlorota	7.37	62	230092	10.1463	ug/L	97
48)	TAME	7.56	73	515141	10.2884	ug/L	98
49)	trichloroete	8.17	95	182846	10.4933	ug/L	98
50)	methylcyclohexane	8.44	83	372193	11.7537	ug/L	98
51)	12dicloropra	8.44	63	215715	10.2012	ug/L	95
52)	23Dicl1propene	8.50	75	303318	10.2496	ug/L	99
53)	Dibromometha	8.58	93	105470	10.0995	ug/L	97
54)	methylmethacrylate	8.62	69	143528	10.0888	ug/L	99
55)	14dioxane	8.64	88	28996	594.1969	ug/L	93
56)	Bromodiclrma	8.78	83	224545	9.6329	ug/L	97
57)	2Nitropropane	9.06	43	477345	107.1848	ug/L	99
58)	2CLEVE	9.17	63	626101	53.1762	ug/L	99
59)	c13dicloproe	9.36	75	314789	10.2115	ug/L	99
60)	4Meth2Pentan	9.58	43	1541730	99.4959	ug/L	99
62)	Toluene	9.80	92	478620	10.2750	ug/L	98
63)	t13Dicloprop	10.07	75	260570	9.9684	ug/L	99
64)	ethylmethacrylate	10.22	69	499821	21.2068	ug/L	99
65)	112Triclotha	10.31	83	141354	9.9544	ug/L	97
66)	Tetrachlorte	10.54	166	176105	10.4627	ug/L	98
67)	13Diclorpropa	10.53	76	297591	10.0025	ug/L	99
69)	2Hexanone	10.67	43	1143730	102.4905	ug/L	100
70)	Clorodibrmta	10.83	129	153490	10.0044	ug/L	98
71)	12Dibrometha	10.98	107	156749	9.7271	ug/L	100
72)	Chlorobenzen	11.67	112	456196	9.7839	ug/L	98
73)	1Clhexane	11.65	91	270606	10.4859	ug/L	99
74)	1112Tetclota	11.78	131	149153	9.6044	ug/L	96
75)	Ethylbenzene	11.83	91	828192	10.8748	ug/L	99
76)	m p-Xylene	11.99	106	633729	20.7905	ug/L	98
77)	o-Xylene	12.54	106	324548	10.5219	ug/L	94
78)	Styrene	12.55	104	504815	10.5867	ug/L	98
79)	Bromoform	12.78	173	95173	9.6339	ug/L	99
80)	Isopropylben	13.07	105	790501	11.1428	ug/L	97
81)	cyclohexanone	13.17	55	55314	197.7496	ug/L	97
84)	Bromobenzene	13.48	156	190181	10.0196	ug/L	98
85)	1122Tetrclta	13.45	83	227477	10.0891	ug/L	94
86)	123Triclproa	13.51	75	295671	10.3051	ug/L	100
87)	14dichloro2butene	13.54	53	75520	10.6322	ug/L	98
88)	n-Propylbenz	13.65	91	925311	10.6904	ug/L	100
89)	2chlorotolue	13.76	91	569693	10.9043	ug/L	99
90)	4chlorotolue	13.92	91	642628	10.4746	ug/L	100
91)	135Trimebenz	13.91	105	640066	11.0630	ug/L	99
92)	tbutylbenzen	14.38	119	525984	11.0639	ug/L	98
93)	124Trimetben	14.45	105	650027	11.1578	ug/L	100
94)	sbutylbenzen	14.70	105	801810	11.5828	ug/L	99
95)	13Diclorbenz	14.84	146	330603	10.0764	ug/L	98
96)	pIsopropylto	14.91	119	629335	11.2320	ug/L	100
97)	14dichlorobe	14.96	146	339532	9.8744	ug/L	99
98)	12dichlorobe	15.50	146	306093	10.0777	ug/L	99
99)	nButylbenzen	15.51	91	626150	11.1082	ug/L	97
100)	12dibromo3cl	16.60	157	33679	9.4201	ug/L	94
101)	135Trichlorobenzene	16.93	180	242600	10.6503	ug/L	96

(#) = qualifier out of range (m) = manual integration

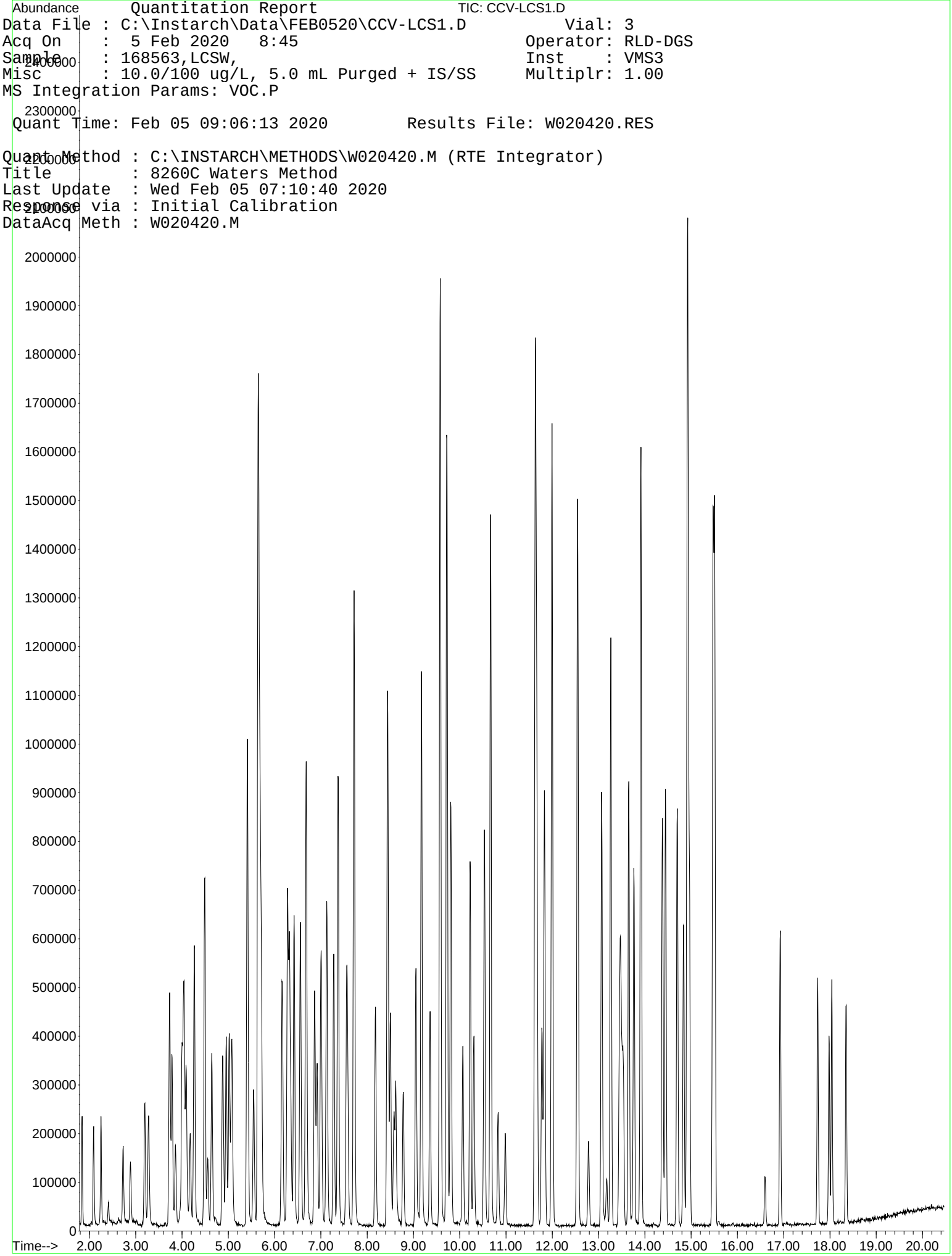
Quantitation Report
Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.74	180	181215	9.8712	ug/L	95
103)	Hexachlorobu	17.99	225	88653	10.9132	ug/L	95
104)	Naphthalene	18.04	128	429515	10.8400	ug/L	98
105)	123Trichlben	18.35	180	163394	10.2097	ug/L	100

(#) = qualifier out of range (m) = manual integration



Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 05 17:33:35 2020

Quant Method : C:\INSTARCH\METHODS\W020420.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020420.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	83	0.00
2	PT	Dichlorodi	0.2181	0.2674	-22.60	101	0.00
3	PT	Chloromethan	0.2971	0.3492	-17.54	94	0.00
4	PT	VinylChlorid	0.2766	0.3334	-20.54	100	0.00
5	PT	Bromomethane	0.1484	0.1627	-9.64	89	0.00
6	PT	Chloroethane	0.1608	0.1922	-19.53	98	0.00
7	T	Dichloroflmethane	0.4147	0.4727	-13.99	95	0.00
8	PT	Trichlorofma	0.2993	0.3758	-25.56	105	0.00
9	T	Ethylether	0.2404	0.2539	-5.62	84	0.00
10	T	dichlorotfluoroethan	0.2510	0.3059	-21.87	99	0.00
11	T	propyleneoxide	0.0485	0.0496	-2.27	82	0.00
12	T	Acrolein	0.0458	0.0521	-13.76	89	0.00
13	PT	11dichlorthe	0.2061	0.2523	-22.42	104	0.00
14	PT	Trichlorotfluoroeth	0.1900	0.2392	-25.89	106	0.00
15	PT	Acetone	0.0622	0.0657#	-5.63	87	0.00
16	T	Iodomethane	0.1851	0.1785	3.57	81	0.00
17	PT	Carbon Dislf	0.6550	0.7579	-15.71	95	0.00
18	T	allylchloride	0.4058	0.4658	-14.79	92	0.00
19	PT	methylacetate	0.0654	0.0688#	-5.20	89	0.00
20	PT	Methylchlorid	0.2959	0.2962	-0.10	86	0.00
21	T	tbutylalcohol	0.0155	0.0160#	-3.23	79	0.00
22	T	Acrylonitrile	0.0972	0.1059	-8.95	88	0.00
23	PT	t12dichlorte	0.2507	0.2712	-8.18	88	0.00
24	PT	MtBE	0.7153	0.7652	-6.98	86	0.00
25	T	Hexane	0.3808	0.4849	-27.34	103	0.00
26	PT	11dichlorota	0.4613	0.5388	-16.80	93	0.00
27	T	Vinylacetate	0.4718	0.4343	7.95	73	0.00
28	T	chloroprene	0.3596	0.4344	-20.80	96	0.00
29	T	Diisopether	0.8343	0.9632	-15.45	89	0.00
30	T	ETBE	0.7753	0.8735	-12.67	88	0.00
31	T	22dichloropr	0.3574	0.3584	-0.28	85	0.00
32	PT	c12dichlorte	0.2782	0.3062	-10.06	88	0.00
33	PT	2Butanone	0.0304	0.0327#	-7.57	86	0.00
34	T	propionitrile	0.0330	0.0358	-8.48	86	0.00
35	T	Ethylacetate	0.0123	0.0124#	-0.81	86	0.00
36	T	methacrylonitrile	0.1271	0.1308	-2.91	87	0.00
37	T	Bromochlorma	0.1159	0.1270	-9.58	92	0.00
38	T	Tetrahydofur	0.0752	0.0833	-10.77	88	0.00
39	PT	Chloroform	0.4393	0.4880	-11.09	90	0.00
40	PT	111trichlota	0.3458	0.4117	-19.06	98	0.00
41	S	SURRDibrflma	0.2372	0.2329	1.81	81	0.00
42	PT	Cyclohexane	0.4322	0.5589	-29.32	108	0.00
43	PT	Carbtetraclo	0.2611	0.3177	-21.68	99	0.00
44	T	11dicloprope	0.1182	0.1343	-13.62	96	0.00
45	S	SURR12DCAd4	0.0716	0.0729	-1.82	87	0.00
46	PT	Benzene	1.0241	1.2199	-19.12	94	0.00
47	PT	12dichlorota	0.3310	0.3662	-10.63	88	0.00
48	T	TAME	0.7309	0.8052	-10.17	86	0.00

49	PT	trichloroete	0.2544	0.2984	-17.30	94	0.00
50	PT	methylcyclohexane	0.4623	0.5947	-28.64	106	0.00
51	PT	12dicloropra	0.3087	0.3505	-13.54	90	0.00
52	T	23Dicl1propene	0.4320	0.4926	-14.03	90	0.00
53	T	Dibromometha	0.1524	0.1628	-6.82	83	0.00
54	T	methylmethacrylate	0.2077	0.2237	-7.70	87	0.00
55	T	14dioxane	0.0008	0.0008#	0.00	68	0.00
56	PT	Bromodiclrma	0.3403	0.3638	-6.91	85	0.00
57	T	2Nitropropane	0.0650	0.0717	-10.31	84	0.00
58	T	2CLEVE	0.1719	0.1949	-13.38	85	0.00
59	PT	c13dicloproe	0.4500	0.4773	-6.07	85	0.00
60	PT	4Meth2Pentan	0.2221	0.2509	-12.97	88	0.00
61	S	SURRd8Tolule	0.9713	0.9787	-0.76	83	0.00
62	PT	Toluene	0.6800	0.7765	-14.19	90	0.00
63	PT	t13Dicloprop	0.3816	0.3954	-3.62	83	0.00
64	T	ethylmethacrylate	0.3441	0.3977	-15.58	86	0.00
65	PT	112Triclotha	0.2073	0.2248	-8.44	90	0.00
66	PT	Tetrachlorte	0.2457	0.2892	-17.70	98	0.00
67	T	13Diclorpropa	0.4343	0.4714	-8.54	86	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	85	0.00
69	PT	2Hexanone	0.2217	0.2496	-12.58	87	0.00
70	PT	Clorodibrmta	0.3048	0.3204	-5.12	85	0.00
71	PT	12Dibrometha	0.3201	0.3400	-6.22	87	0.00
72	PT	Chlorobenzen	0.9262	1.0086	-8.90	87	0.00
73	T	1Clhexane	0.5126	0.5906	-15.22	99	0.00
74	T	1112Tetclota	0.3085	0.3313	-7.39	87	0.00
75	PT	Ethylbenzene	1.5128	1.7965	-18.75	93	0.00
76	PT	m p-Xylene	0.6055	0.7005	-15.69	93	0.00
77	PT	o-Xylene	0.6127	0.6879	-12.27	91	0.00
78	PT	Styrene	0.9472	1.1139	-17.60	91	0.00
79	PT	Bromoform	0.1962	0.1847	5.86	79	0.00
80	PT	Isopropylben	1.4093	1.6951	-20.28	95	0.00
81	T	cyclohexanone	0.0060	0.0056#	6.67	77	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	81	0.00
83	S	SURR4BrFBenz	1.0559	1.0527	0.30	82	0.00
84	T	Bromobenzene	0.7641	0.8570	-12.16	91	0.00
85	PT	1122Tetrclta	0.9076	0.9386	-3.42	85	0.00
86	T	123Triclproa	1.1550	1.2135	-5.06	82	0.00
87	T	14dichloro2butene	0.2859	0.2550	10.81	72	0.00
88	T	n-Propylbenz	3.4842	4.1992	-20.52	93	0.00
89	T	2chlorotolue	2.1031	2.4846	-18.14	89	0.00
90	T	4chlorotolue	2.4696	2.9312	-18.69	91	0.00
91	T	135Trimebenz	2.3290	2.8832	-23.80	93	0.00
92	T	tbutylbenzen	1.9137	2.3012	-20.25	91	0.00
93	T	124Trimetben	2.3451	2.8578	-21.86	91	0.00
94	T	sbutylbenzen	2.7865	3.6187	-29.87	96	0.00
95	PT	13Diclorbenz	1.3207	1.5010	-13.65	89	0.00
96	T	pIsopropylto	2.2555	2.8448	-26.13	93	0.00
97	PT	14dichlorobe	1.3841	1.5552	-12.36	90	0.00
98	PT	12dichlorobe	1.2226	1.3929	-13.93	89	0.00
99	T	nButylbenzen	2.2691	2.8222	-24.38	97	0.00
100	PT	12dibromo3cl	0.1439	0.1435	0.28	87	0.00
101	T	135Trichlorobenzene	0.9169	1.0632	-15.96	90	0.00
102	PT	124Trichlobe	0.7390	0.8268	-11.88	91	0.00
103	T	Hexachlorobu	0.3270	0.3975	-21.56	99	0.00
104	T	Naphthalene	1.5950	1.9137	-19.98	91	0.00
105	T	123Trichlben	0.6442	0.7144	-10.90	88	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W020420.M Thu Feb 06 08:15:25 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 05 17:33:35 2020

Quant Method : C:\INSTARCH\METHODS\W020420.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020420.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	83	0.00
2	PT	Dichlorodi	10.0000	12.2605	-22.61	101	0.00
3	PT	Chloromethan	10.0000	11.7544	-17.54	94	0.00
4	PT	VinylChlorid	10.0000	12.0517	-20.52	100	0.00
5	PT	Bromomethane	10.0000	10.9625	-9.63	89	0.00
6	PT	Chloroethane	10.0000	11.9495	-19.50	98	0.00
7	T	Dichloroflmethane	10.0000	11.3988	-13.99	95	0.00
8	PT	Trichlorofma	10.0000	12.5555	-25.56	105	0.00
9	T	Ethylether	10.0000	10.5627	-5.63	84	0.00
10	T	dichlorotfluoroethan	10.0000	12.1865	-21.87	99	0.00
11	T	propyleneoxide	100.0000	102.2602	-2.26	82	0.00
12	T	Acrolein	50.0000	56.8570	-13.71	89	0.00
13	PT	11dichlorthe	10.0000	12.2458	-22.46	104	0.00
14	PT	Trichlorotfluoroeth	20.0000	25.1834	-25.92	106	0.00
15	PT	Acetone	100.0000	113.8470	-13.85	87	0.00
16	T	Iodomethane	20.0000	17.3671	13.16	81	0.00
17	PT	Carbon Dislf	20.0000	23.1431	-15.72	95	0.00
18	T	allylchloride	20.0000	22.9566	-14.78	92	0.00
19	PT	methylacetate	10.0000	10.5122	-5.12	89	0.00
20	PT	Methylchlorid	10.0000	10.7478	-7.48	86	0.00
21	T	tbutylalcohol	500.0000	551.3662	-10.27	79	0.00
22	T	Acrylonitrile	50.0000	54.4900	-8.98	88	0.00
23	PT	t12dichlorte	10.0000	10.8166	-8.17	88	0.00
24	PT	MtBE	10.0000	10.6968	-6.97	86	0.00
25	T	Hexane	20.0000	25.4635	-27.32	103	0.00
26	PT	11dichlorota	10.0000	11.6787	-16.79	93	0.00
27	T	Vinylacetate	100.0000	94.6303	5.37	73	0.00
28	T	chloroprene	20.0000	24.1599	-20.80	96	0.00
29	T	Diisopether	10.0000	11.5449	-15.45	89	0.00
30	T	ETBE	10.0000	11.2658	-12.66	88	0.00
31	T	22dichloropr	10.0000	10.0275	-0.27	85	0.00
32	PT	c12dichlorte	10.0000	11.0064	-10.06	88	0.00
33	PT	2Butanone	100.0000	107.5511	-7.55	86	0.00
34	T	propionitrile	100.0000	108.6105	-8.61	86	0.00
35	T	Ethylacetate	50.0000	50.6839	-1.37	86	0.00
36	T	methacrylonitrile	20.0000	20.5786	-2.89	87	0.00
37	T	Bromochlorma	10.0000	10.9543	-9.54	92	0.00
38	T	Tetrahydofur	100.0000	110.8804	-10.88	88	0.00
39	PT	Chloroform	10.0000	11.1102	-11.10	90	0.00
40	PT	111trichlota	10.0000	11.9042	-19.04	98	0.00
41	S	SURRDibrflma	20.0000	19.6374	1.81	81	0.00
42	PT	Cyclohexane	10.0000	12.9320	-29.32	108	0.00
43	PT	Carbtetraclo	10.0000	12.1717	-21.72	99	0.00
44	T	11dicloprope	10.0000	11.3563	-13.56	96	0.00
45	S	SURR12DCAd4	20.0000	20.3371	-1.69	87	0.00
46	PT	Benzene	10.0000	11.9115	-19.12	94	0.00
47	PT	12dichlorota	10.0000	11.0611	-10.61	88	0.00
48	T	TAME	10.0000	11.0165	-10.17	86	0.00

49	PT	trichloroete	10.0000	11.7327	-17.33	94	0.00
50	PT	methylcyclohexane	10.0000	12.8647	-28.65	106	0.00
51	PT	12dicloropra	10.0000	11.3529	-13.53	90	0.00
52	T	23Dicl1propene	10.0000	11.4040	-14.04	90	0.00
53	T	Dibromometha	10.0000	10.6813	-6.81	83	0.00
54	T	methylmethacrylate	10.0000	10.7738	-7.74	87	0.00
55	T	14dioxane	500.0000	511.1469	-2.23	68	0.00
56	PT	Bromodiclrma	10.0000	10.6899	-6.90	85	0.00
57	T	2Nitropropane	100.0000	110.2915	-10.29	84	0.00
58	T	2CLEVE	50.0000	56.7020	-13.40	85	0.00
59	PT	c13dicloproe	10.0000	10.6058	-6.06	85	0.00
60	PT	4Meth2Pentan	100.0000	112.6490	-12.65	88	0.00
61	S	SURRd8Tolule	20.0000	20.1535	-0.77	83	0.00
62	PT	Toluene	10.0000	11.4190	-14.19	90	0.00
63	PT	t13Dicloprop	10.0000	10.3621	-3.62	83	0.00
64	T	ethylmethacrylate	20.0000	23.1180	-15.59	86	0.00
65	PT	112Triclotha	10.0000	10.8468	-8.47	90	0.00
66	PT	Tetrachlorte	10.0000	11.7687	-17.69	98	0.00
67	T	13Diclorpropa	10.0000	10.8543	-8.54	86	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	85	0.00
69	PT	2Hexanone	100.0000	112.5951	-12.60	87	0.00
70	PT	Clorodibrmta	10.0000	10.5132	-5.13	85	0.00
71	PT	12Dibrometha	10.0000	10.6228	-6.23	87	0.00
72	PT	Chlorobenzen	10.0000	10.8888	-8.89	87	0.00
73	T	1Clhexane	10.0000	11.5216	-15.22	99	0.00
74	T	1112Tetclota	10.0000	10.7399	-7.40	87	0.00
75	PT	Ethylbenzene	10.0000	11.8750	-18.75	93	0.00
76	PT	m p-Xylene	20.0000	23.1386	-15.69	93	0.00
77	PT	o-Xylene	10.0000	11.2263	-12.26	91	0.00
78	PT	Styrene	10.0000	11.7590	-17.59	91	0.00
79	PT	Bromoform	10.0000	9.4105	5.89	79	0.00
80	PT	Isopropylben	10.0000	12.0286	-20.29	95	0.00
81	T	cyclohexanone	200.0000	201.8146	-0.91	77	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	81	0.00
83	S	SURR4BrFBenz	20.0000	19.9394	0.30	82	0.00
84	T	Bromobenzene	10.0000	11.2159	-12.16	91	0.00
85	PT	1122Tetrclta	10.0000	10.3419	-3.42	85	0.00
86	T	123Triclproa	10.0000	10.5066	-5.07	82	0.00
87	T	14dichloro2butene	10.0000	8.9190	10.81	72	0.00
88	T	n-Propylbenz	10.0000	12.0522	-20.52	93	0.00
89	T	2chlorotolue	10.0000	11.8144	-18.14	89	0.00
90	T	4chlorotolue	10.0000	11.8689	-18.69	91	0.00
91	T	135Trimebenz	10.0000	12.3799	-23.80	93	0.00
92	T	tbutylbenzen	10.0000	12.0251	-20.25	91	0.00
93	T	124Trimetben	10.0000	12.1863	-21.86	91	0.00
94	T	sbutylbenzen	10.0000	12.9863	-29.86	96	0.00
95	PT	13Diclorbenz	10.0000	11.3653	-13.65	89	0.00
96	T	pIsopropylto	10.0000	12.6130	-26.13	93	0.00
97	PT	14dichlorobe	10.0000	11.2356	-12.36	90	0.00
98	PT	12dichlorobe	10.0000	11.3927	-13.93	89	0.00
99	T	nButylbenzen	10.0000	12.4378	-24.38	97	0.00
100	PT	12dibromo3cl	10.0000	9.9687	0.31	87	0.00
101	T	135Trichlorobenzene	10.0000	11.5949	-15.95	90	0.00
102	PT	124Trichlobe	10.0000	11.1887	-11.89	91	0.00
103	T	Hexachlorobu	10.0000	12.1569	-21.57	99	0.00
104	T	Naphthalene	10.0000	11.9985	-19.98	91	0.00
105	T	123Trichlben	10.0000	11.0898	-10.90	88	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020420.M Thu Feb 06 08:15:46 2020

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1095282	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	809787	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	397599	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	255090	19.637 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %		
45) SURR12DCAd4	7.28	102	79799	20.337 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %		
61) SURRd8Tolule	9.72	98	1071993	20.154 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.26	95	418538	19.939 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	1.84	85	146449	12.2605 ug/L	97
3) Chloromethan	2.09	50	191220	11.7544 ug/L	99
4) VinylChlorid	2.25	62	182559	12.0517 ug/L	99
5) Bromomethane	2.72	94	89121	10.9625 ug/L	99
6) Chloroethane	2.89	64	105246	11.9495 ug/L	95
7) Dichloroflmethane	3.20	67	258853	11.3988 ug/L	99
8) Trichlorofma	3.28	101	205794	12.5555 ug/L	99
9) Ethylether	3.73	59	139065	10.5627 ug/L	98
10) dichlorotfluoroethan	3.73	67	167497	12.1865 ug/L	98
11) propyleneoxide	3.79	58	271828	102.2602 ug/L	98
12) Acrolein	3.86	56	142646	56.8570 ug/L	97
13) 11dichlorthe	4.00	96	138191	12.2458 ug/L	95
14) Trichlorotfluoroeth	4.04	101	261996	25.1834 ug/L	99
15) Acetone	4.09	43	359929	113.8470 ug/L	94
16) Iodomethane	4.18	142	195516	17.3671 ug/L	97
17) Carbon Dislf	4.27	76	830125	23.1431 ug/L	99
18) allylchloride	4.49	41	510154	22.9566 ug/L	98
19) methylacetate	4.55	74	37670	10.5122 ug/L	99
20) Methylchlorid	4.64	84	162195	10.7478 ug/L	95
21) tbutylalcohol	4.88	59	439050	551.3662 ug/L	95
22) Acrylonitrile	4.95	53	289977	54.4900 ug/L	98
23) t12dichlorte	5.02	96	148493	10.8166 ug/L	95
24) MtBE	5.07	73	419036	10.6968 ug/L	99
25) Hexane	5.42	57	531086	25.4635 ug/L	99
26) 11dichlorota	5.55	63	295056	11.6787 ug/L	99
27) Vinylacetate	5.65	43	2378382	94.6303 ug/L	97
28) chloroprene	5.68	53	475752	24.1599 ug/L	99
29) Diisopether	5.71	45	527487	11.5449 ug/L	97
30) ETBE	6.17	59	478346	11.2658 ug/L	98
31) 22dichloropr	6.29	77	196251	10.0275 ug/L	98
32) c12dichlorte	6.28	96	167694	11.0064 ug/L	96
33) 2Butanone	6.32	72	178887	107.5511 ug/L	99
34) propionitrile	6.35	54	196081	108.6105 ug/L	98
35) Ethylacetate	6.42	88	34068	50.6839 ug/L	99
36) methacrylonitrile	6.55	67	143285	20.5786 ug/L	99
37) Bromochlorma	6.57	128	69533	10.9543 ug/L	98
38) Tetrahydofur	6.68	42	456387	110.8804 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.67	83	267260	11.1102	ug/L	98
40)	111trichlota	6.92	97	225452	11.9042	ug/L	99
42)	Cyclohexane	7.00	56	306080	12.9320	ug/L	99
43)	Carbtetraclo	7.13	119	174010	12.1717	ug/L	97
44)	11dicloprope	7.12	110	73538	11.3563	ug/L	95
46)	Benzene	7.37	78	668073	11.9115	ug/L	98
47)	12dichlorota	7.37	62	200530	11.0611	ug/L	98
48)	TAME	7.56	73	440969	11.0165	ug/L	97
49)	trichloroete	8.17	95	163439	11.7327	ug/L	97
50)	methylcyclohexane	8.44	83	325672	12.8647	ug/L	98
51)	12dicloropra	8.44	63	191921	11.3529	ug/L	99
52)	23Dicl1propene	8.50	75	269795	11.4040	ug/L	98
53)	Dibromometha	8.58	93	89175	10.6813	ug/L	92
54)	methylmethacrylate	8.62	69	122533	10.7738	ug/L	99
55)	14dioxane	8.65	88	20606	511.1469	ug/L	92
56)	Bromodiclrma	8.78	83	199209	10.6899	ug/L	97
57)	2Nitropropane	9.05	43	392670	110.2915	ug/L	99
58)	2CLEVE	9.18	63	533718	56.7020	ug/L	99
59)	c13dicloproe	9.36	75	261373	10.6058	ug/L	100
60)	4Meth2Pentan	9.58	43	1373772	112.6490	ug/L	99
62)	Toluene	9.81	92	425227	11.4190	ug/L	97
63)	t13Dicloprop	10.07	75	216536	10.3621	ug/L	98
64)	ethylmethacrylate	10.23	69	435590	23.1180	ug/L	100
65)	112Triclotha	10.30	83	123135	10.8468	ug/L	98
66)	Tetrachlorte	10.54	166	158359	11.7687	ug/L	97
67)	13Diclorpropa	10.53	76	258167	10.8543	ug/L	100
69)	2Hexanone	10.67	43	1010611	112.5951	ug/L	99
70)	Clorodibrmta	10.83	129	129733	10.5132	ug/L	99
71)	12Dibrometha	10.98	107	137684	10.6228	ug/L	99
72)	Chlorobenzen	11.67	112	408363	10.8888	ug/L	98
73)	1Clhexane	11.65	91	239149	11.5216	ug/L	99
74)	1112Tetclota	11.78	131	134149	10.7399	ug/L	98
75)	Ethylbenzene	11.84	91	727395	11.8750	ug/L	100
76)	m p-Xylene	11.99	106	567283	23.1386	ug/L	99
77)	o-Xylene	12.54	106	278512	11.2263	ug/L	99
78)	Styrene	12.55	104	450991	11.7590	ug/L	97
79)	Bromoform	12.78	173	74774	9.4105	ug/L	97
80)	Isopropylben	13.07	105	686352	12.0286	ug/L	99
81)	cyclohexanone	13.18	55	45304	201.8146	ug/L	96
84)	Bromobenzene	13.48	156	170363	11.2159	ug/L	95
85)	1122Tetrclta	13.45	83	186600	10.3419	ug/L	97
86)	123Triclproa	13.51	75	241237	10.5066	ug/L	97
87)	14dichloro2butene	13.54	53	50697	8.9190	ug/L	99
88)	n-Propylbenz	13.65	91	834806	12.0522	ug/L	100
89)	2chlorotolue	13.76	91	493945	11.8144	ug/L	98
90)	4chlorotolue	13.92	91	582714	11.8689	ug/L	98
91)	135Trimebenz	13.91	105	573185	12.3799	ug/L	99
92)	tbutylbenzen	14.38	119	457485	12.0251	ug/L	97
93)	124Trimetben	14.45	105	568132	12.1863	ug/L	97
94)	sbutylbenzen	14.70	105	719392	12.9863	ug/L	100
95)	13Diclorbenz	14.83	146	298405	11.3653	ug/L	97
96)	pIsopropylto	14.91	119	565547	12.6130	ug/L	99
97)	14dichlorobe	14.97	146	309166	11.2356	ug/L	99
98)	12dichlorobe	15.50	146	276912	11.3927	ug/L	98
99)	nButylbenzen	15.51	91	561052	12.4378	ug/L	97
100)	12dibromo3cl	16.60	157	28521	9.9687	ug/L	99
101)	135Trichlorobenzene	16.93	180	211360	11.5949	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	164373	11.1887	ug/L	100
103) Hexachlorobu	17.99	225	79029	12.1569	ug/L	94
104) Naphthalene	18.04	128	380452	11.9985	ug/L	99
105) 123Trichlben	18.35	180	142027	11.0898	ug/L	97

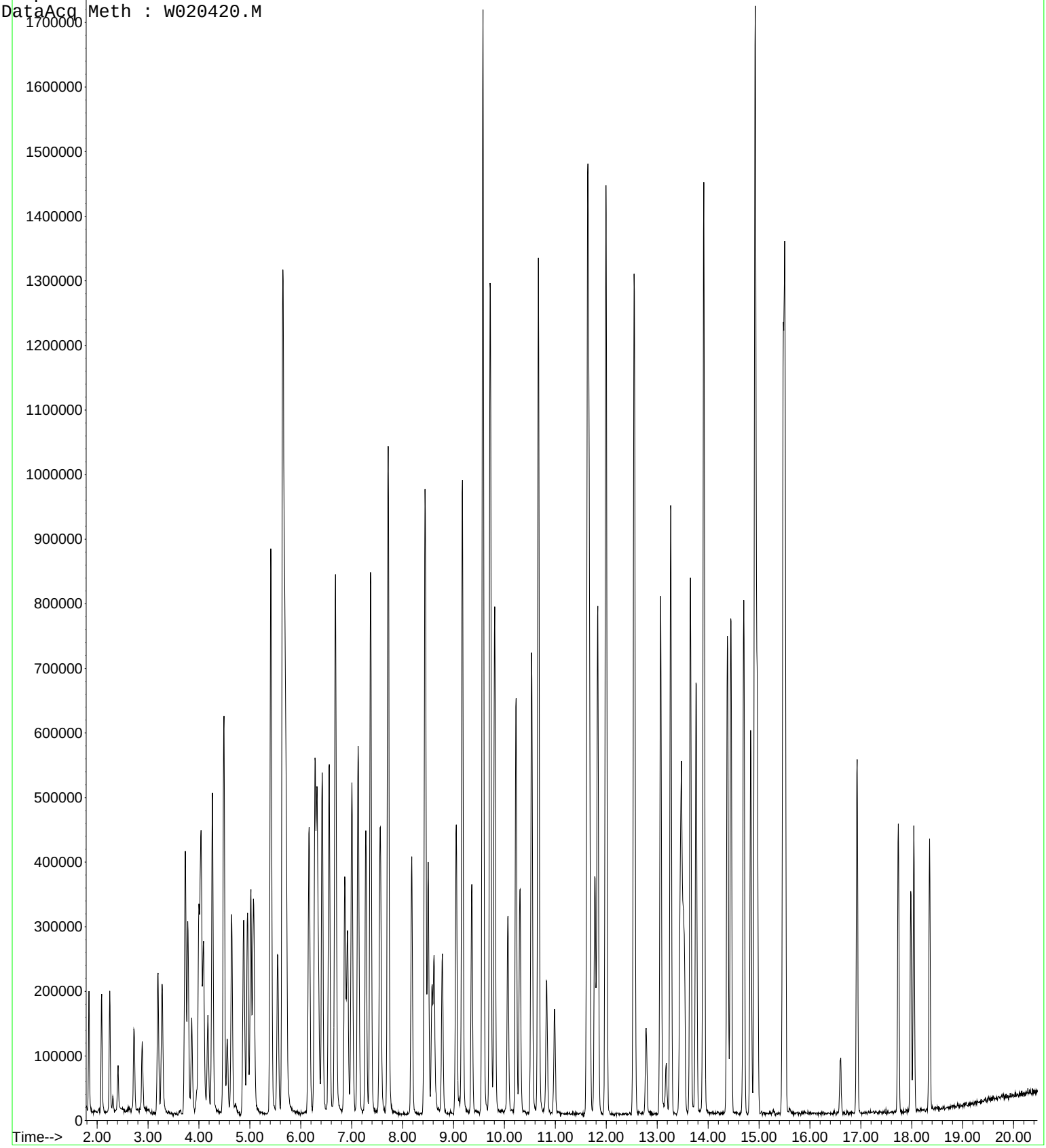
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF-LCSD1.D

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



BFB

Data File : C:\Instarch\Data\FEB0620\BFB1.D Vial: 1
Acq On : 6 Feb 2020 7:32 Operator: RLD-DGS
Sample : 168568,BFB, Inst : VMS4
Misc : 50 ng Injection Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W020520.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.554 to 4.563 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	19.3	19313	PASS
75	95	30	60	46.8	46814	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	7.6	7586	PASS
173	174	0.00	2	1.1	1055	PASS
174	95	50	100	97.1	97138	PASS
175	174	5	9	7.1	6879	PASS
176	174	95	101	96.4	93600	PASS
177	176	5	9	7.4	6973	PASS

W020520.M Mon Feb 10 09:14:48 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 06 08:35:20 2020

Quant Method : C:\INSTARCH\METHODS\W020520.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020520.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	102	0.00
2	PT	Dichlorodi	0.2863	0.2822	1.43	112	0.00
3	PT	Chloromethan	0.4598	0.4289	6.72	95	0.00
4	PT	VinylChlorid	0.3558	0.3691	-3.74	108	0.00
5	PT	Bromomethane	0.1287	0.1714	-33.18#	152	0.00
6	PT	Chloroethane	0.1981	0.1960	1.06	100	0.00
7	T	Dichloroflmethane	0.5797	0.5590	3.57	96	0.00
8	PT	Trichlorofma	0.4451	0.4821	-8.31	114	0.00
9	T	Ethylether	0.3025	0.2865	5.29	93	0.00
10	T	dichlorotfluoroethan	0.3458	0.3491	-0.95	106	0.00
11	T	propyleneoxide	0.0498	0.0502	-0.80	102	0.00
12	T	Acrolein	0.1000	0.0985	1.50	96	0.00
13	PT	11dichlorthe	0.2851	0.3036	-6.49	106	0.00
14	PT	Trichlorotfluoroeth	0.2744	0.2993	-9.07	113	0.00
15	PT	Acetone	0.1505	0.1409	6.38	93	0.00
16	T	Iodomethane	0.1169	0.0762	34.82#	68	0.00
17	PT	Carbon Dislf	0.8583	0.9064	-5.60	103	0.00
18	T	allylchloride	0.5847	0.5645	3.45	94	0.00
19	PT	methylacetate	0.1087	0.1027	5.52	94	0.00
20	PT	Methylchlorid	0.3910	0.3339	14.60	94	0.00
21	T	tbutylalcohol	0.0546	0.0544	0.37	94	0.00
22	T	Acrylonitrile	0.1807	0.1743	3.54	90	0.00
23	PT	t12dichlorte	0.3159	0.3163	-0.13	99	0.00
24	PT	MtBE	0.9054	0.8754	3.31	94	0.00
25	T	Hexane	0.4879	0.5186	-6.29	110	0.00
26	PT	11dichlorota	0.5990	0.5784	3.44	94	0.00
27	T	Vinylacetate	0.7859	0.8207	-4.43	98	0.00
28	T	chloroprene	0.4575	0.4641	-1.44	102	0.00
29	T	Diisopether	1.2415	1.1645	6.20	92	0.00
30	T	ETBE	1.0005	0.9607	3.98	94	0.00
31	T	22dichloropr	0.4353	0.4082	6.23	99	0.00
32	PT	c12dichlorte	0.3615	0.3641	-0.72	99	0.00
33	PT	2Butanone	0.0565	0.0554#	1.95	95	0.00
34	T	propionitrile	0.0724	0.0704	2.76	94	0.00
35	T	Ethylacetate	0.0156	0.0155#	0.64	93	0.00
36	T	methacrylonitrile	0.1819	0.1748	3.90	92	0.00
37	T	Bromochlorma	0.1652	0.1648	0.24	96	0.00
38	T	Tetrahydofur	0.1576	0.1505	4.51	91	0.00
39	PT	Chloroform	0.5514	0.5390	2.25	97	0.00
40	PT	111trichlota	0.4448	0.4490	-0.94	102	0.00
41	S	SURRDibrflma	0.2929	0.2921	0.27	103	0.00
42	PT	Cyclohexane	0.5471	0.5863	-7.17	114	0.00
43	PT	Carbtetraclo	0.3698	0.3859	-4.35	107	0.00
44	T	11dicloprope	0.1534	0.1557	-1.50	102	0.00
45	S	SURR12DCAd4	0.0660	0.0659	0.15	102	0.00
46	PT	Benzene	1.2945	1.2518	3.30	95	0.00
47	PT	12dichlorota	0.3844	0.3769	1.95	94	0.00
48	T	TAME	0.9161	0.8628	5.82	94	0.00

49	PT	trichloroete	0.3361	0.3249	3.33	96	0.00
50	PT	methylcyclohexane	0.5799	0.6219	-7.24	113	0.00
51	PT	12dicloropra	0.3710	0.3487	6.01	90	0.00
52	T	23Dicl1propene	0.5282	0.4995	5.43	94	0.00
53	T	Dibromometha	0.2115	0.2072	2.03	97	0.00
54	T	methylmethacrylate	0.2869	0.2841	0.98	98	0.00
55	T	14dioxane	0.0057	0.0055#	3.51	95	0.00
56	PT	Bromodiclrma	0.4138	0.3923	5.20	95	0.00
57	T	2Nitropropane	0.1084	0.1094	-0.92	96	0.00
58	T	2CLEVE	0.0120	0.0069#	42.50#	80	0.00
59	PT	c13dicloproe	0.5384	0.5175	3.88	94	0.00
60	PT	4Meth2Pentan	0.4319	0.4346	-0.63	92	0.00
61	S	SURRd8Tolule	1.1879	1.1867	0.10	101	0.00
62	PT	Toluene	0.8570	0.8214	4.15	96	0.00
63	PT	t13Dicloprop	0.4523	0.4329	4.29	95	0.00
64	T	ethylmethacrylate	0.4805	0.4638	3.48	95	0.00
65	PT	112Triclotha	0.2671	0.2476	7.30	91	0.00
66	PT	Tetrachlorte	0.3764	0.3788	-0.64	105	0.00
67	T	13Diclorpropa	0.5067	0.4849	4.30	97	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	103	0.00
69	PT	2Hexanone	0.3065	0.3039	0.85	92	0.00
70	PT	Clorodibrmta	0.3021	0.2857	5.43	98	0.00
71	PT	12Dibrometha	0.2942	0.2829	3.84	98	0.00
72	PT	Chlorobenzen	0.8417	0.7887	6.30	93	0.00
73	T	1Clhexane	0.4439	0.4338	2.28	105	0.00
74	T	1112Tetclota	0.2868	0.2765	3.59	99	0.00
75	PT	Ethylbenzene	1.3579	1.3518	0.45	97	0.00
76	PT	m p-Xylene	0.5272	0.5089	3.47	95	0.00
77	PT	o-Xylene	0.5160	0.4952	4.03	94	0.00
78	PT	Styrene	0.8514	0.8028	5.71	92	0.00
79	PT	Bromoform	0.2318	0.2234	3.62	98	0.00
80	PT	Isopropylben	1.2992	1.2949	0.33	100	0.00
81	T	cyclohexanone	0.0187	0.0178#	4.81	91	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	105	0.00
83	S	SURR4BrFBenz	0.7867	0.7755	1.42	101	0.00
84	T	Bromobenzene	0.6011	0.5648	6.04	95	0.00
85	PT	1122Tetrclta	0.7254	0.6939	4.34	97	0.00
86	T	123Triclproa	0.8185	0.7687	6.08	94	0.00
87	T	14dichloro2butene	0.1558	0.1345	13.67	92	0.00
88	T	n-Propylbenz	2.6068	2.5722	1.33	99	0.00
89	T	2chlorotolue	1.4993	1.3983	6.74	94	0.00
90	T	4chlorotolue	1.6887	1.5813	6.36	93	0.00
91	T	135Trimebenz	1.6999	1.6784	1.26	98	0.00
92	T	tbutylbenzen	1.4987	1.4870	0.78	101	0.00
93	T	124Trimetben	1.7392	1.6879	2.95	96	0.00
94	T	sbutylbenzen	2.2443	2.2710	-1.19	102	0.00
95	PT	13Diclorbenz	1.0840	1.0385	4.20	98	0.00
96	T	pIsopropylto	1.8303	1.8146	0.86	98	0.00
97	PT	14dichlorobe	1.0867	1.0209	6.06	96	0.00
98	PT	12dichlorobe	1.0200	0.9434	7.51	95	0.00
99	T	nButylbenzen	1.8046	1.7493	3.06	100	0.00
100	PT	12dibromo3cl	0.1682	0.1658	1.43	99	0.00
101	T	135Trichlorobenzene	0.8809	0.8453	4.04	96	0.00
102	PT	124Trichlobe	0.7285	0.7041	3.35	101	0.00
103	T	Hexachlorobu	0.3466	0.3462	0.12	105	0.00
104	T	Naphthalene	1.8372	1.8070	1.64	97	0.00
105	T	123Trichlben	0.6722	0.6454	3.99	97	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W020520.M Mon Feb 10 09:18:10 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 06 08:35:20 2020

Quant Method : C:\INSTARCH\METHODS\W020520.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020520.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	102	0.00
2	PT	Dichlorodi	10.0000	9.8572	1.43	112	0.00
3	PT	Chloromethan	10.0000	9.3294	6.71	95	0.00
4	PT	VinylChlorid	10.0000	10.3731	-3.73	108	0.00
5	PT	Bromomethane	10.0000	13.3197	-33.20#	152	0.00
6	PT	Chloroethane	10.0000	9.8920	1.08	100	0.00
7	T	Dichloroflmethane	10.0000	9.6424	3.58	96	0.00
8	PT	Trichlorofma	10.0000	10.8324	-8.32	114	0.00
9	T	Ethylether	10.0000	9.4704	5.30	93	0.00
10	T	dichlorotfluoroethan	10.0000	10.0947	-0.95	106	0.00
11	T	propyleneoxide	100.0000	100.7029	-0.70	102	0.00
12	T	Acrolein	50.0000	49.2142	1.57	96	0.00
13	PT	11dichlorthe	10.0000	10.6460	-6.46	106	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.8123	-9.06	113	0.00
15	PT	Acetone	100.0000	93.6634	6.34	93	0.00
16	T	Iodomethane	20.0000	13.0910	34.55#	68	0.00
17	PT	Carbon Dislf	20.0000	21.1210	-5.60	103	0.00
18	T	allylchloride	20.0000	19.3091	3.45	94	0.00
19	PT	methylacetate	10.0000	9.4446	5.55	94	0.00
20	PT	Methylchlorid	10.0000	9.3569	6.43	94	0.00
21	T	tbutylalcohol	500.0000	498.8878	0.22	94	0.00
22	T	Acrylonitrile	50.0000	48.2193	3.56	90	0.00
23	PT	t12dichlorte	10.0000	10.0123	-0.12	99	0.00
24	PT	MtBE	10.0000	9.6693	3.31	94	0.00
25	T	Hexane	20.0000	21.2548	-6.27	110	0.00
26	PT	11dichlorota	10.0000	9.6552	3.45	94	0.00
27	T	Vinylacetate	100.0000	104.4223	-4.42	98	0.00
28	T	chloroprene	20.0000	20.2893	-1.45	102	0.00
29	T	Diisopether	10.0000	9.3795	6.20	92	0.00
30	T	ETBE	10.0000	9.6024	3.98	94	0.00
31	T	22dichloropr	10.0000	9.3763	6.24	99	0.00
32	PT	c12dichlorte	10.0000	10.0730	-0.73	99	0.00
33	PT	2Butanone	100.0000	98.0670	1.93	95	0.00
34	T	propionitrile	100.0000	97.2038	2.80	94	0.00
35	T	Ethylacetate	50.0000	49.7290	0.54	93	0.00
36	T	methacrylonitrile	20.0000	19.2144	3.93	92	0.00
37	T	Bromochlorma	10.0000	9.9781	0.22	96	0.00
38	T	Tetrahydofur	100.0000	95.5096	4.49	91	0.00
39	PT	Chloroform	10.0000	9.7762	2.24	97	0.00
40	PT	111trichlota	10.0000	10.0952	-0.95	102	0.00
41	S	SURRDibrflma	20.0000	19.9426	0.29	103	0.00
42	PT	Cyclohexane	10.0000	10.7175	-7.17	114	0.00
43	PT	Carbtetraclo	10.0000	10.4365	-4.37	107	0.00
44	T	11dicloprope	10.0000	10.1514	-1.51	102	0.00
45	S	SURR12DCAd4	20.0000	19.9658	0.17	102	0.00
46	PT	Benzene	10.0000	9.6699	3.30	95	0.00
47	PT	12dichlorota	10.0000	9.8061	1.94	94	0.00
48	T	TAME	10.0000	9.4187	5.81	94	0.00

49	PT	trichloroete	10.0000	9.6667	3.33	96	0.00
50	PT	methylcyclohexane	10.0000	10.7242	-7.24	113	0.00
51	PT	12dicloropra	10.0000	9.4009	5.99	90	0.00
52	T	23Dicl1propene	10.0000	9.4569	5.43	94	0.00
53	T	Dibromometha	10.0000	9.7933	2.07	97	0.00
54	T	methylmethacrylate	10.0000	9.9025	0.98	98	0.00
55	T	14dioxane	500.0000	487.9024	2.42	95	0.00
56	PT	Bromodiclrma	10.0000	9.4796	5.20	95	0.00
57	T	2Nitropropane	100.0000	100.9314	-0.93	96	0.00
58	T	2CLEVE	50.0000	43.6704	12.66	80	0.00
59	PT	c13dicloproe	10.0000	9.6109	3.89	94	0.00
60	PT	4Meth2Pentan	100.0000	100.6227	-0.62	92	0.00
61	S	SURRd8Tolule	20.0000	19.9788	0.11	101	0.00
62	PT	Toluene	10.0000	9.5840	4.16	96	0.00
63	PT	t13Dicloprop	10.0000	9.5706	4.29	95	0.00
64	T	ethylmethacrylate	20.0000	19.3046	3.48	95	0.00
65	PT	112Triclotha	10.0000	9.2710	7.29	91	0.00
66	PT	Tetrachlorte	10.0000	10.0654	-0.65	105	0.00
67	T	13Diclorpropa	10.0000	9.5695	4.31	97	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	103	0.00
69	PT	2Hexanone	100.0000	99.1317	0.87	92	0.00
70	PT	Clorodibrmta	10.0000	9.4571	5.43	98	0.00
71	PT	12Dibrometha	10.0000	9.6148	3.85	98	0.00
72	PT	Chlorobenzen	10.0000	9.3698	6.30	93	0.00
73	T	1Clhexane	10.0000	9.7726	2.27	105	0.00
74	T	1112Tetclota	10.0000	9.6400	3.60	99	0.00
75	PT	Ethylbenzene	10.0000	9.9552	0.45	97	0.00
76	PT	m p-Xylene	20.0000	19.3035	3.48	95	0.00
77	PT	o-Xylene	10.0000	9.5955	4.05	94	0.00
78	PT	Styrene	10.0000	9.4288	5.71	92	0.00
79	PT	Bromoform	10.0000	9.6376	3.62	98	0.00
80	PT	Isopropylben	10.0000	9.9666	0.33	100	0.00
81	T	cyclohexanone	200.0000	189.7588	5.12	91	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	105	0.00
83	S	SURR4BrFBenz	20.0000	19.7151	1.42	101	0.00
84	T	Bromobenzene	10.0000	9.3962	6.04	95	0.00
85	PT	1122Tetrclta	10.0000	9.5665	4.34	97	0.00
86	T	123Triclproa	10.0000	9.3910	6.09	94	0.00
87	T	14dichloro2butene	10.0000	8.6319	13.68	92	0.00
88	T	n-Propylbenz	10.0000	9.8674	1.33	99	0.00
89	T	2chlorotolue	10.0000	9.3266	6.73	94	0.00
90	T	4chlorotolue	10.0000	9.3639	6.36	93	0.00
91	T	135Trimebenz	10.0000	9.8737	1.26	98	0.00
92	T	tbutylbenzen	10.0000	9.9221	0.78	101	0.00
93	T	124Trimetben	10.0000	9.7048	2.95	96	0.00
94	T	sbutylbenzen	10.0000	10.1191	-1.19	102	0.00
95	PT	13Diclorbenz	10.0000	9.5800	4.20	98	0.00
96	T	pIsopropylto	10.0000	9.9145	0.85	98	0.00
97	PT	14dichlorobe	10.0000	9.3948	6.05	96	0.00
98	PT	12dichlorobe	10.0000	9.2492	7.51	95	0.00
99	T	nButylbenzen	10.0000	9.6940	3.06	100	0.00
100	PT	12dibromo3cl	10.0000	9.8563	1.44	99	0.00
101	T	135Trichlorobenzene	10.0000	9.5956	4.04	96	0.00
102	PT	124Trichlobe	10.0000	9.6653	3.35	101	0.00
103	T	Hexachlorobu	10.0000	9.9870	0.13	105	0.00
104	T	Naphthalene	10.0000	9.8360	1.64	97	0.00
105	T	123Trichlben	10.0000	9.6026	3.97	97	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020520.M Mon Feb 10 09:18:38 2020

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	990689	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1091657	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	671900	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	289351	19.943	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	65321	19.966	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
61) SURRd8Tolule	9.61	98	1175605	19.979	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.16	95	521082	19.715	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	139794	9.8572	ug/L	100
3) Chloromethan	2.05	50	212468	9.3294	ug/L	97
4) VinylChlorid	2.20	62	182820	10.3731	ug/L	98
5) Bromomethane	2.65	94	84914	13.3197	ug/L	96
6) Chloroethane	2.81	64	97080	9.8920	ug/L	96
7) Dichloroflmethane	3.12	67	276884	9.6424	ug/L	96
8) Trichlorofma	3.19	101	238815	10.8324	ug/L	99
9) Ethylether	3.65	59	141901	9.4704	ug/L	98
10) dichlorotfluoroethan	3.65	67	172919	10.0947	ug/L	96
11) propyleneoxide	3.70	58	248572	100.7029	ug/L	96
12) Acrolein	3.79	56	243901	49.2142	ug/L	99
13) 11dichlorthe	3.90	96	150364	10.6460	ug/L	96
14) Trichlorotfluoroeth	3.94	101	296471	21.8123	ug/L	98
15) Acetone	4.02	43	698032	93.6634	ug/L	100
16) Iodomethane	4.08	127	75520	13.0910	ug/L	97
17) Carbon Dislf	4.17	76	897934	21.1210	ug/L	99
18) allylchloride	4.39	41	559256	19.3091	ug/L	97
19) methylacetate	4.48	74	50864	9.4446	ug/L	94
20) Methylchlorid	4.55	84	165420	9.3569	ug/L	98
21) tbutylalcohol	4.82	59	1348312	498.8878	ug/L	99
22) Acrylonitrile	4.88	53	431576	48.2193	ug/L	96
23) t12dichlorte	4.92	96	156671	10.0123	ug/L	95
24) MtBE	4.98	73	433634	9.6693	ug/L	99
25) Hexane	5.30	57	513732	21.2548	ug/L	99
26) 11dichlorota	5.45	63	286483	9.6552	ug/L	99
27) Vinylacetate	5.55	43	4065325	104.4223	ug/L	100
28) chloroprene	5.57	53	459749	20.2893	ug/L	100
29) Diisopether	5.61	45	576814	9.3795	ug/L	90
30) ETBE	6.06	59	475899	9.6024	ug/L	98
31) 22dichloropr	6.17	77	202182	9.3763	ug/L	97
32) c12dichlorte	6.18	96	180362	10.0730	ug/L	95
33) 2Butanone	6.23	72	274302	98.0670	ug/L	99
34) propionitrile	6.27	54	348537	97.2038	ug/L	99
35) Ethylacetate	6.33	88	38327	49.7290	ug/L	97
36) methacrylonitrile	6.46	67	173172	19.2144	ug/L	99
37) Bromochlorma	6.46	128	81635	9.9781	ug/L	94
38) Tetrahydofur	6.59	42	745426	95.5096	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.57	83	267008	9.7762 ug/L	98
40)	111trichlota	6.81	97	222411	10.0952 ug/L	99
42)	Cyclohexane	6.88	56	290424	10.7175 ug/L	99
43)	Carbtetraclo	7.02	119	191176	10.4365 ug/L	100
44)	11dicloprope	7.01	110	77136	10.1514 ug/L	98
46)	Benzene	7.26	78	620068	9.6699 ug/L	99
47)	12dichlorota	7.27	62	186709	9.8061 ug/L	97
48)	TAME	7.45	73	427391	9.4187 ug/L	98
49)	trichloroete	8.07	95	160939	9.6667 ug/L	98
50)	methylcyclohexane	8.32	83	308054	10.7242 ug/L	98
51)	12dicloropra	8.33	63	172750	9.4009 ug/L	95
52)	23Dicl1propene	8.40	75	247444	9.4569 ug/L	100
53)	Dibromometha	8.48	93	102612	9.7933 ug/L	99
54)	methylmethacrylate	8.52	69	140748	9.9025 ug/L	96
55)	14dioxane	8.56	88	136599	487.9024 ug/L	99
56)	Bromodiclrma	8.67	83	194311	9.4796 ug/L	97
57)	2Nitropropane	8.95	43	542003	100.9314 ug/L	100
58)	2CLEVE	9.07	63	17174	43.6704 ug/L	95
59)	c13dicloproe	9.26	75	256321	9.6109 ug/L	100
60)	4Meth2Pentan	9.48	43	2152793	100.6227 ug/L	99
62)	Toluene	9.70	92	406860	9.5840 ug/L	99
63)	t13Dicloprop	9.97	75	214443	9.5706 ug/L	97
64)	ethylmethacrylate	10.12	69	459449	19.3046 ug/L	98
65)	112Triclotha	10.20	83	122658	9.2710 ug/L	94
66)	Tetrachlorte	10.43	166	187645	10.0654 ug/L	96
67)	13Diclorpropa	10.43	76	240198	9.5695 ug/L	100
69)	2Hexanone	10.57	43	1658581	99.1317 ug/L	99
70)	Clorodibrmta	10.73	129	155944	9.4571 ug/L	97
71)	12Dibrometha	10.88	107	154421	9.6148 ug/L	97
72)	Chlorobenzen	11.56	112	430470	9.3698 ug/L	97
73)	1Clhexane	11.54	91	236775	9.7726 ug/L	99
74)	1112Tetclota	11.67	131	150931	9.6400 ug/L	99
75)	Ethylbenzene	11.72	91	737858	9.9552 ug/L	100
76)	m p-Xylene	11.89	106	555525	19.3035 ug/L	97
77)	o-Xylene	12.43	106	270276	9.5955 ug/L	97
78)	Styrene	12.45	104	438179	9.4288 ug/L	97
79)	Bromoform	12.69	173	121961	9.6376 ug/L	99
80)	Isopropylben	12.96	105	706767	9.9666 ug/L	100
81)	cyclohexanone	13.08	55	193878	189.7588 ug/L	98
84)	Bromobenzene	13.37	156	189749	9.3962 ug/L	98
85)	1122Tetrclta	13.35	83	233118	9.5665 ug/L	99
86)	123Triclproa	13.41	75	258229	9.3910 ug/L	99
87)	14dichloro2butene	13.44	53	45182	8.6319 ug/L	98
88)	n-Propylbenz	13.54	91	864141	9.8674 ug/L	99
89)	2chlorotolue	13.66	91	469764	9.3266 ug/L	99
90)	4chlorotolue	13.81	91	531239	9.3639 ug/L	97
91)	135Trimebenz	13.80	105	563864	9.8737 ug/L	100
92)	tbutylbenzen	14.27	119	499569	9.9221 ug/L	99
93)	124Trimetben	14.34	105	567048	9.7048 ug/L	99
94)	sbutylbenzen	14.59	105	762946	10.1191 ug/L	99
95)	13Diclorbenz	14.73	146	348879	9.5800 ug/L	98
96)	pIsopropylto	14.81	119	609630	9.9145 ug/L	100
97)	14dichlorobe	14.86	146	342974	9.3948 ug/L	98
98)	12dichlorobe	15.40	146	316930	9.2492 ug/L	99
99)	nButylbenzen	15.40	91	587694	9.6940 ug/L	99
100)	12dibromo3cl	16.50	157	55710	9.8563 ug/L	99
101)	135Trichlorobenzene	16.83	180	283963	9.5956 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.64	180	236533	9.6653	ug/L	99
103) Hexachlorobu	17.89	225	116298	9.9870	ug/L	98
104) Naphthalene	17.95	128	607071	9.8360	ug/L	99
105) 123Trichlben	18.27	180	216836	9.6026	ug/L	99

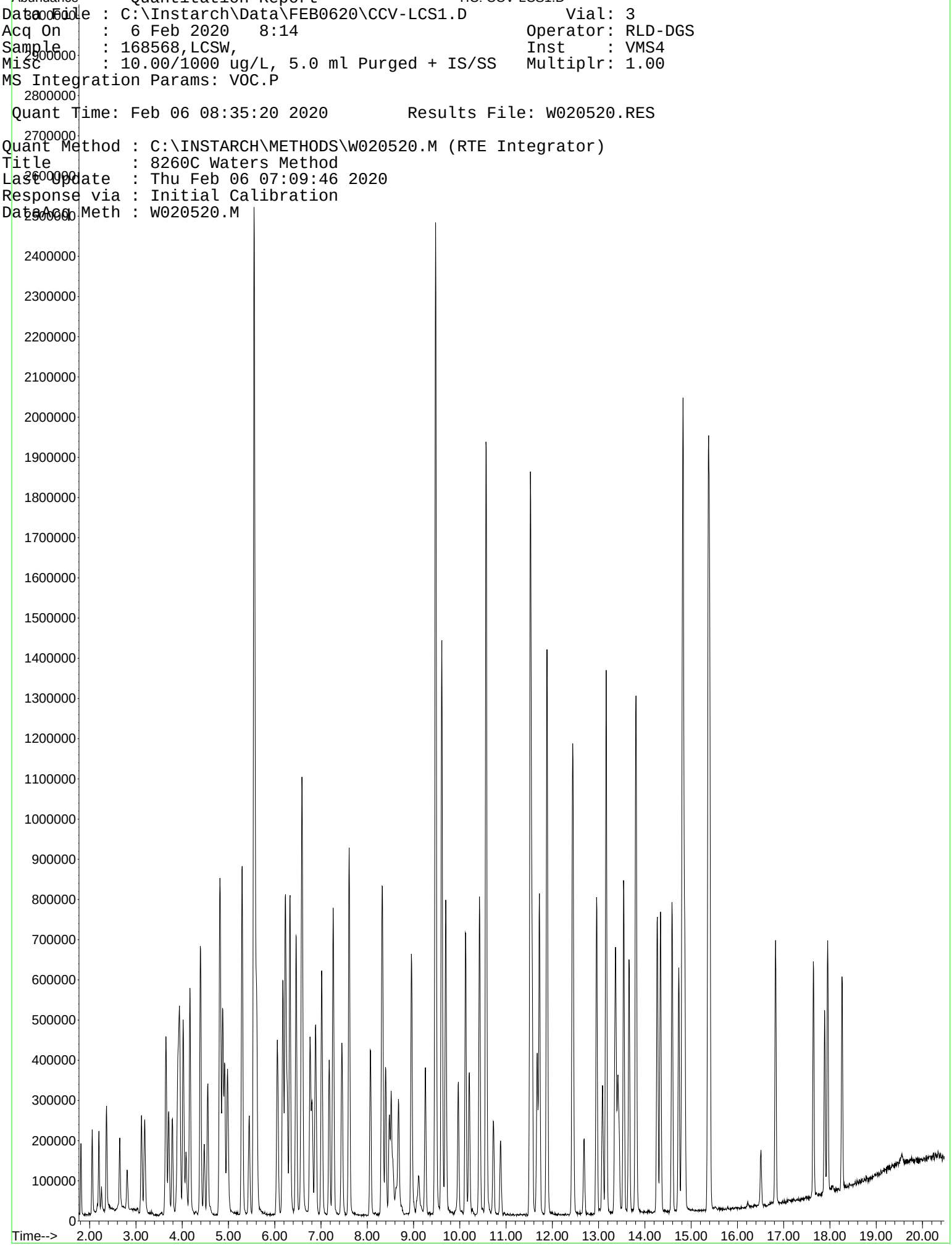
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0620\CCVF-LCSD1.D Vial: 26
Acq On : 6 Feb 2020 19:11 Operator: RLD-DGS
Sample : 168570,LCSDW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 06 19:32:22 2020

Quant Method : C:\INSTARCH\METHODS\W020520.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020520.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	87	0.00
2	PT	Dichlorodi	0.2863	0.2752	3.88	93	0.00
3	PT	Chloromethan	0.4598	0.4346	5.48	82	0.00
4	PT	VinylChlorid	0.3558	0.3651	-2.61	91	0.00
5	PT	Bromomethane	0.1287	0.1508	-17.17	113	0.00
6	PT	Chloroethane	0.1981	0.2079	-4.95	90	0.00
7	T	Dichloroflmethane	0.5797	0.5671	2.17	82	0.00
8	PT	Trichlorofma	0.4451	0.4982	-11.93	101	0.00
9	T	Ethylether	0.3025	0.2863	5.36	79	0.00
10	T	dichlorotfluoroethan	0.3458	0.3472	-0.40	89	0.00
11	T	propyleneoxide	0.0498	0.0301	39.56	52	0.00
12	T	Acrolein	0.1000	0.0805	19.50	67	0.00
13	PT	11dichlorthe	0.2851	0.3043	-6.73	90	0.00
14	PT	Trichlorotfluoroeth	0.2744	0.2962	-7.94	96	0.00
15	PT	Acetone	0.1505	0.1494	0.73	83	0.00
16	T	Iodomethane	0.1169	0.1087	7.01	83	0.00
17	PT	Carbon Dislf	0.8583	0.8998	-4.84	87	0.00
18	T	allylchloride	0.5847	0.5461	6.60	77	0.00
19	PT	methylacetate	0.1087	0.1067	1.84	83	0.00
20	PT	Methylchlorid	0.3910	0.3576	8.54	86	0.00
21	T	tbutylalcohol	0.0546	0.0564	-3.30	83	0.00
22	T	Acrylonitrile	0.1807	0.1904	-5.37	83	0.00
23	PT	t12dichlorte	0.3159	0.3123	1.14	83	0.00
24	PT	MtBE	0.9054	0.9128	-0.82	83	0.00
25	T	Hexane	0.4879	0.4929	-1.02	89	0.00
26	PT	11dichlorota	0.5990	0.5774	3.61	80	0.00
27	T	Vinylacetate	0.7859	0.5234	33.40	53	0.00
28	T	chloroprene	0.4575	0.4898	-7.06	92	0.00
29	T	Diisopether	1.2415	1.1787	5.06	79	0.00
30	T	ETBE	1.0005	0.9437	5.68	78	0.00
31	T	22dichloropr	0.4353	0.3736	14.17	77	0.00
32	PT	c12dichlorte	0.3615	0.3596	0.53	83	0.00
33	PT	2Butanone	0.0565	0.0560#	0.88	81	0.00
34	T	propionitrile	0.0724	0.0743	-2.62	85	0.00
35	T	Ethylacetate	0.0156	0.0152#	2.56	78	0.00
36	T	methacrylonitrile	0.1819	0.1854	-1.92	83	0.00
37	T	Bromochlorma	0.1652	0.1703	-3.09	84	0.00
38	T	Tetrahydofur	0.1576	0.1601	-1.59	83	0.00
39	PT	Chloroform	0.5514	0.5498	0.29	84	0.00
40	PT	111trichlota	0.4448	0.4696	-5.58	91	0.00
41	S	SURRDibrflma	0.2929	0.2996	-2.29	90	0.00
42	PT	Cyclohexane	0.5471	0.5978	-9.27	99	0.00
43	PT	Carbtetraclo	0.3698	0.4017	-8.63	94	0.00
44	T	11dicloprope	0.1534	0.1634	-6.52	91	0.00
45	S	SURR12DCAd4	0.0660	0.0720	-9.09	94	0.00
46	PT	Benzene	1.2945	1.2702	1.88	82	0.00
47	PT	12dichlorota	0.3844	0.3894	-1.30	83	0.00
48	T	TAME	0.9161	0.8330	9.07	77	0.00

49	PT	trichloroete	0.3361	0.3483	-3.63	88	0.00
50	PT	methylcyclohexane	0.5799	0.6327	-9.11	98	0.00
51	PT	12dicloropra	0.3710	0.3672	1.02	80	0.00
52	T	23Dicl1propene	0.5282	0.5071	3.99	82	0.00
53	T	Dibromometha	0.2115	0.2140	-1.18	85	0.00
54	T	methylmethacrylate	0.2869	0.2890	-0.73	85	0.00
55	T	14dioxane	0.0057	0.0058#	-1.75	85	0.00
56	PT	Bromodiclrma	0.4138	0.3962	4.25	82	0.00
57	T	2Nitropropane	0.1084	0.1132	-4.43	85	0.00
58	T	2CLEVE	0.0120	0.0009#	92.50#	9#	0.01
59	PT	c13dicloproe	0.5384	0.5013	6.89	78	0.00
60	PT	4Meth2Pentan	0.4319	0.4555	-5.46	82	0.00
61	S	SURRd8Tolule	1.1879	1.2437	-4.70	90	0.00
62	PT	Toluene	0.8570	0.8828	-3.01	87	0.00
63	PT	t13Dicloprop	0.4523	0.4152	8.20	78	0.00
64	T	ethylmethacrylate	0.4805	0.4830	-0.52	84	0.00
65	PT	112Triclotha	0.2671	0.2667	0.15	83	0.00
66	PT	Tetrachlorte	0.3764	0.4027	-6.99	95	0.00
67	T	13Diclorpropa	0.5067	0.4991	1.50	85	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	95	0.00
69	PT	2Hexanone	0.3065	0.2950	3.75	82	0.00
70	PT	Clorodibrmta	0.3021	0.2570	14.93	81	0.00
71	PT	12Dibrometha	0.2942	0.2784	5.37	89	0.00
72	PT	Chlorobenzen	0.8417	0.7914	5.98	86	0.00
73	T	1Clhexane	0.4439	0.4304	3.04	96	0.00
74	T	1112Tetclota	0.2868	0.2562	10.67	85	0.00
75	PT	Ethylbenzene	1.3579	1.3021	4.11	86	0.00
76	PT	m p-Xylene	0.5272	0.5110	3.07	88	0.00
77	PT	o-Xylene	0.5160	0.4824	6.51	85	0.00
78	PT	Styrene	0.8514	0.8164	4.11	86	0.00
79	PT	Bromoform	0.2318	0.1887	18.59	77	0.00
80	PT	Isopropylben	1.2992	1.2847	1.12	91	0.00
81	T	cyclohexanone	0.0187	0.0171#	8.56	81	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	99	0.00
83	S	SURR4BrFBenz	0.7867	0.7548	4.05	93	0.00
84	T	Bromobenzene	0.6011	0.5500	8.50	88	0.00
85	PT	1122Tetrclta	0.7254	0.6005	17.22	79	0.00
86	T	123Triclproa	0.8185	0.6895	15.76	80	0.00
87	T	14dichloro2butene	0.1558	0.1034	33.63	67	0.00
88	T	n-Propylbenz	2.6068	2.4372	6.51	88	0.00
89	T	2chlorotolue	1.4993	1.3343	11.01	85	0.00
90	T	4chlorotolue	1.6887	1.5543	7.96	86	0.00
91	T	135Trimebenz	1.6999	1.5929	6.29	88	0.00
92	T	tbutylbenzen	1.4987	1.4185	5.35	91	0.00
93	T	124Trimetben	1.7392	1.5924	8.44	86	0.00
94	T	sbutylbenzen	2.2443	2.1915	2.35	94	0.00
95	PT	13Diclorbenz	1.0840	0.9841	9.22	88	0.00
96	T	pIsopropylto	1.8303	1.7819	2.64	91	0.00
97	PT	14dichlorobe	1.0867	0.9865	9.22	88	0.00
98	PT	12dichlorobe	1.0200	0.9333	8.50	88	0.00
99	T	nButylbenzen	1.8046	1.6667	7.64	90	0.00
100	PT	12dibromo3cl	0.1682	0.1500	10.82	85	0.00
101	T	135Trichlorobenzene	0.8809	0.8250	6.35	88	0.00
102	PT	124Trichlobe	0.7285	0.6866	5.75	93	0.00
103	T	Hexachlorobu	0.3466	0.3335	3.78	95	0.00
104	T	Naphthalene	1.8372	1.7304	5.81	88	0.00
105	T	123Trichlben	0.6722	0.6260	6.87	89	0.00

(#) = Out of Range SPCC's out = 1 CCC's out = 0

W020520.M Mon Feb 10 09:22:20 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\FEB0620\CCVF-LCSD1.D Vial: 26
Acq On : 6 Feb 2020 19:11 Operator: RLD-DGS
Sample : 168570,LCSDW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Feb 06 19:32:22 2020

Quant Method : C:\INSTARCH\METHODS\W020520.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W020520.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	87	0.00
2	PT	Dichlorodi	10.0000	9.6126	3.87	93	0.00
3	PT	Chloromethan	10.0000	9.4521	5.48	82	0.00
4	PT	VinylChlorid	10.0000	10.2622	-2.62	91	0.00
5	PT	Bromomethane	10.0000	11.7137	-17.14	113	0.00
6	PT	Chloroethane	10.0000	10.4928	-4.93	90	0.00
7	T	Dichloroflmethane	10.0000	9.7825	2.17	82	0.00
8	PT	Trichlorofma	10.0000	11.1937	-11.94	101	0.00
9	T	Ethylether	10.0000	9.4639	5.36	79	0.00
10	T	dichlorotfluoroethan	10.0000	10.0392	-0.39	89	0.00
11	T	propyleneoxide	100.0000	60.3480	39.65	52	0.00
12	T	Acrolein	50.0000	40.2202	19.56	67	0.00
13	PT	11dichlorthe	10.0000	10.6730	-6.73	90	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.5914	-7.96	96	0.00
15	PT	Acetone	100.0000	99.2708	0.73	83	0.00
16	T	Iodomethane	20.0000	17.8372	10.81	83	0.00
17	PT	Carbon Dislf	20.0000	20.9668	-4.83	87	0.00
18	T	allylchloride	20.0000	18.6807	6.60	77	0.00
19	PT	methylacetate	10.0000	9.8172	1.83	83	0.00
20	PT	Methylchlorid	10.0000	10.0525	-0.53	86	0.00
21	T	tbutylalcohol	500.0000	516.6804	-3.34	83	0.00
22	T	Acrylonitrile	50.0000	52.6802	-5.36	83	0.00
23	PT	t12dichlorte	10.0000	9.8871	1.13	83	0.00
24	PT	MtBE	10.0000	10.0827	-0.83	83	0.00
25	T	Hexane	20.0000	20.2048	-1.02	89	0.00
26	PT	11dichlorota	10.0000	9.6385	3.61	80	0.00
27	T	Vinylacetate	100.0000	66.5944	33.41	53	0.00
28	T	chloroprene	20.0000	21.4125	-7.06	92	0.00
29	T	Diisopether	10.0000	9.4940	5.06	79	0.00
30	T	ETBE	10.0000	9.4320	5.68	78	0.00
31	T	22dichloropr	10.0000	8.5820	14.18	77	0.00
32	PT	c12dichlorte	10.0000	9.9482	0.52	83	0.00
33	PT	2Butanone	100.0000	99.1379	0.86	81	0.00
34	T	propionitrile	100.0000	102.6242	-2.62	85	0.00
35	T	Ethylacetate	50.0000	48.9535	2.09	78	0.00
36	T	methacrylonitrile	20.0000	20.3787	-1.89	83	0.00
37	T	Bromochlorma	10.0000	10.3110	-3.11	84	0.00
38	T	Tetrahydofur	100.0000	101.5926	-1.59	83	0.00
39	PT	Chloroform	10.0000	9.9720	0.28	84	0.00
40	PT	111trichlota	10.0000	10.5581	-5.58	91	0.00
41	S	SURRDibrflma	20.0000	20.4571	-2.29	90	0.00
42	PT	Cyclohexane	10.0000	10.9282	-9.28	99	0.00
43	PT	Carbtetraclo	10.0000	10.8618	-8.62	94	0.00
44	T	11dicloprope	10.0000	10.6528	-6.53	91	0.00
45	S	SURR12DCAd4	20.0000	21.8169	-9.08	94	0.00
46	PT	Benzene	10.0000	9.8119	1.88	82	0.00
47	PT	12dichlorota	10.0000	10.1298	-1.30	83	0.00
48	T	TAME	10.0000	9.0934	9.07	77	0.00

49	PT	trichloroete	10.0000	10.3636	-3.64	88	0.00
50	PT	methylcyclohexane	10.0000	10.9103	-9.10	98	0.00
51	PT	12dicloropra	10.0000	9.8980	1.02	80	0.00
52	T	23Dicl1propene	10.0000	9.5998	4.00	82	0.00
53	T	Dibromometha	10.0000	10.1148	-1.15	85	0.00
54	T	methylmethacrylate	10.0000	10.0725	-0.72	85	0.00
55	T	14dioxane	500.0000	513.4651	-2.69	85	0.00
56	PT	Bromodiclrma	10.0000	9.5744	4.26	82	0.00
57	T	2Nitropropane	100.0000	104.4413	-4.44	85	0.00
58	T	2CLEVE	50.0000	13.4858	73.03#	9	0.01
59	PT	c13dicloproe	10.0000	9.3103	6.90	78	0.00
60	PT	4Meth2Pentan	100.0000	105.4701	-5.47	82	0.00
61	S	SURRd8Tolule	20.0000	20.9400	-4.70	90	0.00
62	PT	Toluene	10.0000	10.3013	-3.01	87	0.00
63	PT	t13Dicloprop	10.0000	9.1784	8.22	78	0.00
64	T	ethylmethacrylate	20.0000	20.1064	-0.53	84	0.00
65	PT	112Triclotha	10.0000	9.9867	0.13	83	0.00
66	PT	Tetrachlorte	10.0000	10.6989	-6.99	95	0.00
67	T	13Diclorpropa	10.0000	9.8486	1.51	85	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00
69	PT	2Hexanone	100.0000	96.2342	3.77	82	0.00
70	PT	Clorodibrmta	10.0000	8.5072	14.93	81	0.00
71	PT	12Dibrometha	10.0000	9.4621	5.38	89	0.00
72	PT	Chlorobenzen	10.0000	9.4023	5.98	86	0.00
73	T	1Clhexane	10.0000	9.6967	3.03	96	0.00
74	T	1112Tetclota	10.0000	8.9305	10.69	85	0.00
75	PT	Ethylbenzene	10.0000	9.5890	4.11	86	0.00
76	PT	m p-Xylene	20.0000	19.3844	3.08	88	0.00
77	PT	o-Xylene	10.0000	9.3489	6.51	85	0.00
78	PT	Styrene	10.0000	9.5892	4.11	86	0.00
79	PT	Bromoform	10.0000	8.1386	18.61	77	0.00
80	PT	Isopropylben	10.0000	9.8884	1.12	91	0.00
81	T	cyclohexanone	200.0000	182.5090	8.75	81	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	99	0.00
83	S	SURR4BrFBenz	20.0000	19.1870	4.06	93	0.00
84	T	Bromobenzene	10.0000	9.1501	8.50	88	0.00
85	PT	1122Tetrclta	10.0000	8.2790	17.21	79	0.00
86	T	123Triclproa	10.0000	8.4244	15.76	80	0.00
87	T	14dichloro2butene	10.0000	6.6361	33.64	67	0.00
88	T	n-Propylbenz	10.0000	9.3494	6.51	88	0.00
89	T	2chlorotolue	10.0000	8.8996	11.00	85	0.00
90	T	4chlorotolue	10.0000	9.2041	7.96	86	0.00
91	T	135Trimebenz	10.0000	9.3704	6.30	88	0.00
92	T	tbutylbenzen	10.0000	9.4650	5.35	91	0.00
93	T	124Trimetben	10.0000	9.1556	8.44	86	0.00
94	T	sbutylbenzen	10.0000	9.7649	2.35	94	0.00
95	PT	13Diclorbenz	10.0000	9.0783	9.22	88	0.00
96	T	pIsopropylto	10.0000	9.7355	2.64	91	0.00
97	PT	14dichlorobe	10.0000	9.0782	9.22	88	0.00
98	PT	12dichlorobe	10.0000	9.1501	8.50	88	0.00
99	T	nButylbenzen	10.0000	9.2359	7.64	90	0.00
100	PT	12dibromo3cl	10.0000	8.9162	10.84	85	0.00
101	T	135Trichlorobenzene	10.0000	9.3657	6.34	88	0.00
102	PT	124Trichlobe	10.0000	9.4257	5.74	93	0.00
103	T	Hexachlorobu	10.0000	9.6202	3.80	95	0.00
104	T	Naphthalene	10.0000	9.4190	5.81	88	0.00
105	T	123Trichlben	10.0000	9.3136	6.86	89	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W020520.M Mon Feb 10 09:22:55 2020

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCVF-LCSD1.D Vial: 26
Acq On : 6 Feb 2020 19:11 Operator: RLD-DGS
Sample : 168570,LCSDW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 19:32:22 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	842744	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1005565	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	635300	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.77	113	252491	20.457	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 102	%		
45) SURR12DCAd4	7.18	102	60718	21.817	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 109	%		
61) SURRd8Tolule	9.61	98	1048158	20.940	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 105	%		
83) SURR4BrFBenz	13.16	95	479498	19.187	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	115967	9.6126	ug/L	100
3) Chloromethan	2.05	50	183115	9.4521	ug/L	97
4) VinylChlorid	2.20	62	153856	10.2622	ug/L	98
5) Bromomethane	2.65	94	63524	11.7137	ug/L	95
6) Chloroethane	2.81	64	87598	10.4928	ug/L	98
7) Dichloroflmethane	3.13	67	238959	9.7825	ug/L	97
8) Trichlorofma	3.19	101	209928	11.1937	ug/L	99
9) Ethylether	3.65	59	120627	9.4639	ug/L	99
10) dichlorotfluoroethan	3.65	67	146288	10.0392	ug/L	95
11) propyleneoxide	3.71	58	126716	60.3480	ug/L	99
12) Acrolein	3.79	56	169561	40.2202	ug/L	95
13) 11dichlorthe	3.91	96	128233	10.6730	ug/L	98
14) Trichlorotfluoroeth	3.94	101	249643	21.5914	ug/L	96
15) Acetone	4.03	43	629340	99.2708	ug/L	100
16) Iodomethane	4.09	127	91615	17.8372	ug/L	94
17) Carbon Dislf	4.17	76	758264	20.9668	ug/L	99
18) allylchloride	4.40	41	460257	18.6807	ug/L	95
19) methylacetate	4.48	74	44975	9.8172	ug/L	91
20) Methylchlorid	4.55	84	150688	10.0525	ug/L	95
21) tbutylalcohol	4.82	59	1187867	516.6804	ug/L	100
22) Acrylonitrile	4.88	53	401090	52.6802	ug/L	99
23) t12dichlorte	4.92	96	131608	9.8871	ug/L	96
24) MtBE	4.99	73	384646	10.0827	ug/L	99
25) Hexane	5.30	57	415425	20.2048	ug/L	99
26) 11dichlorota	5.45	63	243281	9.6385	ug/L	99
27) Vinylacetate	5.55	43	2205453	66.5944	ug/L	99
28) chloroprene	5.57	53	412742	21.4125	ug/L	99
29) Diisopether	5.61	45	496663	9.4940	ug/L	92
30) ETBE	6.06	59	397645	9.4320	ug/L	98
31) 22dichloropr	6.18	77	157419	8.5820	ug/L	97
32) c12dichlorte	6.19	96	151527	9.9482	ug/L	97
33) 2Butanone	6.23	72	235887	99.1379	ug/L	99
34) propionitrile	6.27	54	313021	102.6242	ug/L	98
35) Ethylacetate	6.33	88	32095	48.9535	ug/L #	93
36) methacrylonitrile	6.46	67	156238	20.3787	ug/L	99
37) Bromochlorma	6.46	128	71761	10.3110	ug/L	93
38) Tetrahydofur	6.59	42	674494	101.5926	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCVF-LCSD1.D Vial: 26
Acq On : 6 Feb 2020 19:11 Operator: RLD-DGS
Sample : 168570,LCSDW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 19:32:22 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.57	83	231683	9.9720	ug/L		99
40)	111trichlota	6.81	97	197872	10.5581	ug/L		97
42)	Cyclohexane	6.88	56	251911	10.9282	ug/L		96
43)	Carbtetraclo	7.02	119	169254	10.8618	ug/L		100
44)	11dicloprope	7.01	110	68858	10.6528	ug/L		95
46)	Benzene	7.26	78	535213	9.8119	ug/L		100
47)	12dichlorota	7.27	62	164069	10.1298	ug/L		98
48)	TAME	7.45	73	351011	9.0934	ug/L		99
49)	trichloroete	8.07	95	146776	10.3636	ug/L		94
50)	methylcyclohexane	8.32	83	266599	10.9103	ug/L		97
51)	12dicloropra	8.34	63	154723	9.8980	ug/L		97
52)	23Dicl1propene	8.40	75	213671	9.5998	ug/L		99
53)	Dibromometha	8.48	93	90154	10.1148	ug/L		97
54)	methylmethacrylate	8.52	69	121785	10.0725	ug/L		99
55)	14dioxane	8.56	88	122288	513.4651	ug/L		98
56)	Bromodiclrma	8.67	83	166947	9.5744	ug/L		98
57)	2Nitropropane	8.96	43	477096	104.4413	ug/L		98
58)	2CLEVE	9.09	63	1917	13.4858	ug/L	#	45
59)	c13dicloproe	9.26	75	211225	9.3103	ug/L		96
60)	4Meth2Pentan	9.48	43	1919525	105.4701	ug/L		99
62)	Toluene	9.70	92	372007	10.3013	ug/L		96
63)	t13Dicloprop	9.97	75	174945	9.1784	ug/L		99
64)	ethylmethacrylate	10.13	69	407071	20.1064	ug/L		99
65)	112Triclotha	10.21	83	112396	9.9867	ug/L		98
66)	Tetrachlorte	10.43	166	169669	10.6989	ug/L		97
67)	13Diclorpropa	10.43	76	210287	9.8486	ug/L		99
69)	2Hexanone	10.57	43	1483125	96.2342	ug/L		99
70)	Clorodibrmta	10.73	129	129217	8.5072	ug/L		100
71)	12Dibrometha	10.88	107	139983	9.4621	ug/L		96
72)	Chlorobenzen	11.56	112	397893	9.4023	ug/L		99
73)	1Clhexane	11.54	91	216407	9.6967	ug/L		97
74)	1112Tetclota	11.67	131	128796	8.9305	ug/L		98
75)	Ethylbenzene	11.72	91	654668	9.5890	ug/L		98
76)	m p-Xylene	11.89	106	513857	19.3844	ug/L		98
77)	o-Xylene	12.44	106	242564	9.3489	ug/L		96
78)	Styrene	12.45	104	410489	9.5892	ug/L		99
79)	Bromoform	12.69	173	94870	8.1386	ug/L		99
80)	Isopropylben	12.96	105	645918	9.8884	ug/L		99
81)	cyclohexanone	13.08	55	171765	182.5090	ug/L		98
84)	Bromobenzene	13.38	156	174714	9.1501	ug/L		96
85)	1122Tetrclta	13.35	83	190755	8.2790	ug/L		99
86)	123Triclproa	13.41	75	219032	8.4244	ug/L		97
87)	14dichloro2butene	13.44	53	32843	6.6361	ug/L		97
88)	n-Propylbenz	13.54	91	774176	9.3494	ug/L		99
89)	2chlorotolue	13.66	91	423839	8.8996	ug/L		99
90)	4chlorotolue	13.81	91	493731	9.2041	ug/L		100
91)	135Trimebenz	13.80	105	505974	9.3704	ug/L		99
92)	tbutylbenzen	14.27	119	450592	9.4650	ug/L		99
93)	124Trimetben	14.34	105	505823	9.1556	ug/L		99
94)	sbutylbenzen	14.59	105	696139	9.7649	ug/L		100
95)	13Diclorbenz	14.73	146	312599	9.0783	ug/L		100
96)	pIsopropylto	14.81	119	566020	9.7355	ug/L		99
97)	14dichlorobe	14.86	146	313361	9.0782	ug/L		98
98)	12dichlorobe	15.40	146	296454	9.1501	ug/L		97
99)	nButylbenzen	15.40	91	529420	9.2359	ug/L		99
100)	12dibromo3cl	16.51	157	47651	8.9162	ug/L		98
101)	135Trichlorobenzene	16.83	180	262062	9.3657	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

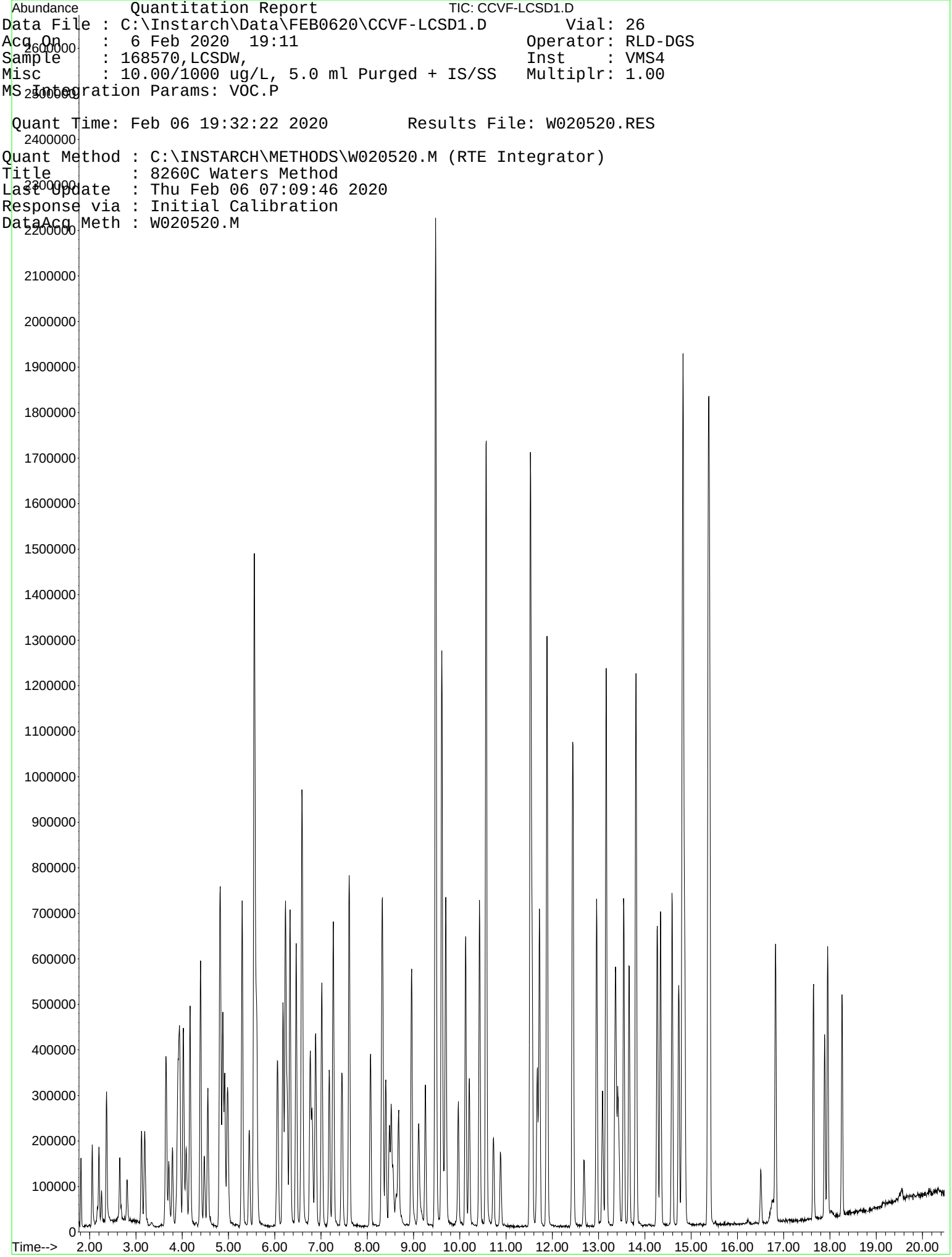
Data File : C:\Instarch\Data\FEB0620\CCVF-LCSD1.D Vial: 26
Acq On : 6 Feb 2020 19:11 Operator: RLD-DGS
Sample : 168570,LCSDW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 19:32:22 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.65	180	218104	9.4257	ug/L	96
103) Hexachlorobu	17.88	225	105924	9.6202	ug/L	96
104) Naphthalene	17.95	128	549665	9.4190	ug/L	99
105) 123Trichlben	18.26	180	198853	9.3136	ug/L	99

(#) = qualifier out of range (m) = manual integration


Abundance
Quantitation Report
TIC: CCVF-LCSD1.D
Data File : C:\Instarch\Data\FEB0620\CCVF-LCSD1.D Vial: 26
Acq On : 6 Feb 2020 19:11 Operator: RLD-DGS
Sample : 168570,LCSDW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Feb 06 19:32:22 2020 Results File: W020520.RES
Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
2600000
2500000
2400000
2300000
2200000
2100000
2000000
1900000
1800000
1700000
1600000
1500000
1400000
1300000
1200000
1100000
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020620 - 168647.seq
User : AGK
Printed : Feb 06, 2020 10:35:53

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\020620 -\002.dat	168647,CCV,	Feb 06, 2020 10:35:53

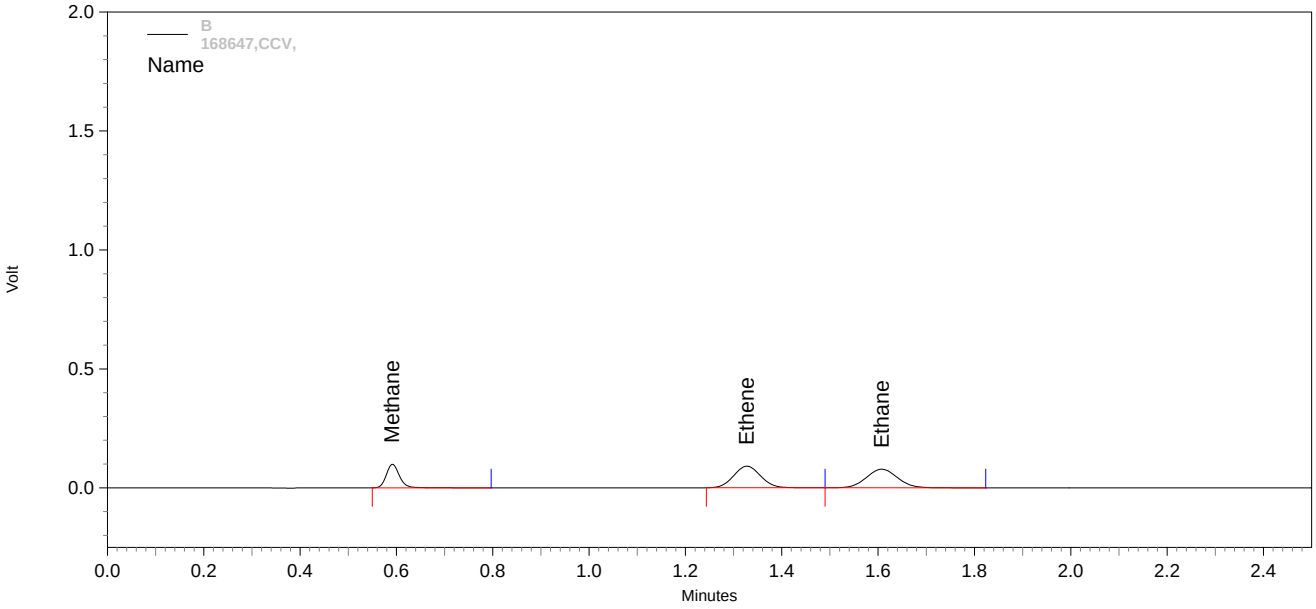
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.174	2.348	15.000	**Passed**
Ethene	50.000	51.840	3.679	15.000	**Passed**
Ethane	50.000	51.990	3.981	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,CCV,
Acquired: Feb 06, 2020 08:38:51
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.597**	**188306**	**51.174**	**ppmV**
2	**Ethene**	**1.327**	**1.333**	**352505**	**51.840**	**ppmV**
3	**Ethane**	**1.607**	**1.613**	**348669**	**51.990**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020620 - 168647.seq
User : AGK
Printed : Feb 06, 2020 10:37:10

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\020620 -\017.dat	168647,CCV,	Feb 06, 2020 10:37:09

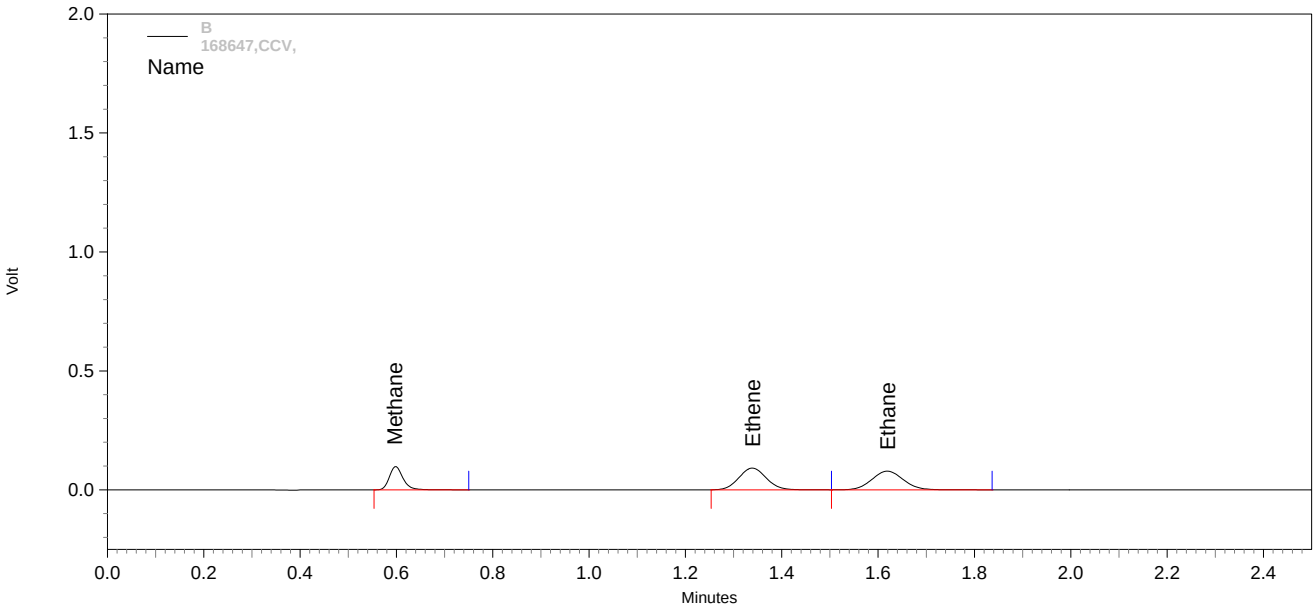
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	52.630	5.260	15.000	**Passed**
Ethene	50.000	52.808	5.617	15.000	**Passed**
Ethane	50.000	52.856	5.712	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,CCV,
Acquired: Feb 06, 2020 09:44:01
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



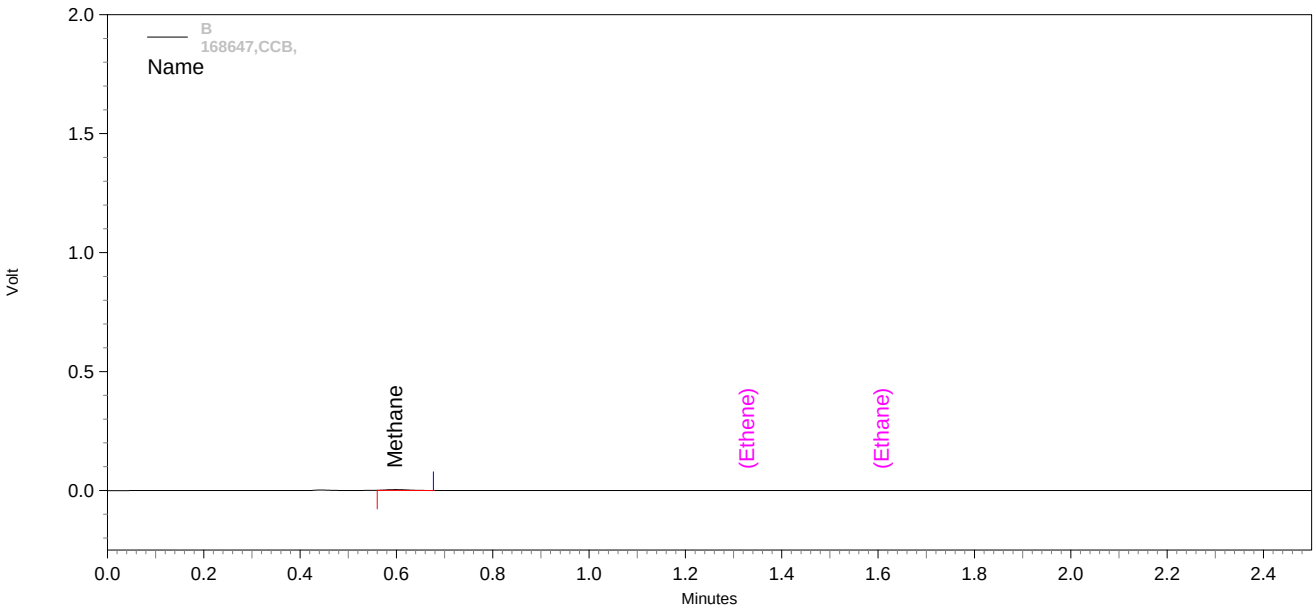
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.590**	**193585**	**52.630**	**ppmV**
2	**Ethene**	**1.340**	**1.327**	**359207**	**52.808**	**ppmV**
3	**Ethane**	**1.620**	**1.607**	**354553**	**52.856**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,CCB,
Acquired: Feb 06, 2020 09:50:08
File Desc. MEE Continuing Calibration Blank



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.590**	**9119**	**1.744**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\020620 - 168647.seq
User : AGK
Printed : Feb 06, 2020 10:38:02

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\020620 -\027.dat	168647,CCV,	Feb 06, 2020 10:38:02

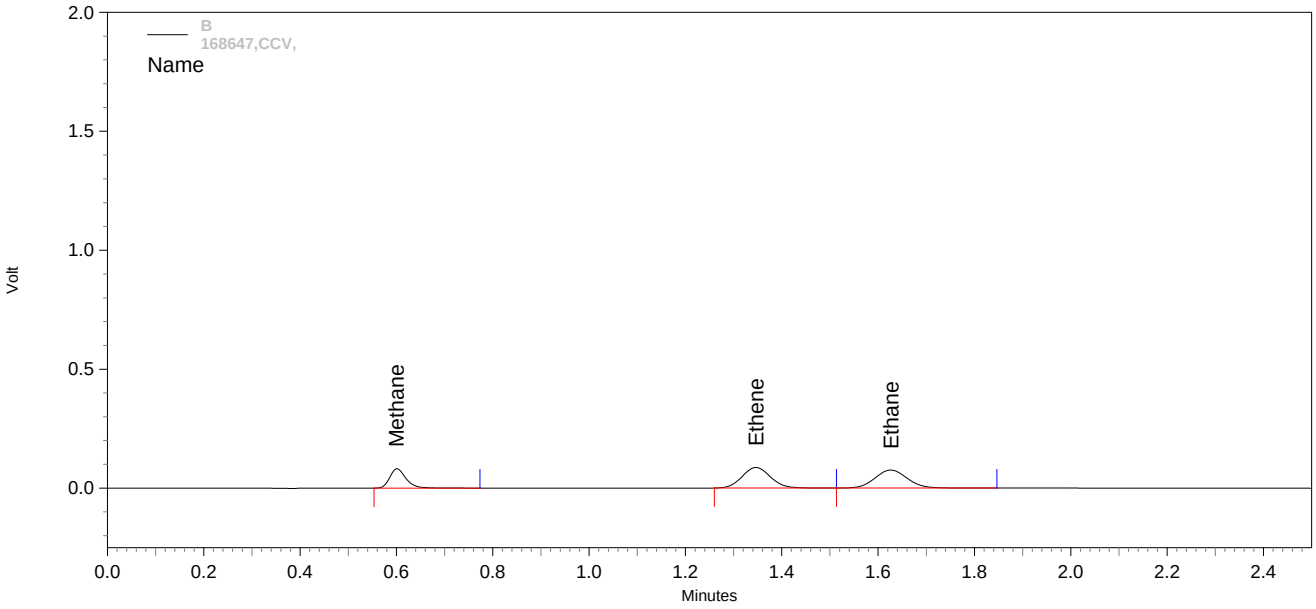
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.832	3.664	15.000	**Passed**
Ethene	50.000	51.973	3.945	15.000	**Passed**
Ethane	50.000	52.220	4.439	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\027.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,CCV,
Acquired: Feb 06, 2020 10:26:15
File Desc. MEE Continuing Calibration Blank



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.600**	**0.590**	**190692**	**51.832**	**ppmV**
2	**Ethene**	**1.347**	**1.327**	**353425**	**51.973**	**ppmV**
3	**Ethane**	**1.627**	**1.607**	**350228**	**52.220**	**ppmV**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1370059	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1006807	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	496845	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	326827	20.114	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	100257	20.426	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1340135	20.142	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	538517	20.531	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	175015	11.7135	ug/L	99
3) Chloromethan	2.09	50	212994	10.4670	ug/L	98
4) VinylChlorid	2.25	62	213307	11.2574	ug/L	100
5) Bromomethane	2.73	94	110580	10.8740	ug/L	95
6) Chloroethane	2.89	64	122273	11.0984	ug/L	97
7) Dichloroflmethane	3.19	67	305616	10.7590	ug/L	99
8) Trichlorofma	3.28	101	238280	11.6219	ug/L	98
9) Ethylether	3.73	59	163465	9.9258	ug/L	98
10) dichlorotfluoroethan	3.73	67	198513	11.5465	ug/L	98
11) propyleneoxide	3.78	58	340736	102.4748	ug/L	99
12) Acrolein	3.86	56	169654	54.0599	ug/L	99
13) 11dichlorthe	4.00	96	156880	11.1138	ug/L	96
14) Trichlorotfluoroeth	4.04	101	312570	24.0189	ug/L	98
15) Acetone	4.09	43	429997	108.2981	ug/L	98
16) Iodomethane	4.18	142	255654	18.0272	ug/L	99
17) Carbon Dislf	4.27	76	975811	21.7486	ug/L	99
18) allylchloride	4.49	41	592806	21.3258	ug/L	99
19) methylacetate	4.56	74	45657	10.1857	ug/L	92
20) Methylchlorid	4.64	84	185110	9.7647	ug/L	96
21) tbutylalcohol	4.88	59	520133	519.0570	ug/L	97
22) Acrylonitrile	4.95	53	344907	51.8134	ug/L	96
23) t12dichlorte	5.02	96	177439	10.3329	ug/L	99
24) MtBE	5.08	73	491913	10.0387	ug/L	99
25) Hexane	5.41	57	620669	23.7903	ug/L	99
26) 11dichlorota	5.55	63	331338	10.4845	ug/L	98
27) Vinylacetate	5.65	43	3186606	102.9343	ug/L	99
28) chloroprene	5.68	53	555348	22.5458	ug/L	98
29) Diisopether	5.71	45	589018	10.3061	ug/L	100
30) ETBE	6.16	59	548952	10.3357	ug/L	100
31) 22dichloropr	6.29	77	262541	10.7242	ug/L	99
32) c12dichlorte	6.27	96	195349	10.2500	ug/L	97
33) 2Butanone	6.32	72	213374	102.5568	ug/L	99
34) propionitrile	6.35	54	236665	104.7990	ug/L	96
35) Ethylacetate	6.42	88	41535	49.3997	ug/L #	91
36) methacrylonitrile	6.55	67	172622	19.8197	ug/L	97
37) Bromochlorma	6.56	128	77718	9.7882	ug/L	99
38) Tetrahydofur	6.68	42	522675	101.5173	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	311034	10.3367	ug/L	97
40)	111trichlota	6.92	97	259548	10.9560	ug/L	99
42)	Cyclohexane	7.00	56	347626	11.7417	ug/L	98
43)	Carbtetraclo	7.13	119	200364	11.2043	ug/L	98
44)	11dicloprope	7.12	110	87922	10.8545	ug/L	99
46)	Benzene	7.37	78	744497	10.6118	ug/L	99
47)	12dichlorota	7.37	62	230092	10.1463	ug/L	97
48)	TAME	7.56	73	515141	10.2884	ug/L	98
49)	trichloroete	8.17	95	182846	10.4933	ug/L	98
50)	methylcyclohexane	8.44	83	372193	11.7537	ug/L	98
51)	12dicloropra	8.44	63	215715	10.2012	ug/L	95
52)	23Dicl1propene	8.50	75	303318	10.2496	ug/L	99
53)	Dibromometha	8.58	93	105470	10.0995	ug/L	97
54)	methylmethacrylate	8.62	69	143528	10.0888	ug/L	99
55)	14dioxane	8.64	88	28996	594.1969	ug/L	93
56)	Bromodiclrma	8.78	83	224545	9.6329	ug/L	97
57)	2Nitropropane	9.06	43	477345	107.1848	ug/L	99
58)	2CLEVE	9.17	63	626101	53.1762	ug/L	99
59)	c13dicloproe	9.36	75	314789	10.2115	ug/L	99
60)	4Meth2Pentan	9.58	43	1541730	99.4959	ug/L	99
62)	Toluene	9.80	92	478620	10.2750	ug/L	98
63)	t13Dicloprop	10.07	75	260570	9.9684	ug/L	99
64)	ethylmethacrylate	10.22	69	499821	21.2068	ug/L	99
65)	112Triclotha	10.31	83	141354	9.9544	ug/L	97
66)	Tetrachlorte	10.54	166	176105	10.4627	ug/L	98
67)	13Diclorpropa	10.53	76	297591	10.0025	ug/L	99
69)	2Hexanone	10.67	43	1143730	102.4905	ug/L	100
70)	Clorodibrmta	10.83	129	153490	10.0044	ug/L	98
71)	12Dibrometha	10.98	107	156749	9.7271	ug/L	100
72)	Chlorobenzen	11.67	112	456196	9.7839	ug/L	98
73)	1Clhexane	11.65	91	270606	10.4859	ug/L	99
74)	1112Tetclota	11.78	131	149153	9.6044	ug/L	96
75)	Ethylbenzene	11.83	91	828192	10.8748	ug/L	99
76)	m p-Xylene	11.99	106	633729	20.7905	ug/L	98
77)	o-Xylene	12.54	106	324548	10.5219	ug/L	94
78)	Styrene	12.55	104	504815	10.5867	ug/L	98
79)	Bromoform	12.78	173	95173	9.6339	ug/L	99
80)	Isopropylben	13.07	105	790501	11.1428	ug/L	97
81)	cyclohexanone	13.17	55	55314	197.7496	ug/L	97
84)	Bromobenzene	13.48	156	190181	10.0196	ug/L	98
85)	1122Tetrclta	13.45	83	227477	10.0891	ug/L	94
86)	123Triclproa	13.51	75	295671	10.3051	ug/L	100
87)	14dichloro2butene	13.54	53	75520	10.6322	ug/L	98
88)	n-Propylbenz	13.65	91	925311	10.6904	ug/L	100
89)	2chlorotolue	13.76	91	569693	10.9043	ug/L	99
90)	4chlorotolue	13.92	91	642628	10.4746	ug/L	100
91)	135Trimebenz	13.91	105	640066	11.0630	ug/L	99
92)	tbutylbenzen	14.38	119	525984	11.0639	ug/L	98
93)	124Trimetben	14.45	105	650027	11.1578	ug/L	100
94)	sbutylbenzen	14.70	105	801810	11.5828	ug/L	99
95)	13Diclorbenz	14.84	146	330603	10.0764	ug/L	98
96)	pIsopropylto	14.91	119	629335	11.2320	ug/L	100
97)	14dichlorobe	14.96	146	339532	9.8744	ug/L	99
98)	12dichlorobe	15.50	146	306093	10.0777	ug/L	99
99)	nButylbenzen	15.51	91	626150	11.1082	ug/L	97
100)	12dibromo3cl	16.60	157	33679	9.4201	ug/L	94
101)	135Trichlorobenzene	16.93	180	242600	10.6503	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102)	124Trichlobe	17.74	180	181215	9.8712	ug/L	95
103)	Hexachlorobu	17.99	225	88653	10.9132	ug/L	95
104)	Naphthalene	18.04	128	429515	10.8400	ug/L	98
105)	123Trichlben	18.35	180	163394	10.2097	ug/L	100

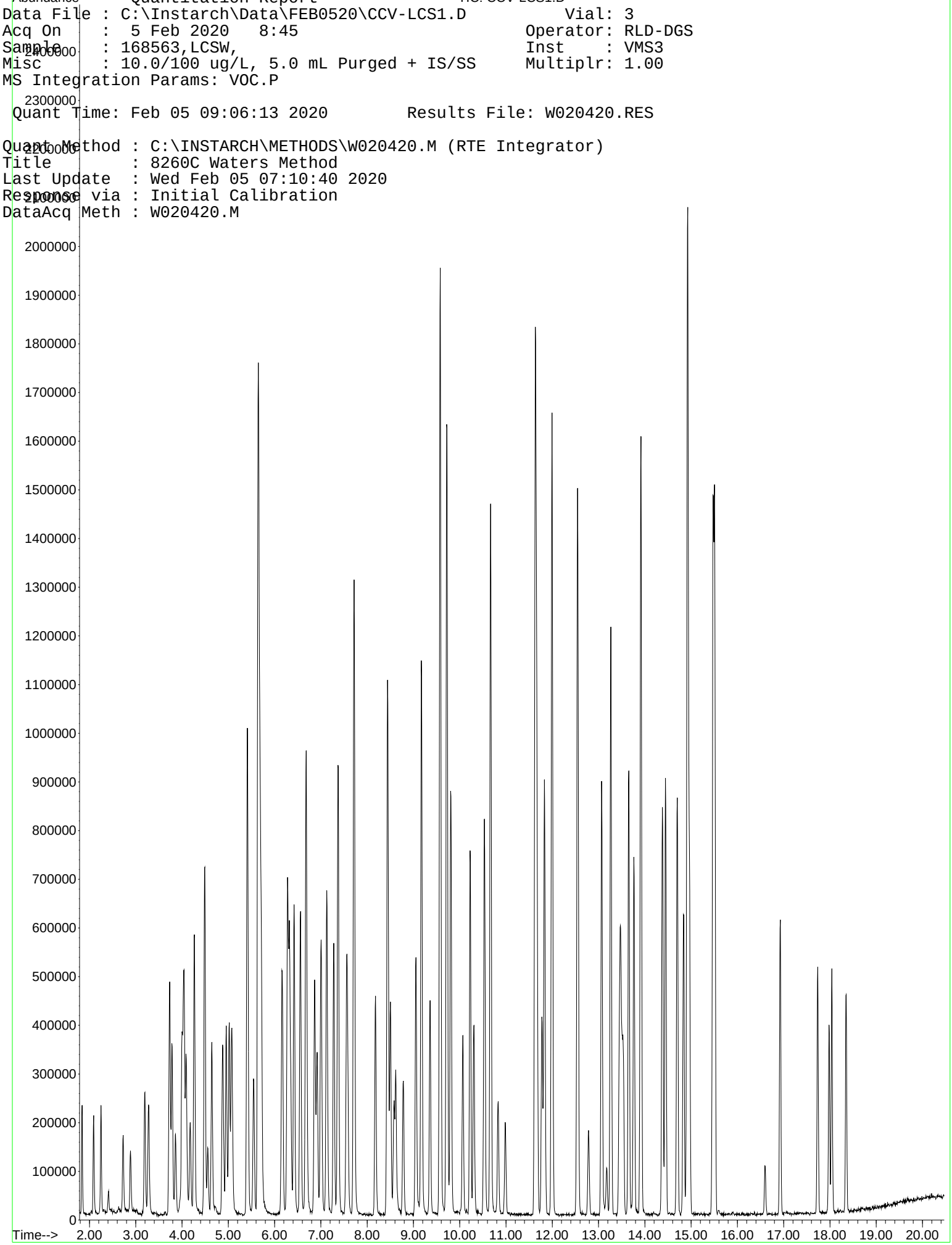
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\Instarch\Data\FEB0520\CCV-LCS1.D Vial: 3
Acq On : 5 Feb 2020 8:45 Operator: RLD-DGS
Sample : 168563,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 09:06:13 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\MB-ICB1.D Vial: 5
Acq On : 5 Feb 2020 9:45 Operator: RLD-DGS
Sample : 168563,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:05:45 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	826775	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	583276	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	269936	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	183334	18.697	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 93	%		
45) SURR12DCAd4	7.28	102	51646	17.437	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 87	%#		
61) SURRd8Tolule	9.72	98	775931	19.325	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97	%		
83) SURR4BrFBenz	13.26	95	298277	20.931	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 105	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.10	50	1206	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	4126	Below	Cal	96
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	4026	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	4021	N.D.		
21) tbutylalcohol	4.89	59	3265	Below	Cal	66
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.65	43	1622	Below	Cal #	67
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.71	42	2313	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\MB-ICB1.D Vial: 5
Acq On : 5 Feb 2020 9:45 Operator: RLD-DGS
Sample : 168563,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:05:45 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.65	88	3070	Below Cal #	59
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	1336	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	13.07	105	1002	N.D.	
81)	cyclohexanone	13.19	55	2309	Below Cal #	42
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.65	91	1205	N.D.	
89)	2chlorotolue	13.78	91	1098	N.D.	
90)	4chlorotolue	13.92	91	1573	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.43	105	1042	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	14.96	146	1192	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.47	91	1668	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0520\MB-ICB1.D Vial: 5
Acq On : 5 Feb 2020 9:45 Operator: RLD-DGS
Sample : 168563,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:05:45 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.72	180	1582	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.04	128	1455	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

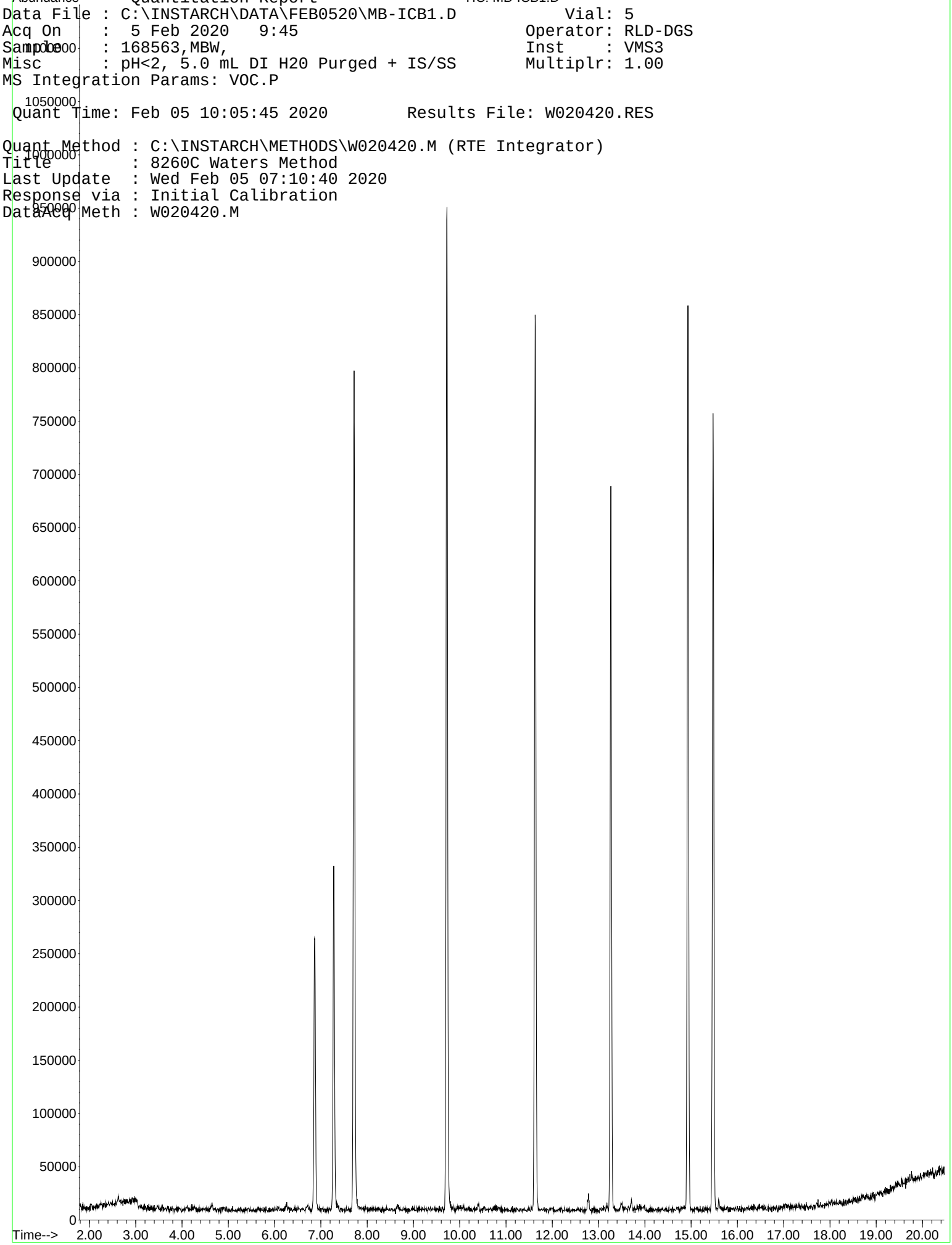
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB-ICB1.D

Data File : C:\INSTARCH\DATA\FEB0520\MB-ICB1.D Vial: 5
Acq On : 5 Feb 2020 9:45 Operator: RLD-DGS
Sample : 168563,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 10:05:45 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1095282	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	809787	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	397599	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	255090	19.637	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	79799	20.337	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %			
61) SURRd8Tolule	9.72	98	1071993	20.154	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %			
83) SURR4BrFBenz	13.26	95	418538	19.939	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	146449	12.2605	ug/L	97
3) Chloromethan	2.09	50	191220	11.7544	ug/L	99
4) VinylChlorid	2.25	62	182559	12.0517	ug/L	99
5) Bromomethane	2.72	94	89121	10.9625	ug/L	99
6) Chloroethane	2.89	64	105246	11.9495	ug/L	95
7) Dichloroflmethane	3.20	67	258853	11.3988	ug/L	99
8) Trichlorofma	3.28	101	205794	12.5555	ug/L	99
9) Ethylether	3.73	59	139065	10.5627	ug/L	98
10) dichlorotfluoroethan	3.73	67	167497	12.1865	ug/L	98
11) propyleneoxide	3.79	58	271828	102.2602	ug/L	98
12) Acrolein	3.86	56	142646	56.8570	ug/L	97
13) 11dichlorthe	4.00	96	138191	12.2458	ug/L	95
14) Trichlorotfluoroeth	4.04	101	261996	25.1834	ug/L	99
15) Acetone	4.09	43	359929	113.8470	ug/L	94
16) Iodomethane	4.18	142	195516	17.3671	ug/L	97
17) Carbon Dislf	4.27	76	830125	23.1431	ug/L	99
18) allylchloride	4.49	41	510154	22.9566	ug/L	98
19) methylacetate	4.55	74	37670	10.5122	ug/L	99
20) Methylchlorid	4.64	84	162195	10.7478	ug/L	95
21) tbutylalcohol	4.88	59	439050	551.3662	ug/L	95
22) Acrylonitrile	4.95	53	289977	54.4900	ug/L	98
23) t12dichlorte	5.02	96	148493	10.8166	ug/L	95
24) MtBE	5.07	73	419036	10.6968	ug/L	99
25) Hexane	5.42	57	531086	25.4635	ug/L	99
26) 11dichlorota	5.55	63	295056	11.6787	ug/L	99
27) Vinylacetate	5.65	43	2378382	94.6303	ug/L	97
28) chloroprene	5.68	53	475752	24.1599	ug/L	99
29) Diisopether	5.71	45	527487	11.5449	ug/L	97
30) ETBE	6.17	59	478346	11.2658	ug/L	98
31) 22dichloropr	6.29	77	196251	10.0275	ug/L	98
32) c12dichlorte	6.28	96	167694	11.0064	ug/L	96
33) 2Butanone	6.32	72	178887	107.5511	ug/L	99
34) propionitrile	6.35	54	196081	108.6105	ug/L	98
35) Ethylacetate	6.42	88	34068	50.6839	ug/L	99
36) methacrylonitrile	6.55	67	143285	20.5786	ug/L	99
37) Bromochlorma	6.57	128	69533	10.9543	ug/L	98
38) Tetrahydofur	6.68	42	456387	110.8804	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.67	83	267260	11.1102	ug/L	98
40) 111trichlota	6.92	97	225452	11.9042	ug/L	99
42) Cyclohexane	7.00	56	306080	12.9320	ug/L	99
43) Carbtetraclo	7.13	119	174010	12.1717	ug/L	97
44) 11dicloprope	7.12	110	73538	11.3563	ug/L	95
46) Benzene	7.37	78	668073	11.9115	ug/L	98
47) 12dichlorota	7.37	62	200530	11.0611	ug/L	98
48) TAME	7.56	73	440969	11.0165	ug/L	97
49) trichloroete	8.17	95	163439	11.7327	ug/L	97
50) methylcyclohexane	8.44	83	325672	12.8647	ug/L	98
51) 12dicloropra	8.44	63	191921	11.3529	ug/L	99
52) 23Dicl1propene	8.50	75	269795	11.4040	ug/L	98
53) Dibromometha	8.58	93	89175	10.6813	ug/L	92
54) methylmethacrylate	8.62	69	122533	10.7738	ug/L	99
55) 14dioxane	8.65	88	20606	511.1469	ug/L	92
56) Bromodiclrma	8.78	83	199209	10.6899	ug/L	97
57) 2Nitropropane	9.05	43	392670	110.2915	ug/L	99
58) 2CLEVE	9.18	63	533718	56.7020	ug/L	99
59) c13dicloproe	9.36	75	261373	10.6058	ug/L	100
60) 4Meth2Pentan	9.58	43	1373772	112.6490	ug/L	99
62) Toluene	9.81	92	425227	11.4190	ug/L	97
63) t13Dicloprop	10.07	75	216536	10.3621	ug/L	98
64) ethylmethacrylate	10.23	69	435590	23.1180	ug/L	100
65) 112Triclotha	10.30	83	123135	10.8468	ug/L	98
66) Tetrachlorte	10.54	166	158359	11.7687	ug/L	97
67) 13Diclorpropa	10.53	76	258167	10.8543	ug/L	100
69) 2Hexanone	10.67	43	1010611	112.5951	ug/L	99
70) Clorodibrmta	10.83	129	129733	10.5132	ug/L	99
71) 12Dibrometha	10.98	107	137684	10.6228	ug/L	99
72) Chlorobenzen	11.67	112	408363	10.8888	ug/L	98
73) 1Clhexane	11.65	91	239149	11.5216	ug/L	99
74) 1112Tetclota	11.78	131	134149	10.7399	ug/L	98
75) Ethylbenzene	11.84	91	727395	11.8750	ug/L	100
76) m p-Xylene	11.99	106	567283	23.1386	ug/L	99
77) o-Xylene	12.54	106	278512	11.2263	ug/L	99
78) Styrene	12.55	104	450991	11.7590	ug/L	97
79) Bromoform	12.78	173	74774	9.4105	ug/L	97
80) Isopropylben	13.07	105	686352	12.0286	ug/L	99
81) cyclohexanone	13.18	55	45304	201.8146	ug/L	96
84) Bromobenzene	13.48	156	170363	11.2159	ug/L	95
85) 1122Tetrclta	13.45	83	186600	10.3419	ug/L	97
86) 123Triclproa	13.51	75	241237	10.5066	ug/L	97
87) 14dichloro2butene	13.54	53	50697	8.9190	ug/L	99
88) n-Propylbenz	13.65	91	834806	12.0522	ug/L	100
89) 2chlorotolue	13.76	91	493945	11.8144	ug/L	98
90) 4chlorotolue	13.92	91	582714	11.8689	ug/L	98
91) 135Trimebenz	13.91	105	573185	12.3799	ug/L	99
92) tbutylbenzen	14.38	119	457485	12.0251	ug/L	97
93) 124Trimetben	14.45	105	568132	12.1863	ug/L	97
94) sbutylbenzen	14.70	105	719392	12.9863	ug/L	100
95) 13Diclorbenz	14.83	146	298405	11.3653	ug/L	97
96) pIsopropylto	14.91	119	565547	12.6130	ug/L	99
97) 14dichlorobe	14.97	146	309166	11.2356	ug/L	99
98) 12dichlorobe	15.50	146	276912	11.3927	ug/L	98
99) nButylbenzen	15.51	91	561052	12.4378	ug/L	97
100) 12dibromo3cl	16.60	157	28521	9.9687	ug/L	99
101) 135Trichlorobenzene	16.93	180	211360	11.5949	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	164373	11.1887	ug/L	100
103) Hexachlorobu	17.99	225	79029	12.1569	ug/L	94
104) Naphthalene	18.04	128	380452	11.9985	ug/L	99
105) 123Trichlben	18.35	180	142027	11.0898	ug/L	97

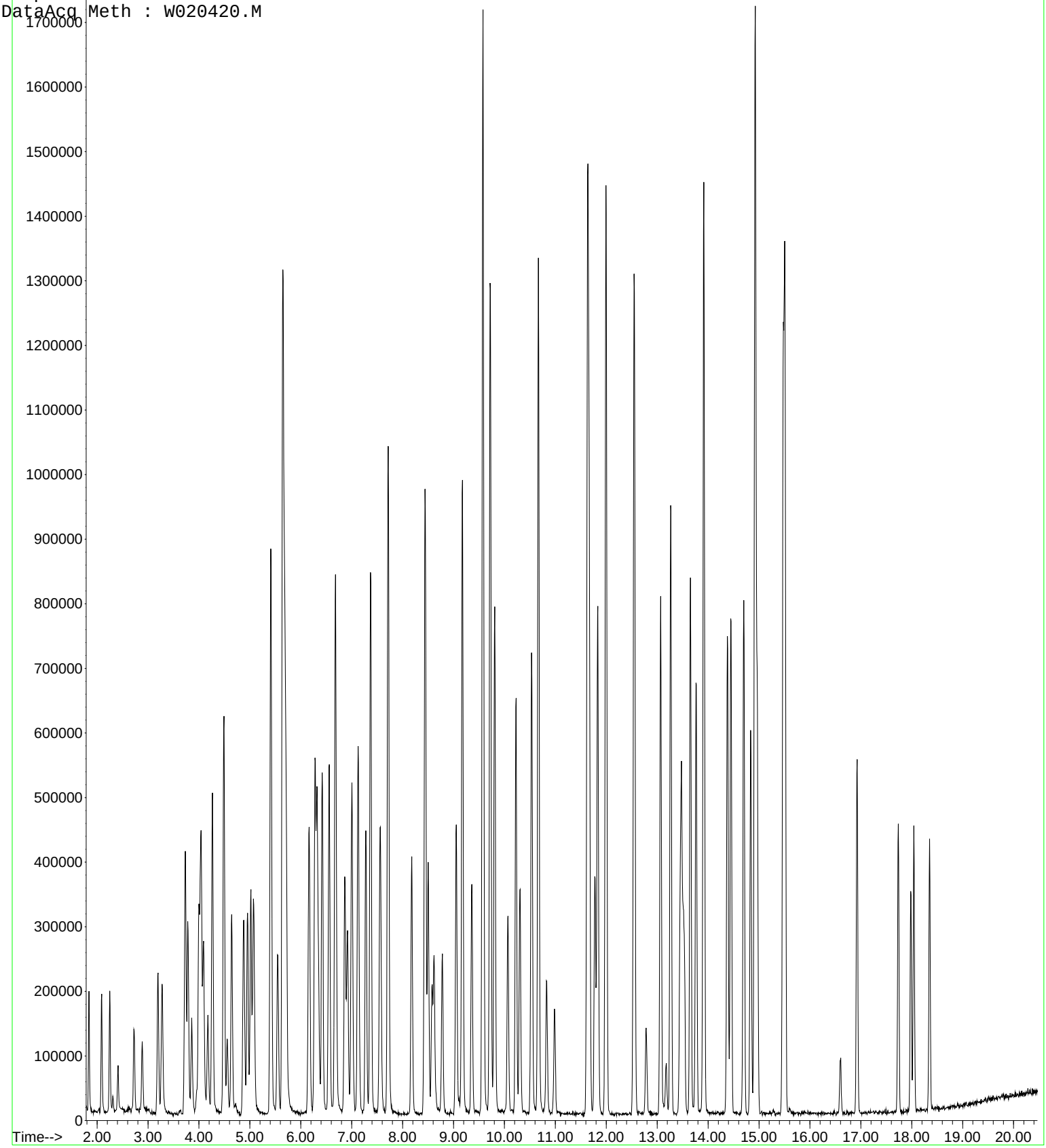
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF-LCSD1.D

Data File : C:\Instarch\Data\FEB0520\CCVF-LCSD1.D Vial: 20
Acq On : 5 Feb 2020 17:12 Operator: RLD-DGS
Sample : 168564,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 05 17:33:35 2020 Results File: W020420.RES

Quant Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Feb 05 07:10:40 2020
Response via : Initial Calibration
DataAcq Meth : W020420.M



Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	990689	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1091657	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.82	152	671900	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	289351	19.943	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	65321	19.966	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
61) SURRd8Tolule	9.61	98	1175605	19.979	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.16	95	521082	19.715	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	139794	9.8572	ug/L	100
3) Chloromethan	2.05	50	212468	9.3294	ug/L	97
4) VinylChlorid	2.20	62	182820	10.3731	ug/L	98
5) Bromomethane	2.65	94	84914	13.3197	ug/L	96
6) Chloroethane	2.81	64	97080	9.8920	ug/L	96
7) Dichloroflmethane	3.12	67	276884	9.6424	ug/L	96
8) Trichlorofma	3.19	101	238815	10.8324	ug/L	99
9) Ethylether	3.65	59	141901	9.4704	ug/L	98
10) dichlorotfluoroethan	3.65	67	172919	10.0947	ug/L	96
11) propyleneoxide	3.70	58	248572	100.7029	ug/L	96
12) Acrolein	3.79	56	243901	49.2142	ug/L	99
13) 11dichlorthe	3.90	96	150364	10.6460	ug/L	96
14) Trichlorotfluoroeth	3.94	101	296471	21.8123	ug/L	98
15) Acetone	4.02	43	698032	93.6634	ug/L	100
16) Iodomethane	4.08	127	75520	13.0910	ug/L	97
17) Carbon Dislf	4.17	76	897934	21.1210	ug/L	99
18) allylchloride	4.39	41	559256	19.3091	ug/L	97
19) methylacetate	4.48	74	50864	9.4446	ug/L	94
20) Methylchlorid	4.55	84	165420	9.3569	ug/L	98
21) tbutylalcohol	4.82	59	1348312	498.8878	ug/L	99
22) Acrylonitrile	4.88	53	431576	48.2193	ug/L	96
23) t12dichlorte	4.92	96	156671	10.0123	ug/L	95
24) MtBE	4.98	73	433634	9.6693	ug/L	99
25) Hexane	5.30	57	513732	21.2548	ug/L	99
26) 11dichlorota	5.45	63	286483	9.6552	ug/L	99
27) Vinylacetate	5.55	43	4065325	104.4223	ug/L	100
28) chloroprene	5.57	53	459749	20.2893	ug/L	100
29) Diisopether	5.61	45	576814	9.3795	ug/L	90
30) ETBE	6.06	59	475899	9.6024	ug/L	98
31) 22dichloropr	6.17	77	202182	9.3763	ug/L	97
32) c12dichlorte	6.18	96	180362	10.0730	ug/L	95
33) 2Butanone	6.23	72	274302	98.0670	ug/L	99
34) propionitrile	6.27	54	348537	97.2038	ug/L	99
35) Ethylacetate	6.33	88	38327	49.7290	ug/L	97
36) methacrylonitrile	6.46	67	173172	19.2144	ug/L	99
37) Bromochlorma	6.46	128	81635	9.9781	ug/L	94
38) Tetrahydofur	6.59	42	745426	95.5096	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.57	83	267008	9.7762 ug/L	98
40)	111trichlota	6.81	97	222411	10.0952 ug/L	99
42)	Cyclohexane	6.88	56	290424	10.7175 ug/L	99
43)	Carbtetraclo	7.02	119	191176	10.4365 ug/L	100
44)	11dicloprope	7.01	110	77136	10.1514 ug/L	98
46)	Benzene	7.26	78	620068	9.6699 ug/L	99
47)	12dichlorota	7.27	62	186709	9.8061 ug/L	97
48)	TAME	7.45	73	427391	9.4187 ug/L	98
49)	trichloroete	8.07	95	160939	9.6667 ug/L	98
50)	methylcyclohexane	8.32	83	308054	10.7242 ug/L	98
51)	12dicloropra	8.33	63	172750	9.4009 ug/L	95
52)	23Dicl1propene	8.40	75	247444	9.4569 ug/L	100
53)	Dibromometha	8.48	93	102612	9.7933 ug/L	99
54)	methylmethacrylate	8.52	69	140748	9.9025 ug/L	96
55)	14dioxane	8.56	88	136599	487.9024 ug/L	99
56)	Bromodiclrma	8.67	83	194311	9.4796 ug/L	97
57)	2Nitropropane	8.95	43	542003	100.9314 ug/L	100
58)	2CLEVE	9.07	63	17174	43.6704 ug/L	95
59)	c13dicloproe	9.26	75	256321	9.6109 ug/L	100
60)	4Meth2Pentan	9.48	43	2152793	100.6227 ug/L	99
62)	Toluene	9.70	92	406860	9.5840 ug/L	99
63)	t13Dicloprop	9.97	75	214443	9.5706 ug/L	97
64)	ethylmethacrylate	10.12	69	459449	19.3046 ug/L	98
65)	112Triclotha	10.20	83	122658	9.2710 ug/L	94
66)	Tetrachlorte	10.43	166	187645	10.0654 ug/L	96
67)	13Diclorpropa	10.43	76	240198	9.5695 ug/L	100
69)	2Hexanone	10.57	43	1658581	99.1317 ug/L	99
70)	Clorodibrmta	10.73	129	155944	9.4571 ug/L	97
71)	12Dibrometha	10.88	107	154421	9.6148 ug/L	97
72)	Chlorobenzen	11.56	112	430470	9.3698 ug/L	97
73)	1Clhexane	11.54	91	236775	9.7726 ug/L	99
74)	1112Tetclota	11.67	131	150931	9.6400 ug/L	99
75)	Ethylbenzene	11.72	91	737858	9.9552 ug/L	100
76)	m p-Xylene	11.89	106	555525	19.3035 ug/L	97
77)	o-Xylene	12.43	106	270276	9.5955 ug/L	97
78)	Styrene	12.45	104	438179	9.4288 ug/L	97
79)	Bromoform	12.69	173	121961	9.6376 ug/L	99
80)	Isopropylben	12.96	105	706767	9.9666 ug/L	100
81)	cyclohexanone	13.08	55	193878	189.7588 ug/L	98
84)	Bromobenzene	13.37	156	189749	9.3962 ug/L	98
85)	1122Tetrclta	13.35	83	233118	9.5665 ug/L	99
86)	123Triclproa	13.41	75	258229	9.3910 ug/L	99
87)	14dichloro2butene	13.44	53	45182	8.6319 ug/L	98
88)	n-Propylbenz	13.54	91	864141	9.8674 ug/L	99
89)	2chlorotolue	13.66	91	469764	9.3266 ug/L	99
90)	4chlorotolue	13.81	91	531239	9.3639 ug/L	97
91)	135Trimebenz	13.80	105	563864	9.8737 ug/L	100
92)	tbutylbenzen	14.27	119	499569	9.9221 ug/L	99
93)	124Trimetben	14.34	105	567048	9.7048 ug/L	99
94)	sbutylbenzen	14.59	105	762946	10.1191 ug/L	99
95)	13Diclorbenz	14.73	146	348879	9.5800 ug/L	98
96)	pIsopropylto	14.81	119	609630	9.9145 ug/L	100
97)	14dichlorobe	14.86	146	342974	9.3948 ug/L	98
98)	12dichlorobe	15.40	146	316930	9.2492 ug/L	99
99)	nButylbenzen	15.40	91	587694	9.6940 ug/L	99
100)	12dibromo3cl	16.50	157	55710	9.8563 ug/L	99
101)	135Trichlorobenzene	16.83	180	283963	9.5956 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

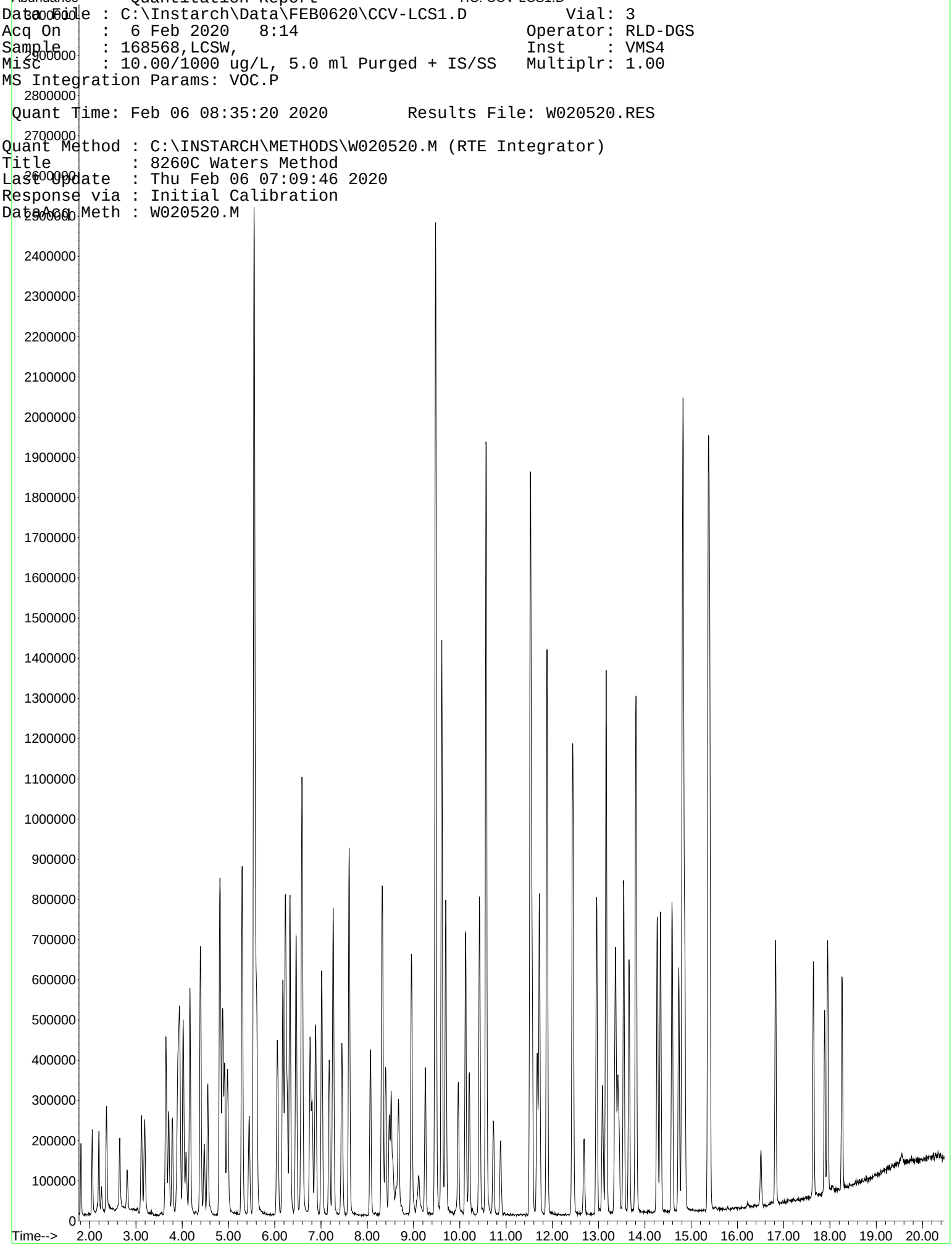
Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.64	180	236533	9.6653 ug/L	99
103) Hexachlorobu	17.89	225	116298	9.9870 ug/L	98
104) Naphthalene	17.95	128	607071	9.8360 ug/L	99
105) 123Trichlben	18.27	180	216836	9.6026 ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\Instarch\Data\FEB0620\CCV-LCS1.D Vial: 3
Acq On : 6 Feb 2020 8:14 Operator: RLD-DGS
Sample : 168568,LCSW, Inst : VMS4
Misc : 10.00/1000 ug/L, 5.0 ml Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 08:35:20 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\MB1.D Vial: 5
Acq On : 6 Feb 2020 9:11 Operator: RLD-DGS
Sample : 168568,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 09:32:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	972974	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	1089403	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	667290	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.76	113	285756	20.053	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.18	102	63807	19.858	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99	%		
61) SURRd8Tolule	9.61	98	1160750	20.085	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 100	%		
83) SURR4BrFBenz	13.16	95	515643	19.644	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	2.05	50	2425	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	2.66	94	3445	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.03	43	8369	N.D.		
16) Iodomethane	4.09	127	1483	2.0585	ug/L #	74
17) Carbon Dislf	4.16	76	2097	N.D.		
18) allylchloride	4.43	41	1184	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.54	84	3247	Below	Cal	88
21) tbutylalcohol	4.83	59	1466	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	5.56	43	2560	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	6.18	77	2378	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.61	42	2075	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\MB1.D Vial: 5
Acq On : 6 Feb 2020 9:11 Operator: RLD-DGS
Sample : 168568,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 09:32:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	7.27	78	2510	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	8.95	43	1900	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	9.48	43	2338	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	10.58	43	2569	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.53	91	1777	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	11.73	91	1462	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	12.44	104	1171	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	13.04	55	2646	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	13.54	91	1363	N.D.	
89)	2chlorotolue	13.54	91	1363	N.D.	
90)	4chlorotolue	13.81	91	1337	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.34	105	1453	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	14.81	119	1586	N.D.	
97)	14dichlorobe	14.87	146	1161	N.D.	
98)	12dichlorobe	15.38	146	1212	N.D.	
99)	nButylbenzen	15.41	91	4016	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\MB1.D Vial: 5
Acq On : 6 Feb 2020 9:11 Operator: RLD-DGS
Sample : 168568,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 09:32:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.64	180	1152	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	17.96	128	3863	N.D.	
105) 123Trichlben	18.25	180	1394	N.D.	

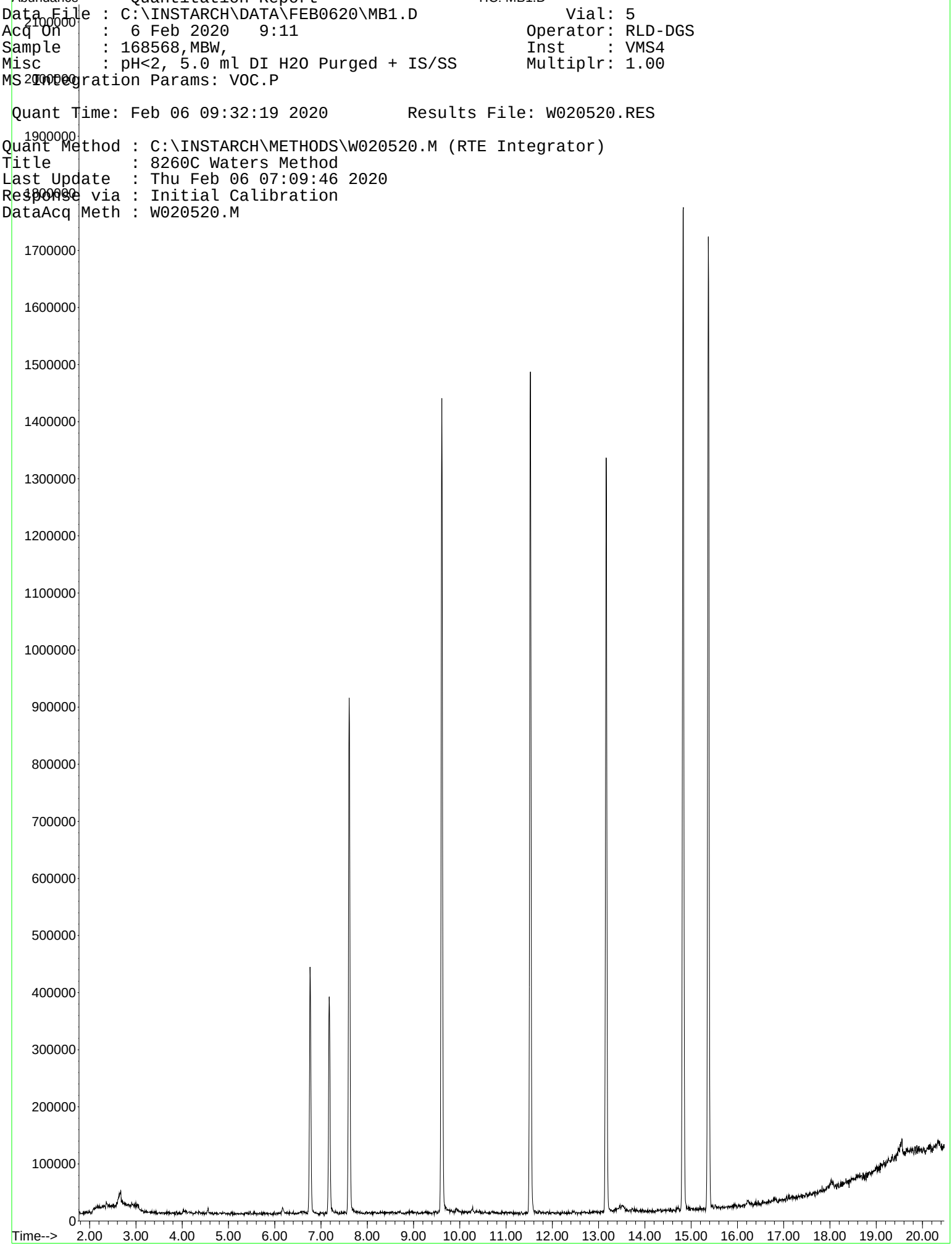
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB1.D

Data File : C:\INSTARCH\DATA\FEB0620\MB1.D Vial: 5
Acq On : 6 Feb 2020 9:11 Operator: RLD-DGS
Sample : 168568,MBW, Inst : VMS4
Misc : pH<2, 5.0 ml DI H2O Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 09:32:19 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384096MS.D Vial: 24
Acq On : 6 Feb 2020 18:14 Operator: RLD-DGS
Sample : 168568,MSW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 18:35:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	808428	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	960418	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	611740	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.77	113	237490	20.059	ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 100	%		
45) SURR12DCAd4	7.17	102	53956	20.210	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
61) SURRd8Tolule	9.61	98	997768	20.779	ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 104	%		
83) SURR4BrFBenz	13.16	95	463180	19.248	ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	1.81	85	132196	11.4229	ug/L	97
3) Chloromethan	2.05	50	194797	10.4819	ug/L	96
4) VinylChlorid	2.20	62	180984	12.5841	ug/L	98
5) Bromomethane	2.65	94	71228	13.6919	ug/L	98
6) Chloroethane	2.81	64	97708	12.2006	ug/L	97
7) Dichloroflmethane	3.12	67	254331	10.8538	ug/L	97
8) Trichlorofma	3.19	101	240296	13.3569	ug/L	99
9) Ethylether	3.65	59	115693	9.4621	ug/L	92
10) dichlorotfluoroethan	3.65	67	162076	11.5949	ug/L	96
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	3.79	56	182519	45.1316	ug/L	96
13) 11dichlorthe	3.90	96	150660	13.0719	ug/L	99
14) Trichlorotfluoroeth	3.94	101	270110	24.3532	ug/L	96
15) Acetone	4.02	43	541484	89.0381	ug/L	98
16) Iodomethane	4.09	127	68608	14.3559	ug/L	98
17) Carbon Dislf	4.17	76	824475	23.7653	ug/L	99
18) allylchloride	4.40	41	498729	21.1014	ug/L	96
19) methylacetate	4.48	74	38296	8.7141	ug/L	93
20) Methylchlorid	4.55	84	168744	11.8146	ug/L	94
21) tbutylalcohol	4.82	59	1163469	527.5496	ug/L	99
22) Acrylonitrile	4.88	53	357709	48.9767	ug/L	95
23) t12dichlorte	4.91	96	155537	12.1808	ug/L	96
24) MtBE	4.98	73	374324	10.2286	ug/L	95
25) Hexane	5.30	57	535207	27.1355	ug/L	100
26) 11dichlorota	5.44	63	276069	11.4018	ug/L	98
27) Vinylacetate	5.55	43	3625853	114.1311	ug/L	100
28) chloroprene	5.57	53	450719	24.3753	ug/L	100
29) Diisopether	5.60	45	534159	10.6442	ug/L	92
30) ETBE	6.06	59	407398	10.0735	ug/L	97
31) 22dichloropr	6.18	77	216849	12.3238	ug/L	97
32) c12dichlorte	6.18	96	172065	11.7761	ug/L	99
33) 2Butanone	6.23	72	237652	104.1193	ug/L	98
34) propionitrile	6.26	54	304201	103.9659	ug/L	100
35) Ethylacetate	6.32	88	31120	49.4812	ug/L #	91
36) methacrylonitrile	6.46	67	150996	20.5310	ug/L	99
37) Bromochlorma	6.47	128	82621	12.3754	ug/L	92
38) Tetrahydofur	6.59	42	639402	100.3951	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384096MS.D Vial: 24
Acq On : 6 Feb 2020 18:14 Operator: RLD-DGS
Sample : 168568,MSW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 18:35:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.57	83	263997	11.8452	ug/L	99
40) 111trichlota	6.81	97	228203	12.6933	ug/L	98
42) Cyclohexane	6.88	56	272592	12.3273	ug/L	97
43) Carbtetraclo	7.02	119	198240	13.2619	ug/L	99
44) 11dicloprope	7.01	110	76904	12.4026	ug/L	94
46) Benzene	7.26	78	610444	11.6661	ug/L	99
47) 12dichlorota	7.27	62	181898	11.7073	ug/L	98
48) TAME	7.45	73	359216	9.7010	ug/L	98
49) trichloroete	8.07	95	161077	11.8562	ug/L	96
50) methylcyclohexane	8.32	83	308434	13.1582	ug/L	99
51) 12dicloropra	8.33	63	174846	11.6601	ug/L	98
52) 23Dicl1propene	8.40	75	230548	10.7977	ug/L	99
53) Dibromometha	8.47	93	98867	11.5632	ug/L	97
54) methylmethacrylate	8.51	69	118795	10.2422	ug/L	96
55) 14dioxane	8.56	88	123519	540.6488	ug/L	98
56) Bromodiclrma	8.67	83	190588	11.3942	ug/L	98
57) 2Nitropropane	8.96	43	476375	108.7100	ug/L	97
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	9.26	75	248474	11.4171	ug/L	97
60) 4Meth2Pentan	9.48	43	1928416	110.4563	ug/L	100
62) Toluene	9.70	92	416719	12.0293	ug/L	97
63) t13Dicloprop	9.97	75	204793	11.2005	ug/L	97
64) ethylmethacrylate	10.13	69	416373	21.4389	ug/L	100
65) 112Triclotha	10.20	83	125839	11.6558	ug/L	98
66) Tetrachlorte	10.43	166	194972	12.8163	ug/L	98
67) 13Diclorpropa	10.43	76	239296	11.6830	ug/L	99
69) 2Hexanone	10.57	43	1490450	101.2556	ug/L	100
70) Clorodibrmta	10.73	129	147516	10.1685	ug/L	99
71) 12Dibrometha	10.88	107	150557	10.6552	ug/L	95
72) Chlorobenzen	11.56	112	476184	11.7812	ug/L	99
73) 1Clhexane	11.54	91	241482	11.3289	ug/L	98
74) 1112Tetclota	11.67	131	146466	10.6332	ug/L	96
75) Ethylbenzene	11.72	91	761616	11.6799	ug/L	100
76) m p-Xylene	11.89	106	592838	23.4151	ug/L	99
77) o-Xylene	12.43	106	285572	11.5239	ug/L	99
78) Styrene	12.44	104	466190	11.4024	ug/L	98
79) Bromoform	12.69	173	102054	9.1665	ug/L	99
80) Isopropylben	12.96	105	755803	12.1145	ug/L	99
81) cyclohexanone	13.09	55	170594	189.7855	ug/L	99
84) Bromobenzene	13.38	156	199044	10.8257	ug/L	95
85) 1122Tetrclta	13.36	83	228830	10.3140	ug/L	98
86) 123Triclproa	13.42	75	243662	9.7327	ug/L	97
87) 14dichloro2butene	13.44	53	35733	7.4981	ug/L	97
88) n-Propylbenz	13.55	91	921337	11.5551	ug/L	99
89) 2chlorotolue	13.66	91	501014	10.9253	ug/L	99
90) 4chlorotolue	13.81	91	563210	10.9037	ug/L	96
91) 135Trimebenz	13.80	105	609010	11.7130	ug/L	100
92) tbutylbenzen	14.27	119	532821	11.6233	ug/L	100
93) 124Trimetben	14.34	105	609600	11.4590	ug/L	100
94) sbutylbenzen	14.59	105	823089	11.9903	ug/L	98
95) 13Diclorbenz	14.73	146	366109	11.0418	ug/L	99
96) pIsopropylto	14.81	119	684708	12.2306	ug/L	100
97) 14dichlorobe	14.86	146	368159	11.0764	ug/L	98
98) 12dichlorobe	15.40	146	343273	11.0032	ug/L	100
99) nButylbenzen	15.40	91	661104	11.9773	ug/L	99
100) 12dibromo3cl	16.51	157	50913	9.8935	ug/L	98
101) 135Trichlorobenzene	16.83	180	295725	10.9758	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\FEB0620\384096MS.D Vial: 24
Acq On : 6 Feb 2020 18:14 Operator: RLD-DGS
Sample : 168568,MSW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 18:35:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.64	180	255626	11.4727	ug/L	97
103) Hexachlorobu	17.88	225	137750	12.9925	ug/L	97
104) Naphthalene	17.95	128	622201	11.0725	ug/L	99
105) 123Trichlben	18.26	180	235196	11.4400	ug/L	98

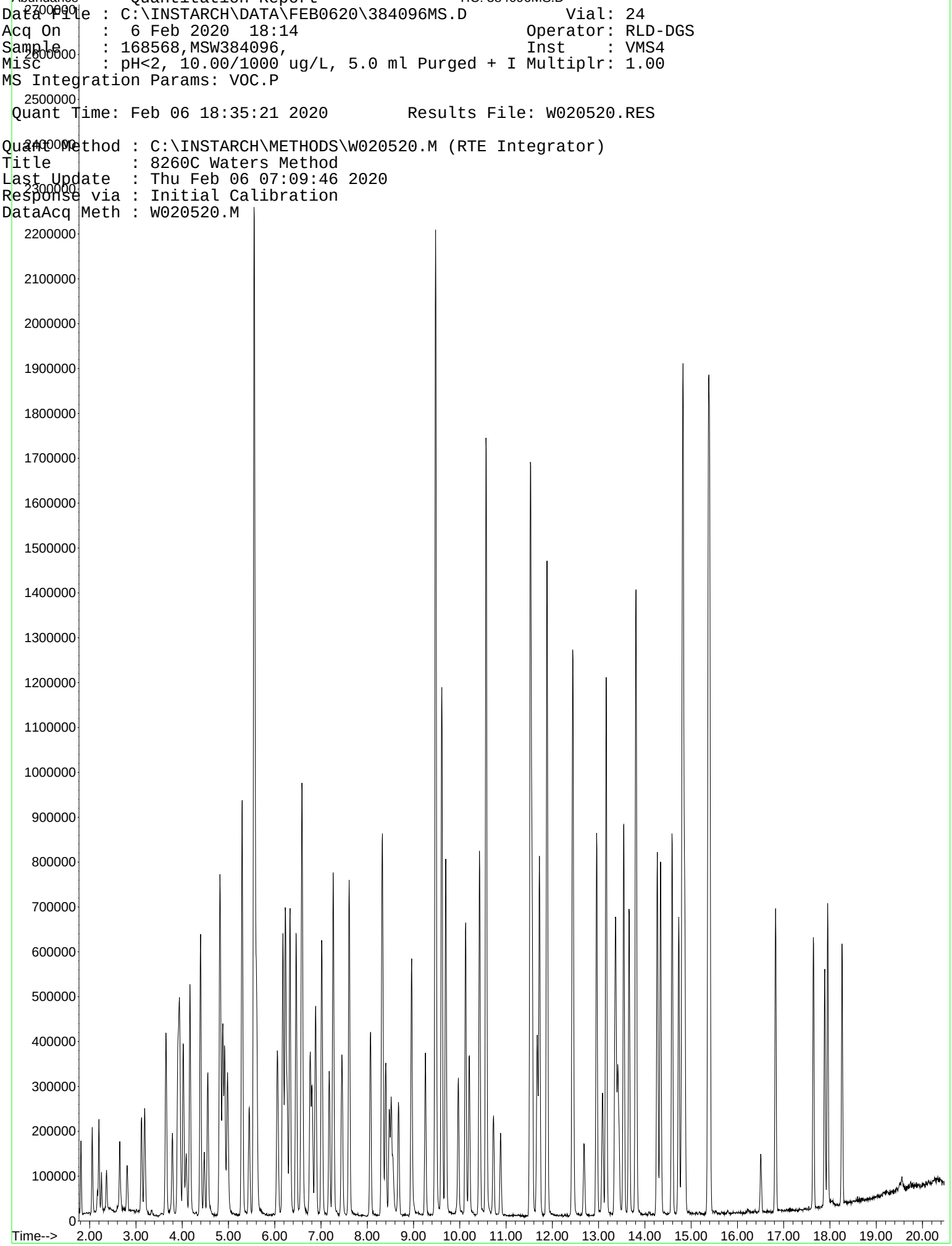
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 384096MS.D

Data File : C:\INSTARCH\DATA\FEB0620\384096MS.D Vial: 24
Acq On : 6 Feb 2020 18:14 Operator: RLD-DGS
Sample : 168568,MSW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 18:35:21 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M



Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384096SD.D Vial: 25
Acq On : 6 Feb 2020 18:43 Operator: RLD-DGS
Sample : 168568,MSDW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 19:03:51 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.61	96	828518	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.53	117	980199	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.83	152	621340	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.76	113	249332	20.548 ug/L	0.00
Spiked Amount 20.000	Range 88 - 112		Recovery = 103 %		
45) SURR12DCAd4	7.18	102	53330	19.491 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 97 %		
61) SURRd8Tolule	9.61	98	1017286	20.672 ug/L	0.00
Spiked Amount 20.000	Range 88 - 115		Recovery = 103 %		
83) SURR4BrFBenz	13.16	95	467523	19.128 ug/L	0.00
Spiked Amount 20.000	Range 86 - 111		Recovery = 96 %		
Target Compounds					Qvalue
2) Dichlorodi	1.81	85	136788	11.5331 ug/L	100
3) Chloromethan	2.05	50	215058	11.2915 ug/L	99
4) VinylChlorid	2.20	62	186819	12.6748 ug/L	100
5) Bromomethane	2.65	94	70706	13.2619 ug/L	94
6) Chloroethane	2.81	64	100726	12.2725 ug/L	98
7) Dichloroflmethane	3.12	67	262603	10.9351 ug/L	98
8) Trichlorofma	3.19	101	246588	13.3743 ug/L	99
9) Ethylether	3.65	59	126132	10.0657 ug/L	94
10) dichlorotfluoroethan	3.65	67	163609	11.4207 ug/L	96
11) propyleneoxide	3.65	58	1101	N.D.	
12) Acrolein	3.79	56	186624	45.0277 ug/L	94
13) 11dichlorthe	3.90	96	155696	13.1813 ug/L	98
14) Trichlorotfluoroeth	3.94	101	280600	24.6856 ug/L	97
15) Acetone	4.02	43	569605	91.3910 ug/L	99
16) Iodomethane	4.09	127	95247	18.7471 ug/L	95
17) Carbon Dislf	4.17	76	862647	24.2626 ug/L	99
18) allylchloride	4.40	41	526004	21.7158 ug/L	98
19) methylacetate	4.48	74	41935	9.3107 ug/L	92
20) Methylchlorid	4.55	84	171108	11.6844 ug/L	93
21) tbutylalcohol	4.82	59	1232297	545.2094 ug/L	99
22) Acrylonitrile	4.88	53	391248	52.2699 ug/L	99
23) t12dichlorte	4.92	96	162996	12.4554 ug/L	96
24) MtBE	4.98	73	399533	10.6527 ug/L	99
25) Hexane	5.30	57	564143	27.9091 ug/L	98
26) 11dichlorota	5.45	63	286673	11.5527 ug/L	99
27) Vinylacetate	5.55	43	3730270	114.5707 ug/L	100
28) chloroprene	5.57	53	462258	24.3931 ug/L	100
29) Diisopether	5.61	45	536671	10.4349 ug/L	90
30) ETBE	6.06	59	415379	10.0218 ug/L	99
31) 22dichloropr	6.18	77	227012	12.5885 ug/L	99
32) c12dichlorte	6.18	96	174929	11.6818 ug/L	99
33) 2Butanone	6.23	72	249049	106.4668 ug/L	99
34) propionitrile	6.27	54	316626	105.5885 ug/L	100
35) Ethylacetate	6.33	88	34650	53.7580 ug/L	94
36) methacrylonitrile	6.46	67	157187	20.8545 ug/L	99
37) Bromochlorma	6.46	128	82599	12.0721 ug/L	93
38) Tetrahydofur	6.59	42	667099	102.2040 ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\FEB0620\384096SD.D Vial: 25
Acq On : 6 Feb 2020 18:43 Operator: RLD-DGS
Sample : 168568,MSDW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 19:03:51 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.57	83	269749	11.8098	ug/L	98
40)	111trichlota	6.81	97	233077	12.6501	ug/L	99
42)	Cyclohexane	6.88	56	281222	12.4092	ug/L	95
43)	Carbtetraclo	7.02	119	208164	13.5882	ug/L	99
44)	11dicloprope	7.01	110	82189	12.9335	ug/L	97
46)	Benzene	7.26	78	622738	11.6125	ug/L	98
47)	12dichlorota	7.27	62	188093	11.8124	ug/L	98
48)	TAME	7.45	73	373250	9.8356	ug/L	99
49)	trichloroete	8.07	95	166919	11.9883	ug/L	95
50)	methylcyclohexane	8.32	83	309275	12.8741	ug/L	99
51)	12dicloropra	8.33	63	177145	11.5269	ug/L	94
52)	23Dicl1propene	8.40	75	231301	10.5703	ug/L	98
53)	Dibromometha	8.48	93	98027	11.1870	ug/L	91
54)	methylmethacrylate	8.52	69	125191	10.5320	ug/L	98
55)	14dioxane	8.56	88	122964	525.1687	ug/L	97
56)	Bromodiclrma	8.68	83	191710	11.1833	ug/L	99
57)	2Nitropropane	8.95	43	492222	109.6027	ug/L	98
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.26	75	253672	11.3733	ug/L	96
60)	4Meth2Pentan	9.48	43	1979820	110.6509	ug/L	99
62)	Toluene	9.70	92	424706	11.9626	ug/L	99
63)	t13Dicloprop	9.97	75	212878	11.3603	ug/L	100
64)	ethylmethacrylate	10.13	69	429360	21.5715	ug/L	99
65)	112Triclotha	10.20	83	124479	11.2502	ug/L	95
66)	Tetrachlorte	10.43	166	198971	12.7620	ug/L	96
67)	13Diclorpropa	10.43	76	241991	11.5280	ug/L	98
69)	2Hexanone	10.57	43	1516607	100.9534	ug/L	100
70)	Clorodibrmta	10.72	129	151312	10.2196	ug/L	99
71)	12Dibrometha	10.88	107	153053	10.6133	ug/L	98
72)	Chlorobenzen	11.56	112	467946	11.3438	ug/L	98
73)	1Clhexane	11.54	91	247674	11.3849	ug/L	96
74)	1112Tetclota	11.68	131	153449	10.9153	ug/L	97
75)	Ethylbenzene	11.72	91	779091	11.7068	ug/L	99
76)	m p-Xylene	11.89	106	598840	23.1748	ug/L	100
77)	o-Xylene	12.43	106	290069	11.4692	ug/L	99
78)	Styrene	12.45	104	479907	11.5010	ug/L	99
79)	Bromoform	12.69	173	109997	9.6805	ug/L	99
80)	Isopropylben	12.96	105	765268	12.0187	ug/L	99
81)	cyclohexanone	13.08	55	167339	182.4074	ug/L	97
84)	Bromobenzene	13.38	156	206392	11.0519	ug/L	93
85)	1122Tetrclta	13.35	83	235937	10.4700	ug/L	99
86)	123Triclproa	13.42	75	243008	9.5566	ug/L	95
87)	14dichloro2butene	13.44	53	36623	7.5661	ug/L	97
88)	n-Propylbenz	13.55	91	937969	11.5819	ug/L	99
89)	2chlorotolue	13.66	91	511452	10.9806	ug/L	99
90)	4chlorotolue	13.81	91	591518	11.2748	ug/L	99
91)	135Trimebenz	13.80	105	614995	11.6453	ug/L	100
92)	tbutylbenzen	14.27	119	551975	11.8551	ug/L	99
93)	124Trimetben	14.34	105	617311	11.4247	ug/L	100
94)	sbutylbenzen	14.59	105	854668	12.2580	ug/L	100
95)	13Diclorbenz	14.73	146	379646	11.2731	ug/L	98
96)	pIsopropylto	14.81	119	699371	12.2995	ug/L	100
97)	14dichlorobe	14.86	146	376669	11.1574	ug/L	98
98)	12dichlorobe	15.40	146	348541	10.9994	ug/L	98
99)	nButylbenzen	15.40	91	676568	12.0681	ug/L	99
100)	12dibromo3cl	16.51	157	53838	10.3002	ug/L	97
101)	135Trichlorobenzene	16.83	180	310838	11.3584	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\FEB0620\384096SD.D Vial: 25
Acq On : 6 Feb 2020 18:43 Operator: RLD-DGS
Sample : 168568,MSDW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 19:03:51 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.65	180	260499	11.5107 ug/L	95
103) Hexachlorobu	17.89	225	139595	12.9631 ug/L	97
104) Naphthalene	17.95	128	622459	10.9060 ug/L	99
105) 123Trichlben	18.26	180	236989	11.3491 ug/L	99

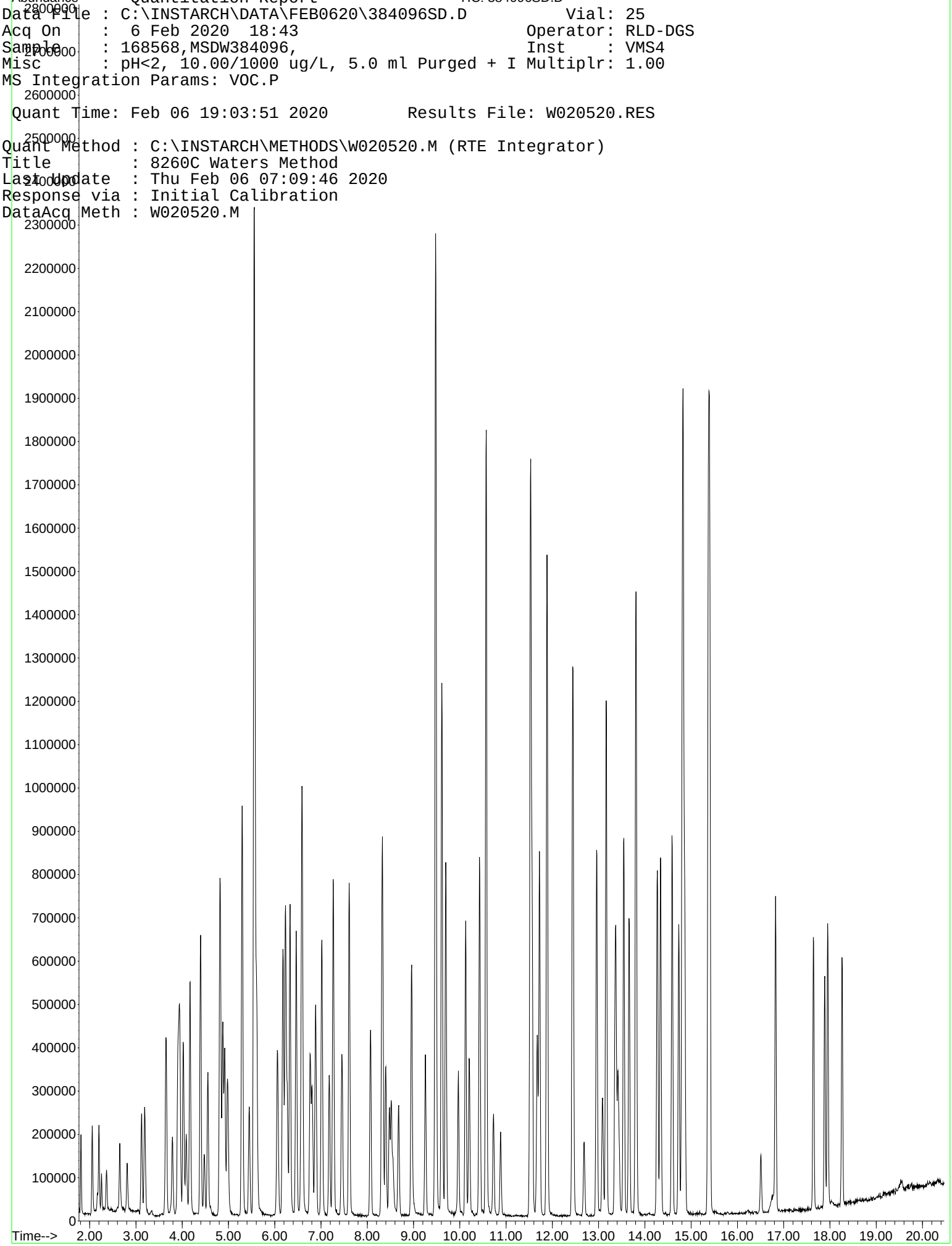
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 384096SD.D

Data File : C:\INSTARCH\DATA\FEB0620\384096SD.D Vial: 25
Acq On : 6 Feb 2020 18:43 Operator: RLD-DGS
Sample : 168568,MSDW384096, Inst : VMS4
Misc : pH<2, 10.00/1000 ug/L, 5.0 ml Purged + I Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Feb 06 19:03:51 2020 Results File: W020520.RES

Quant Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Feb 06 07:09:46 2020
Response via : Initial Calibration
DataAcq Meth : W020520.M

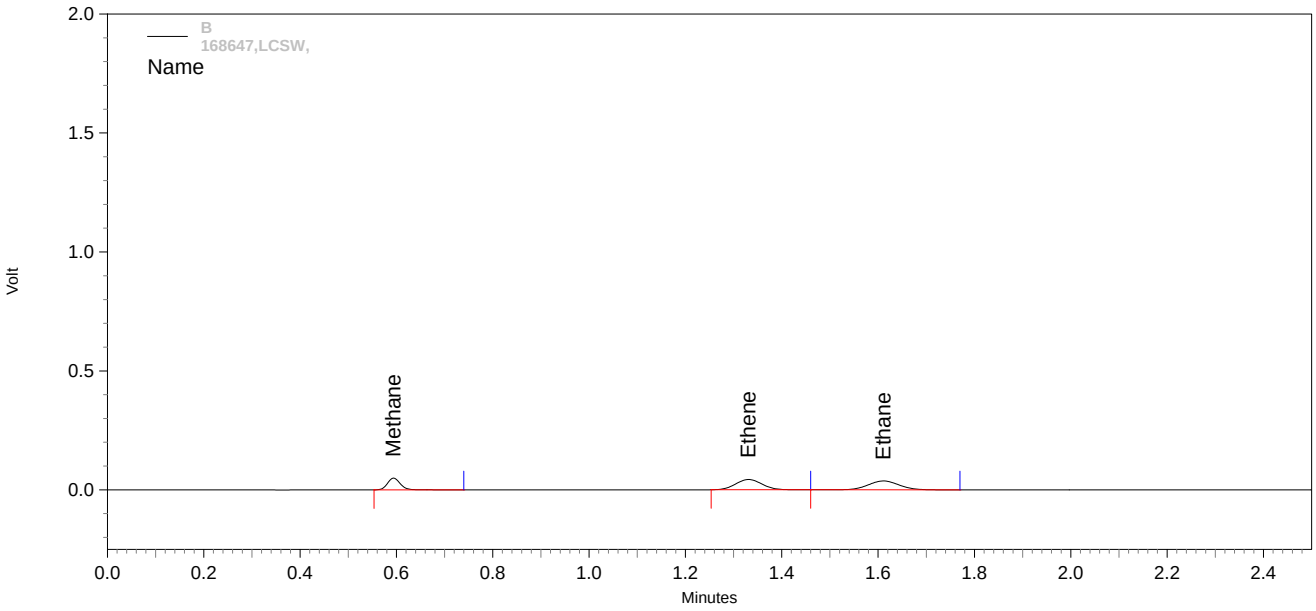


Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,LCSW,
Acquired: Feb 06, 2020 08:42:00
File Desc. Laboratory Control Sample - 25 ppmV -

500 uL of the 200 ppmV MEE Std. into 4 mL of headspace. 1.0 mL injection (Methane, Ethene, Ethane,)



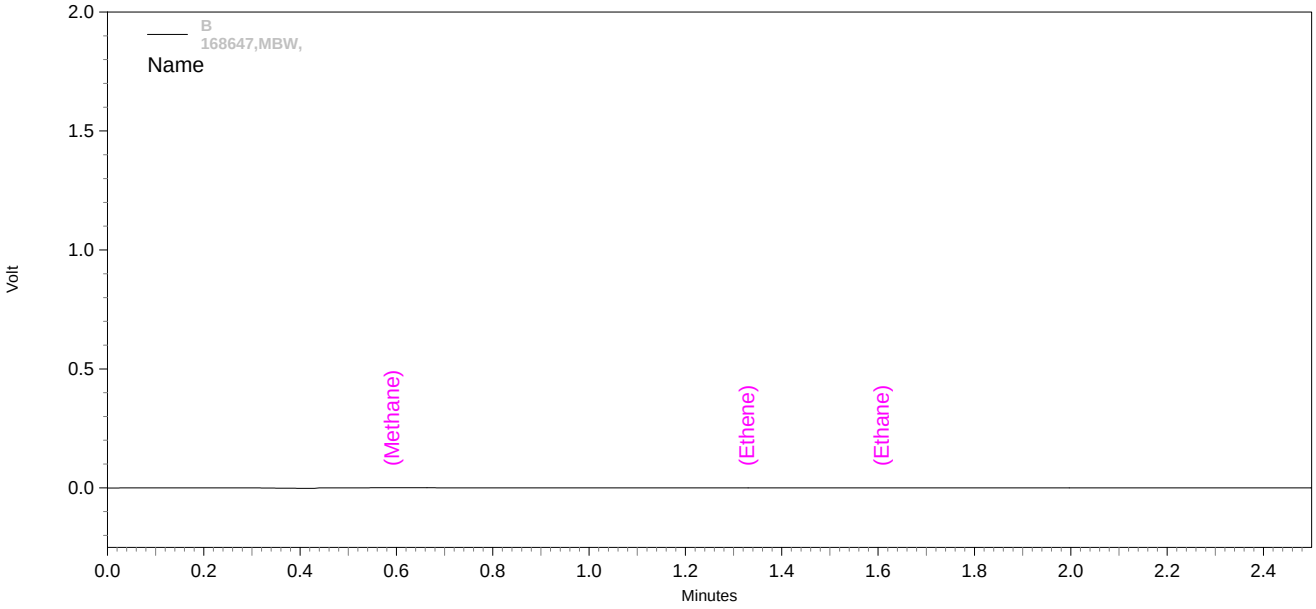
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.593**	**0.590**	**91000**	**24.331**	**ppmV**
2	**Ethene**	**1.330**	**1.327**	**164456**	**24.658**	**ppmV**
3	**Ethane**	**1.610**	**1.607**	**164608**	**24.917**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,MBW,
Acquired: Feb 06, 2020 08:46:21
File Desc. Method Blank
1.0 mL injection (Methane, Ethene, Ethane)



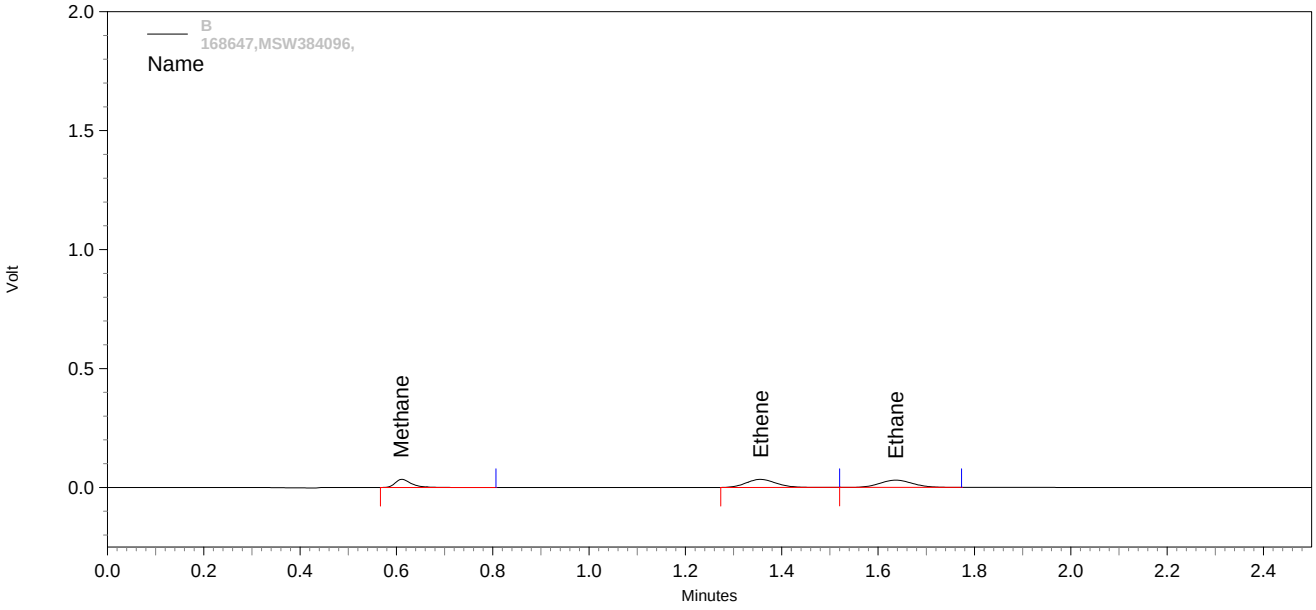
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.590**		**0.000 BDL**	**ppmV**
	Ethene		**1.327**		**0.000 BDL**	**ppmV**
	Ethane		**1.607**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,MSW384096,
Acquired: Feb 06, 2020 09:32:51
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



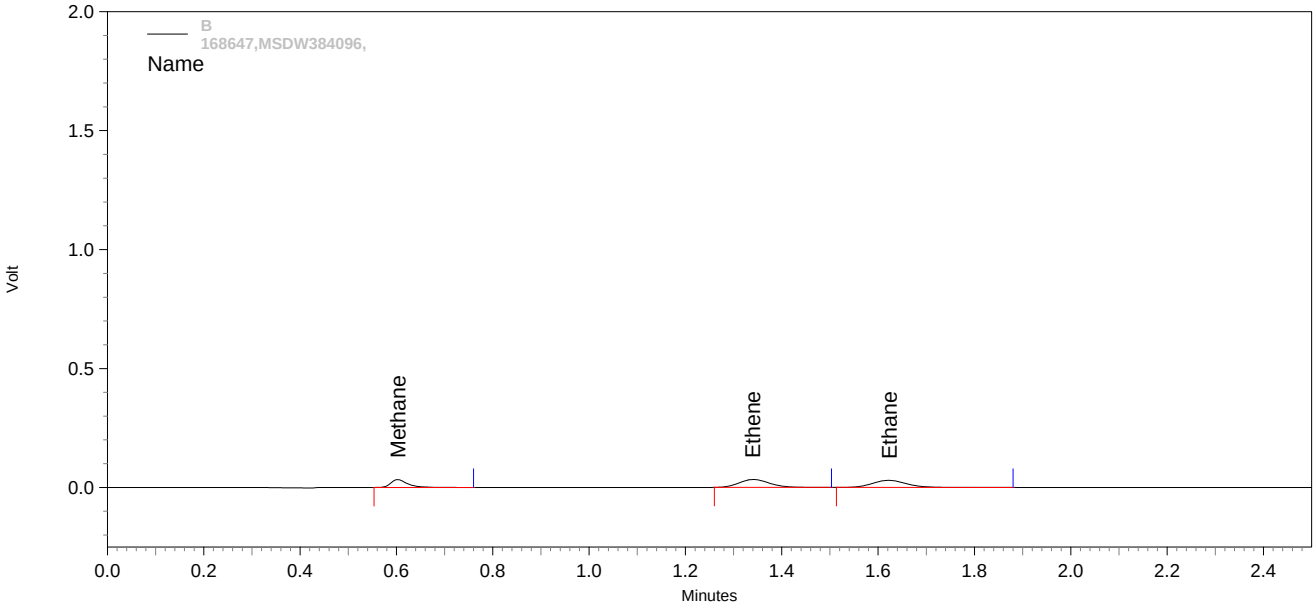
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.610**	**0.590**	**80131**	**21.333**	**ppmV**
2	**Ethene**	**1.357**	**1.327**	**145306**	**21.890**	**ppmV**
3	**Ethane**	**1.637**	**1.607**	**143608**	**21.828**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\020620 -\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 168647,MSDW384096,
Acquired: Feb 06, 2020 09:36:57
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.603**	**0.590**	**79743**	**21.226**	**ppmV**
2	**Ethene**	**1.340**	**1.327**	**145869**	**21.971**	**ppmV**
3	**Ethane**	**1.623**	**1.607**	**145605**	**22.121**	**ppmV**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
168571 on 02/07/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	386244								VOC 8260 QSM WATER 5.0				
					BFB					0			
	385672								VOC 8260 QSM WATER 5.0				
					LCSW					0			
	385677								VOC 8260 QSM WATER 5.0				
					CCV					0			
	385671								VOC 8260 QSM WATER 5.0				
					MBW					0			
151102	384609		01/30/2020				WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		M	**4**	
		TB-3											
151102	384610		01/30/2020	0915			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		48MW1											
151102	384613		01/30/2020	1045			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		49MW01											
151102	384614		01/30/2020	1355			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		50MW02											
151102	384615		01/30/2020	1505			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		48MW2											
151102	384616		01/30/2020	1555			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		48MW3											
151102	384617		01/30/2020	1555			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		48TW3											
	385801								VOC 8260 QSM WATER 5.0				
					LCSDW	385672				0			
	385802								VOC 8260 QSM WATER 5.0				
					CCVF					0			

13 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0520\BFB1.D
Injection Date : 5 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 08:00 Total files within period : 19
Sample Directory : C:\INSTARCH\DATA\FEB0520\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
IB1	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	5 Feb 2020	08:15
CCV-LCS1	1.00	1.00	1.00	168563,LCSW, 10.0/100 ug/L, 5.0 mL Pur	5 Feb 2020	08:45
IB4	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	5 Feb 2020	09:15
MB-ICB1	1.00	1.00	1.00	168563,MBW, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	09:45
384609	1.00	1.00	1.00	168571,384609, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	10:14
384610	1.00	1.00	1.00	168571,384610, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	14:13
384613	1.00	1.00	1.00	168571,384613, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	14:43
384614	1.00	1.00	1.00	168571,384614, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	15:13
384615	1.00	1.00	1.00	168571,384615, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	15:43
384616	1.00	1.00	1.00	168571,384616, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	16:13
384617	1.00	1.00	1.00	168571,384617, pH<2, 5.0 mL DI H20 Purge	5 Feb 2020	16:43
CCVF-L~1	1.00	1.00	1.00	168564,LCSDW, 10.0/100 ug/L, 5.0 mL Pur	5 Feb 2020	17:12

8260 ISTD/SSTD 20ug/ml VOC0665
8260 BFB STD. 50ug/ml VOC0664
8260 ICV STD. 100ug/ml VOC0668
8260 CCV/CALIB. 100ug/ml VOC0669

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020420.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0420B\BFB1.D
Injection Date : 4 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 14:44 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\FEB0420B\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0 mL Pu	4 Feb 2020	16:30
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0 mL P	4 Feb 2020	17:00
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0 mL Pu	4 Feb 2020	17:30
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0 mL Pu	4 Feb 2020	18:01
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0 mL P	4 Feb 2020	18:31
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0 mL P	4 Feb 2020	19:01
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0 mL P	4 Feb 2020	19:31
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0 mL P	4 Feb 2020	20:01
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0 mL P	4 Feb 2020	20:31
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF. 10.0/100 ug/L, 5.0 mL Pur	4 Feb 2020	21:30
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF. 30.0/300 ug/L, 5.0 mL Pur	4 Feb 2020	22:00
MB-ICB1	1.00	1.00	1.00	168564,MBW, pH<2, 5.0 mL DI H20 Purge	4 Feb 2020	23:28

8260 ISTD/SSTD 20ug/ml VOC0665
8260 BFB STD. 50ug/ml VOC0664
8260 ICV STD. 100ug/ml VOC0666
8260 CCV/CALIB. 100ug/ml VOC0667

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)					
Analysis Date	**LIMS Run #(s):**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved?**			**Instrument**
					Yes	No		
02/05/2020	168571 168565 168563	DGS/RLD	RLD	02/07/2020	Yes			VMS3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF<or= specified limits (<15%D.)see SOP)	Yes		Yes		
Was a second-source ICV(s) analyzed (for Quadratic Curve)?	Required before sample analyses.	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		
Was a second CCV (CCV2) for compounds calibrated using quadratic curves analyzed after every 12 hour tune check?	Required before analyses of WI samples (above the inflection point of the curve).					
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		
If necessary, were the results for outlying compounds qualified?						

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						
V. Laboratory Control Spike (LCS)						
Was a LCS (and LCSD if needed) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the LCS (LCSD) recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?		Yes		Yes		
Is the relative percent difference (RPD) for each analyte between the LCS and LSCD (if applicable) acceptable?	Default 20%, or see internally generated limits, or client specific limits.	Yes		Yes		
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	N/A		N/A		
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	N/A		N/A		
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific limits.	N/A		N/A		
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		
If possible, were the affected samples reanalyzed?						
**Were reported sample results with failing surrogate recoveries qualified?						
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		
Were all data, calculations, and values verified in LIMS (including removal of non-detections) upon completion of data capture?		Yes		Yes		
Were manual integrations performed correctly?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms.	Yes		Yes		
Was the rational for the manual integration verified?		Yes		Yes		
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

VOC 8260 QSM WATER 5.0 Analytical Run
168568 on 02/10/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	385876							VOC 8260 QSM WATER 5.0				
					BFB				0			
	385865							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	385869							VOC 8260 QSM WATER 5.0				
					CCV				0			
	385929							VOC 8260 QSM WATER 5.0				
					MBW				0			
151051	383695		01/28/2020			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		M	**4**	
		TB-1										
151081	384093		01/29/2020			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		M	**4**	
		TB-2										
151081	384098		01/29/2020	1435		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		49EQB-49MW03										
151051	383696		01/28/2020	0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		48MW07										
151051	383697		01/28/2020	1310		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		13MW5										
151051	383698		01/28/2020	1400		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		13MW4										
151051	383699		01/28/2020	1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		13MW3										
151051	383700		01/28/2020	1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		13TW3										
151051	383701		01/28/2020	1530		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		49MW04										
151081	384094		01/29/2020	0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		48MW06										
151081	384095		01/29/2020	1120		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		49MW05										
151081	384096		01/29/2020	1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		13MW2			Designated MS/MSD							

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: Volatiles C:\LIMSREPS\ANALYTICALRUN.RPT Page 1 of 1

VOC 8260 QSM WATER 5.0 Analytical Run
168568 on 02/10/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151081	384097		01/29/2020	1420			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		49MW03											
151081	384099		01/29/2020	1540			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	VOC 8260 QSM 5.0		GW	**4**	
		49MW02											
	386138		01/29/2020	1200					VOC 8260 QSM 5.0				
		13MW2			MSW	384096				0			
	386139		01/29/2020	1200					VOC 8260 QSM 5.0				
		13MW2			MSDW	386138				0			
	386137								VOC 8260 QSM WATER 5.0				
					CCVF					0			

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0620\BFB1.D
Injection Date : 6 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 07:32 Total files within period : 37
Sample Directory : C:\INSTARCH\DATA\FEB0620\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
IB1	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 ml DI H2O Purged + IS	6 Feb 2020	07:46
CCV-LCS1	1.00	1.00	1.00	168568,LCSW, 10.00/1000 ug/L, 5.0 ml P	6 Feb 2020	08:14
IB2	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 ml DI H2O Purged + IS	6 Feb 2020	08:43
MB1	1.00	1.00	1.00	168568,MBW, pH<2, 5.0 ml DI H2O Purge	6 Feb 2020	09:11
383695	1.00	1.00	1.00	168568,383695, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	10:08
384093	1.00	1.00	1.00	168568,384093, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	10:37
384098	1.00	1.00	1.00	168568,384098, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	11:05
383696	1.00	1.00	1.00	168568,383696, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	11:34
383697	1.00	1.00	1.00	168568,383697, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	12:03
383698	1.00	1.00	1.00	168568,383698, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	12:31
383699	1.00	1.00	1.00	168568,383699, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	13:00
383700	1.00	1.00	1.00	168568,383700, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	13:28
383701	1.00	1.00	1.00	168568,383701, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	13:57
384094	1.00	1.00	1.00	168568,384094, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	14:26
384095	1.00	1.00	1.00	168568,384095, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	14:54
384096	1.00	1.00	1.00	168568,384096, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	15:23
384097	1.00	1.00	1.00	168568,384097, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	15:52
384099	1.00	1.00	1.00	168568,384099, pH<2, 5.0 ml Purged + IS/	6 Feb 2020	16:20
384096MS	1.00	1.00	1.00	168568,MSW384096, pH<2, 10.00/1000 ug/L, 5.	6 Feb 2020	18:14

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020520.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0620\BFB1.D
Injection Date : 6 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 07:32 Total files within period : 37
Sample Directory : C:\INSTARCH\DATA\FEB0620\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
384096SD	1.00	1.00	1.00	168568,MSDW384096, pH<2, 10.00/1000 ug/L, 5.	6 Feb 2020	18:43
CCVF-L~1	1.00	1.00	1.00	168570,LCSDW, 10.00/1000 ug/L, 5.0 ml P	6 Feb 2020	19:11

8260 ISTD/SSTD 20ug/ml VOC0665
8260 BFB STD. 50ug/ml VOC0664
8260 ICV STD. 100ug/ml VOC0668
8260 CCV/CALIB. 100ug/ml VOC0669

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W020520.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\FEB0520\BFB1.D
Injection Date : 5 Feb 2020 Log Time Period (hrs) : ALL
Injection Time : 12:11 Total files within period : 18
Sample Directory : C:\INSTARCH\DATA\FEB0520\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CALW1	1.00	1.00	1.00	CALIB. PT. 1 0.50/5.00 ug/L, 5.0	5 Feb 2020	13:58
CALW2	1.00	1.00	1.00	CALIB. PT. 2 1.00/10.00 ug/L, 5.0	5 Feb 2020	14:26
CALW3	1.00	1.00	1.00	CALIB. PT. 3 2.00/20.00 ug/L, 5.0	5 Feb 2020	14:55
CALW4	1.00	1.00	1.00	CALIB. PT. 4 5.00/50.00 ug/L, 5.0	5 Feb 2020	15:24
CALW5	1.00	1.00	1.00	CALIB. PT. 5 10.00/100 ug/L, 5.0	5 Feb 2020	15:52
CALW6	1.00	1.00	1.00	CALIB. PT. 6 20.00/200 ug/L, 5.0	5 Feb 2020	16:21
CALW7	1.00	1.00	1.00	CALIB. PT. 7 40.00/400 ug/L, 5.0	5 Feb 2020	16:49
CALW8	1.00	1.00	1.00	CALIB. PT. 8 40.00/400 ug/L, 5.0	5 Feb 2020	17:18
CALW9	1.00	1.00	1.00	CALIB. PT. 9 80.00/800 ug/L, 25.0	5 Feb 2020	17:47
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.00/100 ug/L, 5.0	5 Feb 2020	18:44
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.00/300 ug/L, 5.0	5 Feb 2020	19:12
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 ml DI H2O	5 Feb 2020	20:37

8260 ISTD/SSTD 20ug/ml VOC0665
8260 BFB STD. 50ug/ml VOC0664
8260 ICV STD. 100ug/ml VOC0668
8260 CCV/CALIB. 100ug/ml VOC0669

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	**LIMS Run #(s):**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved?**		**Instrument**
					Yes	No	
02/06/2020	168682 168570 168569 168568 168566	DGS/RLD	RLD	02/10/2020	Yes		VMS4

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF<or= specified limits (<15%D.)see SOP)	Yes		Yes		
Was a second-source ICV(s) analyzed (for Quadratic Curve)?	Required before sample analyses.	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		
Was a second CCV (CCV2) for compounds calibrated using quadratic curves analyzed after every 12 hour tune check?	Required before analyses of WI samples (above the inflection point of the curve).					
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	
If necessary, were the results for outlying compounds qualified?		Yes		Yes		

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						
V. Laboratory Control Spike (LCS)						
Was a LCS (and LCSD if needed) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the LCS (LCSD) recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?						
Is the relative percent difference (RPD) for each analyte between the LCS and LSCD (if applicable) acceptable?	Default 20%, or see internally generated limits, or client specific limits.	Yes		Yes		
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific limits.	Yes		Yes		
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		
If possible, were the affected samples reanalyzed?						
**Were reported sample results with failing surrogate recoveries qualified?						
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		
Were all data, calculations, and values verified in LIMS (including removal of non-detections) upon completion of data capture?		Yes		Yes		
Were manual integrations performed correctly?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms.	Yes		Yes		
Was the rational for the manual integration verified?		Yes		Yes		
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 81
Page is Locked
Author: rdigmann on: 2/11/2020 8:57:08 AM
Page is not Witnessed
Project: Unassigned
Page Title: 020720

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0670	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0942, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0939 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	02/07/2020	02/14/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0671	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0943, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0940 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	02/07/2020	02/14/2020	RLD

1

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0668	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0942, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0939 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	01/30/2020	02/06/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0669	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0943, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0940 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	01/30/2020	02/06/2020	RLD

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 79
Page is Locked
Author: rdigmann on: 1/28/2020 7:20:07 AM
Page is not Witnessed
Project: Unassigned
Page Title: 011920

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0664	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0929 into 2925uL of MeOH.	MeOH / B&J / DU783-U	50 ug/mL	01/19/2020	02/19/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0665	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0906 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0924 into 25mL of MeOH.	MeOH / B&J / DU783-U	20 ug/mL	01/19/2020	02/19/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0666	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0934, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0936 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	01/19/2020	01/26/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst

VOC0667	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0933, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0935 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	01/19/2020	01/26/2020	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 78
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 010920

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0662	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0939, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0936 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	01/09/2020	01/16/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0663	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0940, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0935 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	01/09/2020	01/16/2020	RLD

1

CT Laboratories, LLC

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0939	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191125015
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	05/23/2020	11/29/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0940	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191126007
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	05/24/2020	11/29/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0941	8260 VOC Mix	Agilent	DWM-588-1	CT-0287
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	02/28/2022	12/02/2019	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 91
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 102319

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0937	8260 VOC Mix	AccuStandard	M-502-10X-PAK	219071161
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	07/16/2022	10/23/2019	rld
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking Std. preparation.	

1

CT Laboratories, LLC

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 90
Page is Locked
Author: rdigmann on: 10/23/2019 10:32:17 AM
Page is not Witnessed
Project: Unassigned
Page Title: 101719

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0935	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191010015
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	4/7/2020	10/17/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0936	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191010019
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	04/07/2020	10/17/2019	rld
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

1

CT Laboratories, LLC

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015
NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 89
Page is Locked
Author: rdigmann on: 10/17/2019 11:14:05 AM
Page is not Witnessed
Project: Unassigned
Page Title: 092319

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0933	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN190913011
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	12/12/2019	09/20/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0934	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN190913023
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	12/12/2019	09/20/2019	rld
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

1

CT Laboratories, LLC

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0929	4-Bromofluorobenzene	Agilent	STS-110N	0006476760
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	7/31/2022	09/10/2019	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 BFB Std. and 8015 SSTD.	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 85
Page is Locked
Author: rdigmann on: 7/5/2019 11:47:53 AM
Page is not Witnessed
Project: Unassigned
Page Title: 062719

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0926	8260 VOC Mix	Agilent	DWM-588-1	CT-0288
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	02/28/2022	06/26/2019	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 CCV/Calib. standard preparation.	

1

CT Laboratories, LLC

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0924	1,2-Dichlorobenzene-$_{d4}$	Agilent	STS-210-1	CM-4301A
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	07/31/2021	06/20/2019	RLD
# of Ampules/Units:	2	Comments:	Used for GRO-8015 and SDWA 524.2 surrogate standard preparation.	

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 74
Page is Locked
Author: rdigmann on: 2/6/2019 12:26:19 PM
Page is not Witnessed
Project: Unassigned
Page Title: 020419

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0906	8260 ISTD/SSTD Mix	Agilent	STM-540	CT-0055
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,500 ug/mL	MeOH	02/28/2022	02/04/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ISTD/SSTD preparation.	

V METH, ETH, ETHENE QSM 5.0 Analytical Run
168647 on 02/07/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	385945						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	385851						METH,ETH,ETHE QSM 5.0				
				LCSW				75417			
	385850						METH,ETH,ETHE QSM 5.0				
				MBW				75417			
151051	383696		01/28/2020 0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW07						75417			
151051	383697		01/28/2020 1310		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW5						75417			
151051	383698		01/28/2020 1400		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4						75417			
151051	383699		01/28/2020 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3						75417			
151051	383700		01/28/2020 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13TW3						75417			
151051	383701		01/28/2020 1530		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04						75417			
151081	384094		01/29/2020 0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06						75417			
151081	384095		01/29/2020 1120		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW05						75417			
151081	384096		01/29/2020 1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2		Designated MS/MSD				75417			
	385853		01/29/2020 1200				METH,ETH,ETHE QSM 5.0				
		13MW2		MSW 384096				75417			
	385854		01/29/2020 1200				METH,ETH,ETHE QSM 5.0				
		13MW2		MSDW 385853				75417			
151081	384097		01/29/2020 1420		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW03						75417			
	385946						V METH, ETH, ETHENE QSM 5.				
				CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

V METH, ETH, ETHENE QSM 5.0 Analytical Run
168647 on 02/07/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151081	384098		01/29/2020 1435		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49EQB-49MW03						75417			
151081	384099		01/29/2020 1540		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02						75417			
151102	384610		01/30/2020 0915		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1						75417			
151102	384613		01/30/2020 1045		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01						75417			
151102	384614		01/30/2020 1355		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02						75417			
151102	384615		01/30/2020 1505		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2						75417			
151102	384616		01/30/2020 1555		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3						75417			
151102	384617		01/30/2020 1555		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48TW3						75417			
	385947						V METH, ETH, ETHENE QSM 5.				
				CCV				0			

25 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	**Analysis Date (s)**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**	**Instrument**
168647	02/06/2020	TMG	RLD	02/07/2020	Yes	PVOC 4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses					
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
2. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
3. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		
4. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?		Yes		Yes		

5. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
6. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		.
7. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		
8. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

* Non-Applicable Yes/No Cells Are Left Blank*

Comments:

PREP WORKSHEET
on 02/07/2020

Prep Batch **75,417** Date Prepped: 02/06/2020 Prepped By TMG

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	385850	MBW		METH,ETH,ETHE QSM	LIQUID	23.6				
	385851	LCSW		METH,ETH,ETHE QSM	LIQUID	23.6				
151051	383696			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	383697			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	383698			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	383699			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	383700			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	383701			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
151081	384094			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384095			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384096	sample designated for QC		METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384097			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384098			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384099			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
151102	384610			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384613			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384614			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	

PREP WORKSHEET
on 02/07/2020

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
151102	384615			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384616			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	384617			METH,ETH,ETHE QSM	GROUND WATER	23.6			4	
	385853	MSW	384096	METH,ETH,ETHE QSM	GROUND WATER	23.6				
	385854	MSDW	385853	METH,ETH,ETHE QSM	GROUND WATER	23.6				

Notes:_____

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 02/06/2020 **Instrument:** PVOC4

Calibration Date: 12/13/2019 **Analyst:** TMG

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)
1	PS	0.25	43	23.6
2	CCV	0.25	43	
3	LCSW	1	43	
4	MBW	1	43	
5	383696	1	43	
6	383697	1	43	
7	383698	1	43	
8	383699	1	43	
9	383700	1	43	
10	383701	1	43	
11	384094	1	43	
12	384095	1	43	
13	384096	1	43	
14	MSW384096	1	43	
15	MSDW384096	1	43	
16	384097	1	43	
17	CCV	0.25	43	
18	CCB	1	43	
19	384098	1	43	
20	384099	1	43	
21	384610	1	43	
22	384613	1	43	
23	384614	1	43	
24	384615	1	43	
25	384616	1	43	

Calibration Standard Ref. #: VO886

Second Source Ref. #: VOC0299

Page 1

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 02/06/2020 **Instrument:** PVOC4

Calibration Date: 12/13/2019 **Analyst:** TMG

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)
26	384617	1	43	23.6
27	CCV	0.25	43	↓
28			43	
29			43	
30			43	
31			43	
32			43	
33			43	
34			43	
35			43	
36			43	
37			43	
38			43	
39			43	
40			43	
41			43	
42			43	
43			43	
44			43	
45			43	
46			43	
47			43	
48			43	
49			43	
50			43	

Calibration Standard Ref. #: V08816

Second Source Ref. #: VOC0299

Page 1

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\020620 - 168647.seq
Instrument: PVOC4
Processing Date: Feb 06, 2020 10:26:15

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
2	168647,CCV,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 08:38:51
3	168647,LCSW,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 08:42:00
4	168647,MBW,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 08:46:21
5	168647,383696,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 08:50:03
6	168647,383697,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 08:53:23
7	168647,383698,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 08:58:18
8	168647,383699,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:01:35
9	168647,383700,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:05:43
10	168647,383701,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:10:24
11	168647,384094,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:16:18
12	168647,384095,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:19:46
13	168647,384096,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:27:50
14	168647,MSW384096,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:32:51
15	168647,MSDW384096,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:36:57
16	168647,384097,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:40:44
17	168647,CCV,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:44:01
18	168647,CCB,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:50:08
19	168647,384098,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:53:32
20	168647,384099,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 09:57:18
21	168647,384610,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 10:00:40
22	168647,384613,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 10:06:47
23	168647,384614,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 10:10:41
24	168647,384615,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 10:14:04
25	168647,384616,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 10:17:31
26	168647,384617,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 10:22:01
27	168647,CCV,	C:\InStarch\PVOC4\Data\020620 ...	C:\Instarch\PVOC4\Methods\P4...	Feb 06, 2020 10:26:15

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\121319 - MEE ICAL.seq
Instrument: PVOC4
Processing Date: Dec 13, 2019 14:03:04

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 10:58:16
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 11:06:00
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 11:09:45
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:18:01
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:21:29
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:24:55
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 13:46:48
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 13:51:32
9	ICB	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 14:03:04

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 12/13/19 **Instrument:** PVOC4

Calibration Date: 12/13/19 **Analyst:** TMG

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)
1	PT 1	0.01	43	
2	PT 2	0.025	43	
3	PT3	0.05	43	
4	PT4	0.1	43	
5	PT5	0.25	43	
6	PT6	0.5	43	
7	PT7	1	43	
8	ICV	0.250	43	
9	ICB	1	43	
10			43	
11			43	
12			43	
13			43	
14			43	
15			43	
16			43	
17			43	
18			43	
19			43	
20			43	
21			43	
22			43	
23			43	
24			43	
25			43	

Calibration Standard Ref. #: V0886

Second Source Ref. #: V0C0299

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 64
Page is Locked
Author: rdigmann on: 5/25/2018 7:47:52 AM
Witness: akurth on: 7/31/2018 9:54:19 AM
Project: Unassigned
Page Title: 05/24/18

Standard Log #:	VO886	Standard/Reagent:	Methane Ethene Ethane STI
Analyst:	AGK	Final Concentration:	200.0 PPM
Prep Date:	05/24/18	Expiration Date:	05/17/21
Prep:	Airgas Methane, Ethene, Ethane Standard Received 05/24/18 LOT# 54-401204472-1 REF# 54-401204472-1 Cylinder # P180959		

LPVO1-02 VOC
Volatiles Standards Prep Logbook
Logbook Created: 10/10/16
Balance used in reagent prep: VOB01
NOTEBOOK VIEW: LTN_LPVO1_02_VOC_Default, NOTEBOOK: LPVO1_02_VOC, PAGE: 27
Page is Locked
Author: AKURTH on: 22.03.2017 10:57:51
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	VOC0299	Standard/Reagent:	MEE RECERTIFICATION O
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	03/17/17	Expiration Date:	03/17/20
Prep:	Recertification of methane, ethane, ethane tank (V681). Ran 4 consecutive CCV's with acceptable recoveries.		

1

CT Laboratories, LLC

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 7470A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168650	Analysis Date/Time	02/06/2020 09:40
Analytical Prep Batch #:	75377	Prep. Date/Time:	02/05/2020 11:45
ICAL Calibration #:	02062020	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 6010C	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168590	Analysis Date/Time	02/07/2020 10:23
Analytical Prep Batch #:	75378	Prep. Date/Time:	02/03/2020 08:07
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	5060		90	250	500	500
7440-23-5	Total Sodium	10500		100	300	600	600

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 6010C	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168589	Analysis Date/Time	02/06/2020 14:33
Analytical Prep Batch #:	75378	Prep. Date/Time:	02/03/2020 08:07
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	5180			6.0	18	36	36
7440-36-0	Total Antimony	2.2	J		2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U		4.0	12	24	24
7440-39-3	Total Barium	192			0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.36	J		0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	77800			17	50	100	100
7440-47-3	Total Chromium	11.9			0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	3.7	J		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	16.4			1.2	3.5	7.0	7.0
7439-89-6	Total Iron	6250		M	16	50	100	100
7439-92-1	Total Lead	6.9			1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	40000			6.0	20	40	40
7439-96-5	Total Manganese	240			0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	8.2			1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	3.4	J	B	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U		0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	3.9	J	M	2.5	7.5	15	15
7440-62-2	Total Vanadium	9.4			0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	21.8			1.6	5.0	10	10

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168650

Lab Sample ID: 386178

ICAL Calibration #: 02062020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	2/6/20 09:24	3.00	2.84	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590

Lab Sample ID: 386533

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	2/7/20	10:00	100000	96700	97	90	110
Sodium	2/7/20	10:00	100000	97700	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590

Lab Sample ID: 386534

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	2/7/20	10:03	3000	3050	102	80	120
Sodium	2/7/20	10:03	3000	2980	99	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589 Lab Sample ID: 386570

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	2/6/20	13:11	12000	12200	102	90	110
Antimony	2/6/20	13:11	500.0	515.0	103	90	110
Arsenic	2/6/20	13:11	2000	2030	102	90	110
Barium	2/6/20	13:11	2000	2030	102	90	110
Beryllium	2/6/20	13:11	50.00	50.60	101	90	110
Cadmium	2/6/20	13:11	50.00	49.70	99	90	110
Calcium	2/6/20	13:11	10000	10100	101	90	110
Chromium	2/6/20	13:11	200.0	208.0	104	90	110
Cobalt	2/6/20	13:11	500.0	529.0	106	90	110
Copper	2/6/20	13:11	250.0	256.0	102	90	110
Iron	2/6/20	13:11	5000	4950	99	90	110
Lead	2/6/20	13:11	500.0	497.0	99	90	110
Magnesium	2/6/20	13:11	10000	9930	99	90	110
Manganese	2/6/20	13:11	500.0	513.0	103	90	110
Nickel	2/6/20	13:11	500.0	520.0	104	90	110
Selenium	2/6/20	13:11	2000	2100	105	90	110
Silver	2/6/20	13:11	50.00	52.00	104	90	110
Thallium	2/6/20	13:11	2000	1950	98	90	110
Vanadium	2/6/20	13:11	500.0	531.0	106	90	110
Zinc	2/6/20	13:11	500.0	513.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589 Lab Sample ID: 386571

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	2/6/20	13:23	1200	1150	96	80	120
Antimony	2/6/20	13:23	60.00	64.70	108	80	120
Arsenic	2/6/20	13:23	60.00	57.70	96	80	120
Barium	2/6/20	13:23	30.00	29.80	99	80	120
Beryllium	2/6/20	13:23	12.00	12.40	103	80	120
Cadmium	2/6/20	13:23	15.00	15.30	102	80	120
Calcium	2/6/20	13:23	1500	1520	101	80	120
Chromium	2/6/20	13:23	30.00	30.70	102	80	120
Cobalt	2/6/20	13:23	30.00	30.60	102	80	120
Copper	2/6/20	13:23	30.00	33.40	111	80	120
Iron	2/6/20	13:23	900.0	877.0	97	80	120
Lead	2/6/20	13:23	30.00	30.50	102	80	120
Magnesium	2/6/20	13:23	1500	1480	99	80	120
Manganese	2/6/20	13:23	30.00	30.80	103	80	120
Nickel	2/6/20	13:23	30.00	31.00	103	80	120
Selenium	2/6/20	13:23	60.00	65.10	108	80	120
Thallium	2/6/20	13:23	60.00	56.90	95	80	120
Vanadium	2/6/20	13:23	30.00	31.50	105	80	120
Zinc	2/6/20	13:23	30.00	31.20	104	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589

Lab Sample ID: 386576

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	2/6/20	14:14	10.00	9.28	93	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168650

Lab Sample ID: 386180

ICAL Calibration #: 02062020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	2/6/20	09:54	3.00	2.87	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590

Lab Sample ID: 386541

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	2/7/20	10:45	100000	106000	106	90	110
Sodium	2/7/20	10:45	100000	106000	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589 Lab Sample ID: 386579

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	2/6/20	15:11	5000	5040	101	90	110
Antimony	2/6/20	15:11	5000	5060	101	90	110
Arsenic	2/6/20	15:11	5000	5000	100	90	110
Barium	2/6/20	15:11	5000	4920	98	90	110
Beryllium	2/6/20	15:11	500.0	483.0	97	90	110
Cadmium	2/6/20	15:11	500.0	507.0	101	90	110
Calcium	2/6/20	15:11	5000	5020	100	90	110
Chromium	2/6/20	15:11	5000	4930	99	90	110
Cobalt	2/6/20	15:11	5000	4990	100	90	110
Copper	2/6/20	15:11	5000	5030	101	90	110
Iron	2/6/20	15:11	5000	4970	99	90	110
Lead	2/6/20	15:11	5000	4790	96	90	110
Magnesium	2/6/20	15:11	5000	4940	99	90	110
Manganese	2/6/20	15:11	5000	4970	99	90	110
Nickel	2/6/20	15:11	5000	5030	101	90	110
Selenium	2/6/20	15:11	5000	5160	103	90	110
Thallium	2/6/20	15:11	5000	4530	91	90	110
Vanadium	2/6/20	15:11	5000	5020	100	90	110
Zinc	2/6/20	15:11	5000	5020	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589 Lab Sample ID: 386580

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	2/6/20	15:17	500.0	490.0	98	90	110
Antimony	2/6/20	15:17	500.0	497.0	99	90	110
Arsenic	2/6/20	15:17	500.0	505.0	101	90	110
Barium	2/6/20	15:17	500.0	477.0	95	90	110
Beryllium	2/6/20	15:17	50.00	48.60	97	90	110
Cadmium	2/6/20	15:17	50.00	50.60	101	90	110
Calcium	2/6/20	15:17	500.0	488.0	98	90	110
Chromium	2/6/20	15:17	500.0	516.0	103	90	110
Cobalt	2/6/20	15:17	500.0	520.0	104	90	110
Copper	2/6/20	15:17	500.0	515.0	103	90	110
Iron	2/6/20	15:17	500.0	506.0	101	90	110
Lead	2/6/20	15:17	500.0	487.0	97	90	110
Magnesium	2/6/20	15:17	500.0	501.0	100	90	110
Manganese	2/6/20	15:17	500.0	510.0	102	90	110
Nickel	2/6/20	15:17	500.0	526.0	105	90	110
Selenium	2/6/20	15:17	500.0	500.0	100	90	110
Silver	2/6/20	15:17	50.00	50.00	100	90	110
Thallium	2/6/20	15:17	500.0	504.0	101	90	110
Vanadium	2/6/20	15:17	500.0	507.0	101	90	110
Zinc	2/6/20	15:17	500.0	509.0	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590 Lab Sample ID: 386536

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	2/7/20	10:08	1000	982.0	98	70	130
Sodium	2/7/20	10:08	1000	954.0	95	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168650

Lab Sample ID: 386179

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 02062020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	02/06/2020 09:30	0.0100	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590

Lab Sample ID: 386535

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	02/07/2020 10:05	27.00	U	90	250
Sodium	02/07/2020 10:05	-1.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589 Lab Sample ID: 386572

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	02/06/2020 13:36	0.275	U	6	18
Antimony	02/06/2020 13:36	2.13		2.0	6.0
Arsenic	02/06/2020 13:36	-4.52	U	4	12
Barium	02/06/2020 13:36	-0.119	U	0.29	0.90
Beryllium	02/06/2020 13:36	0.0120	U	0.10	0.30
Cadmium	02/06/2020 13:36	0.161	U	0.3	1.0
Calcium	02/06/2020 13:36	-0.252	U	17	50
Chromium	02/06/2020 13:36	0.511	U	0.6	2.0
Cobalt	02/06/2020 13:36	-0.114	U	0.7	2.0
Copper	02/06/2020 13:36	0.418	U	1.2	3.5
Iron	02/06/2020 13:36	-4.61	U	16	50
Lead	02/06/2020 13:36	1.17	U	1.4	2.0
Magnesium	02/06/2020 13:36	-1.84	U	6	20
Manganese	02/06/2020 13:36	-0.480	U	0.7	2.0
Nickel	02/06/2020 13:36	0.0940	U	1.0	3.0
Selenium	02/06/2020 13:36	1.62	U	2.2	6.5
Silver	02/06/2020 13:36	-0.389	U	0.7	2.0
Thallium	02/06/2020 13:36	1.54	U	2.5	7.5
Vanadium	02/06/2020 13:36	-0.289	U	0.8	2.5
Zinc	02/06/2020 13:36	-0.278	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168650 Lab Sample ID: 386181

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 02062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	02/06/2020 09:58	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590

Lab Sample ID: 386542

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	02/07/2020 10:48	37.00	U	90	250
Sodium	02/07/2020 10:48	23.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589 Lab Sample ID: 386581

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	02/06/2020 15:23	-0.0910	U	6	18
Antimony	02/06/2020 15:23	0.0220	U	2.0	6.0
Arsenic	02/06/2020 15:23	-6.37	U	4	12
Barium	02/06/2020 15:23	-0.0820	U	0.29	0.90
Beryllium	02/06/2020 15:23	0.0790	U	0.10	0.30
Cadmium	02/06/2020 15:23	0.257	U	0.3	1.0
Calcium	02/06/2020 15:23	-0.0300	U	17	50
Chromium	02/06/2020 15:23	0.224	U	0.6	2.0
Cobalt	02/06/2020 15:23	-0.254	U	0.7	2.0
Copper	02/06/2020 15:23	2.49		1.2	3.5
Iron	02/06/2020 15:23	-4.67	U	16	50
Lead	02/06/2020 15:23	1.33	U	1.4	2.0
Magnesium	02/06/2020 15:23	-1.88	U	6	20
Manganese	02/06/2020 15:23	-0.486	U	0.7	2.0
Nickel	02/06/2020 15:23	0.111	U	1.0	3.0
Selenium	02/06/2020 15:23	0.840	U	2.2	6.5
Silver	02/06/2020 15:23	0.277	U	0.7	2.0
Thallium	02/06/2020 15:23	0.349	U	2.5	7.5
Vanadium	02/06/2020 15:23	0.0140	U	0.8	2.5
Zinc	02/06/2020 15:23	-0.0620	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168650 Lab Sample ID: 384960

Analytical Prep Batch # 75377 Preparation Date/Time: 02/05/2020 11:45

ICAL Calibration #: 02062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	02/06/2020 09:38	0.00600	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168589 Lab Sample ID: 384965

Analytical Prep Batch # 75378 Preparation Date/Time: 02/03/2020 08:07

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	02/06/2020 14:27	2.03	U	6	18	
Total Antimony	02/06/2020 14:27	0.666	U	2.0	6.0	
Total Arsenic	02/06/2020 14:27	-6.47	U	4	12	
Total Barium	02/06/2020 14:27	-0.156	U	0.29	0.90	
Total Beryllium	02/06/2020 14:27	0.0680	U	0.10	0.30	
Total Cadmium	02/06/2020 14:27	-0.0560	U	0.3	1.0	
Total Calcium	02/06/2020 14:27	3.68	U	17	50	
Total Chromium	02/06/2020 14:27	0.499	U	0.6	2.0	
Total Cobalt	02/06/2020 14:27	-0.374	U	0.7	2.0	
Total Copper	02/06/2020 14:27	0.923	U	1.2	3.5	
Total Iron	02/06/2020 14:27	1.41	U	16	50	
Total Lead	02/06/2020 14:27	0.929	U	1.4	2.0	
Total Magnesium	02/06/2020 14:27	-1.52	U	6	20	
Total Manganese	02/06/2020 14:27	-0.438	U	0.7	2.0	
Total Nickel	02/06/2020 14:27	-0.0440	U	1.0	3.0	
Total Selenium	02/06/2020 14:27	2.83		2.2	6.5	FAIL
Total Silver	02/06/2020 14:27	-0.0630	U	0.7	2.0	
Total Thallium	02/06/2020 14:27	0.350	U	2.5	7.5	
Total Vanadium	02/06/2020 14:27	0.00800	U	0.8	2.5	
Total Zinc	02/06/2020 14:27	0.472	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590 Lab Sample ID: 384965

Analytical Prep Batch # 75378 Preparation Date/Time: 02/03/2020 08:07

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	02/07/2020 10:20	22.00	U	90	250
Total Sodium	02/07/2020 10:20	56.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168590 Lab Sample ID: 384965

Analytical Prep Batch # 75378 Preparation Date/Time: 02/03/2020 08:07

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	02/07/2020 10:20	22.00	U	90	250
Total Sodium	02/07/2020 10:20	56.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
ICP ID Number: TJA 6000
SDG No.: 151051
ICS Source: SPEX

Analytical Run #: 168590
Lab Sample ID: 386537
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	02/07/2020 10:11	500000	457000	91	80	120
Calcium	02/07/2020 10:11	500000	457000	91	80	120
Iron	02/07/2020 10:11	500000	466000	93	80	120
Magnesium	02/07/2020 10:11	500000	468000	94	80	120
Potassium	02/07/2020 10:11	0	0		-170	170
Sodium	02/07/2020 10:11	0	3.00		-140	140

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
ICP ID Number: TJA 6000
SDG No.: 151051
ICS Source: SPEX

Analytical Run #: 168589
Lab Sample ID: 386573
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	02/06/2020 13:48	500000	495000	99	80	120
Antimony	02/06/2020 13:48	0	6.57		-10	10
Arsenic	02/06/2020 13:48	0	11.50		-20	20
Barium	02/06/2020 13:48		.000		-1.7	1.7
Beryllium	02/06/2020 13:48	0	0.497		-.7	.7
Cadmium	02/06/2020 13:48	0	0.810		-1.3	1.3
Calcium	02/06/2020 13:48	500000	481000	96	80	120
Chromium	02/06/2020 13:48	0	2.17		-13	13
Cobalt	02/06/2020 13:48	0	1.45		-2	2
Copper	02/06/2020 13:48	0	6.37		-7	7
Iron	02/06/2020 13:48	500000	445000	89	80	120
Lead	02/06/2020 13:48	0	1.91		-4.7	4.7
Magnesium	02/06/2020 13:48	500000	521000	104	80	120
Manganese	02/06/2020 13:48	0	2.04		-7.3	7.3
Nickel	02/06/2020 13:48	0	-1.45		-7	7
Selenium	02/06/2020 13:48	0	-4.92		-13	13
Silver	02/06/2020 13:48	0	-0.335		-7.3	7.3
Thallium	02/06/2020 13:48	0	-0.00800		-7.3	7.3
Vanadium	02/06/2020 13:48	20000	21700		16000	24000
Zinc	02/06/2020 13:48	0	-1.81		-20	20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
ICP ID Number: TJA 6000
SDG No.: 151051
ICS Source: SPEX, Ultra

Analytical Run #: 168590
Lab Sample ID: 386538
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	02/07/2020 10:14	500000	528000	106	80	120
Calcium	02/07/2020 10:14	500000	526000	105	80	120
Iron	02/07/2020 10:14	500000	535000	107	80	120
Magnesium	02/07/2020 10:14	500000	523000	105	80	120
Potassium	02/07/2020 10:14	100000	111000	111	80	120
Sodium	02/07/2020 10:14	100000	111000	111	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
ICP ID Number: TJA 6000
SDG No.: 151051
ICS Source: SPEX, Ultra

Analytical Run #: 168589
Lab Sample ID: 386574
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	02/06/2020 13:55	500000	508000	102	80	120
Antimony	02/06/2020 13:55	500.0	514.0	103	80	120
Arsenic	02/06/2020 13:55	500.0	471.0	94	80	120
Barium	02/06/2020 13:55	500.0	533.0	107	80	120
Beryllium	02/06/2020 13:55	500.0	491.0	98	80	120
Cadmium	02/06/2020 13:55	500.0	521.0	104	80	120
Calcium	02/06/2020 13:55	500000	498000	100	80	120
Chromium	02/06/2020 13:55	500.0	529.0	106	80	120
Cobalt	02/06/2020 13:55	500.0	489.0	98	80	120
Copper	02/06/2020 13:55	500.0	535.0	107	80	120
Iron	02/06/2020 13:55	500000	440000	88	80	120
Lead	02/06/2020 13:55	500.0	437.0	87	80	120
Magnesium	02/06/2020 13:55	500000	539000	108	80	120
Manganese	02/06/2020 13:55	500.0	485.0	97	80	120
Nickel	02/06/2020 13:55	500.0	474.0	95	80	120
Selenium	02/06/2020 13:55	500.0	489.0	98	80	120
Silver	02/06/2020 13:55	500.0	522.0	104	80	120
Thallium	02/06/2020 13:55	500.0	527.0	105	80	120
Vanadium	02/06/2020 13:55	500.0	544.0	109	80	120
Zinc	02/06/2020 13:55	500.0	508.0	102	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	ug/L
Sample No	384963	Parent Sample No.:	384619
Analytical Prep Batch #	75377	Analytical Preparation Date/Time:	02/05/2020 11:45
Analytical Run #:	168650	ICAL Calibration #:	02062020

Analysis Type *Initial Analysis* Analysis Date: ----- 02/06/2020 Analysis Time: -------- 09:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.0		BDL	U	2.0	100		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solids for Sample:
Concentration Units: ug/L
Sample No: 384968
Parent Sample No.: 384619
Analytical Prep Batch #: 75378
Analytical Preparation Date/Time: 02/03/2020 08:07
Analytical Run #: 168589
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 02/06/2020 Analysis Time: -------- 14:52

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	8130		5180		800	369		P	*FAIL*
Total Antimony	88-113	216		2.2	J	200	107		P	
Total Arsenic	87-113	895		BDL	U	800	112		P	
Total Barium	88-113	955		192		800	95		P	
Total Beryllium	89-112	21.4		0.36	J	20.0	105		P	
Total Cadmium	88-113	20.5		BDL	U	20.0	102		P	
Total Calcium	87-113	278000		77800		200000	100		P	
Total Chromium	90-113	102		11.9		80.0	113		P	
Total Cobalt	89-114	216		3.7	J	200	106		P	
Total Copper	86-114	127		16.4		100	111		P	
Total Iron	87-115	6930		6250		400	170		P	*FAIL*
Total Lead	86-113	198		6.9		200	96		P	
Total Magnesium	85-113	144000		40000		100000	104		P	
Total Manganese	90-114	431		240		200	96		P	
Total Nickel	88-113	219		8.2		200	105		P	
Total Selenium	83-114	824		3.4	J	800	103		P	
Total Silver	84-115	22.8		BDL	U	20.0	114		P	
Total Thallium	85-114	663		3.9	J	800	82		P	*FAIL*
Total Vanadium	90-111	241		9.4		200	116		P	*FAIL*
Total Zinc	87-115	241		21.8		200	110		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	ug/L
Sample No	384968	Parent Sample No.:	384619
Analytical Prep Batch #	75378	Analytical Preparation Date/Time:	02/03/2020 08:07
Analytical Run #:	168590	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 02/07/2020 Analysis Time: -------- 10:31

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	104000		5060		100000	99		P
Total Sodium	87-115	109000		10500		100000	98		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solids for Sample:
Concentration Units: ug/L
Sample No: 386540
Parent Sample No.: 384619
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 168590
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 02/07/2020 Analysis Time: -------- 10:37

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	98700		5060		100000	94		P
Sodium	80-120.	105000		10500		100000	94		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solids for Sample:
Concentration Units: ug/L
Sample No: 386578
Parent Sample No.: 384619
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 168589
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 02/06/2020 Analysis Time: -------- 15:04

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Iron	80-120	7680		6250		2000	72		P	*FAIL*
Thallium	80-120	2800		3.9	J	4000	70		P	*FAIL*
Vanadium	80-120	1020		9.4		1000	101		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	ug/L
Sample No	384964	Parent Sample No.:	384963
Analytical Prep Batch #	75377	Analytical Preparation Date/Time:	02/05/2020 11:45
Analytical Run #:	168650	ICAL Calibration #:	02062020

Analysis Type *Initial Analysis* Analysis Date: ----- 02/06/2020 Analysis Time: -------- 09:48

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Mercury	82-119	2.0		BDL	U	2.0	100		CV

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solids for Sample:
Concentration Units: ug/L
Sample No: 384969
Parent Sample No.: 384968
Analytical Prep Batch #: 75378
Analytical Preparation Date/Time: 02/03/2020 08:07
Analytical Run #: 168589
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 02/06/2020 Analysis Time: -------- 14:58

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	8280		5180		800	388		P	*FAIL*
Total Antimony	88-113	214		2.2	J	200	106		P	
Total Arsenic	87-113	887		BDL	U	800	111		P	
Total Barium	88-113	942		192		800	94		P	
Total Beryllium	89-112	21.2		0.36	J	20.0	104		P	
Total Cadmium	88-113	20.5		BDL	U	20.0	102		P	
Total Calcium	87-113	278000		77800		200000	100		P	
Total Chromium	90-113	101		11.9		80.0	111		P	
Total Cobalt	89-114	215		3.7	J	200	106		P	
Total Copper	86-114	126		16.4		100	110		P	
Total Iron	87-115	7010		6250		400	190		P	*FAIL*
Total Lead	86-113	193		6.9		200	93		P	
Total Magnesium	85-113	145000		40000		100000	105		P	
Total Manganese	90-114	427		240		200	94		P	
Total Nickel	88-113	218		8.2		200	105		P	
Total Selenium	83-114	827		3.4	J	800	103		P	
Total Silver	84-115	21.9		BDL	U	20.0	110		P	
Total Thallium	85-114	660		3.9	J	800	82		P	*FAIL*
Total Vanadium	90-111	239		9.4		200	115		P	*FAIL*
Total Zinc	87-115	240		21.8		200	109		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	ug/L
Sample No	384969	Parent Sample No.:	384968
Analytical Prep Batch #	75378	Analytical Preparation Date/Time:	02/03/2020 08:07
Analytical Run #:	168590	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 02/07/2020 Analysis Time: -------- 10:34

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	104000		5060		100000	99		P
Total Sodium	87-115	110000		10500		100000	100		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 75377

Analytical Run #: 168650

ICAL Calibration #: 02062020

Sample #: 384962

Parent Sample #: 384619

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	02/06/2020	09:42	20	0.030	U	0.030	U	0		CV

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 75378

Analytical Run #: 168589

ICAL Calibration #:

Sample #: 384967

Parent Sample #: 384619

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	02/06/2020	14:46	20	5180		4970		4		P	
Total Antimony	02/06/2020	14:46	20	2.2	J	2.0	U	200		P	*FAIL*
Total Arsenic	02/06/2020	14:46	20	Neg	U	4.0	U	0		P	
Total Barium	02/06/2020	14:46	20	192		197		3		P	
Total Beryllium	02/06/2020	14:46	20	0.36	J	0.38	J	5		P	
Total Cadmium	02/06/2020	14:46	20	Neg	U	0.30	U	0		P	
Total Calcium	02/06/2020	14:46	20	77800		77600		0		P	
Total Chromium	02/06/2020	14:46	20	11.9		11.0		8		P	
Total Cobalt	02/06/2020	14:46	20	3.7	J	3.7	J	0		P	
Total Copper	02/06/2020	14:46	20	16.4		15.2		8		P	
Total Iron	02/06/2020	14:46	20	6250		6040		3		P	
Total Lead	02/06/2020	14:46	20	6.9		6.2		11		P	
Total Magnesium	02/06/2020	14:46	20	40000		40100		0		P	
Total Manganese	02/06/2020	14:46	20	240		234		3		P	
Total Nickel	02/06/2020	14:46	20	8.2		7.5		9		P	
Total Selenium	02/06/2020	14:46	20	3.4	J	3.7	J	8		P	
Total Silver	02/06/2020	14:46	20	0.70	U	0.70	U	0		P	
Total Thallium	02/06/2020	14:46	20	3.9	J	3.0	J	26		P	*FAIL*
Total Vanadium	02/06/2020	14:46	20	9.4		8.6		9		P	
Total Zinc	02/06/2020	14:46	20	21.8		21.4		2		P	

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 75378

Analytical Run #: 168590

ICAL Calibration #:

Sample #: 384967

Parent Sample #: 384619

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	02/07/2020	10:28	20	5060		4120		20		P
Total Sodium	02/07/2020	10:28	20	10500		10500		0		P

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 75377
Analytical Preparation Date/Time: 02/05/2020 11:45
Analytical Run #: 168650
ICAL Calibration #: 02062020
Sample #: 384964
Parent Sample #: 384963

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Mercury	02/06/2020	09:48	20	2.0		2.0		1		CV

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49IDW**

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID | SDG No.: 151051

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 75378 | Analytical Preparation Date/Time: 02/03/2020 08:07

Analytical Run #: 168589 | ICAL Calibration #:

Sample #: 384969 | Parent Sample #: 384968

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	02/06/2020	14:58	20	8130		8280		2		P
Total Antimony	02/06/2020	14:58	20	216		214		1		P
Total Arsenic	02/06/2020	14:58	20	895		887		1		P
Total Barium	02/06/2020	14:58	20	955		942		1		P
Total Beryllium	02/06/2020	14:58	20	21.4		21.2		1		P
Total Cadmium	02/06/2020	14:58	20	20.5		20.5		0		P
Total Calcium	02/06/2020	14:58	20	278000		278000		0		P
Total Chromium	02/06/2020	14:58	20	102		101		1		P
Total Cobalt	02/06/2020	14:58	20	216		215		0		P
Total Copper	02/06/2020	14:58	20	127		126		1		P
Total Iron	02/06/2020	14:58	20	6930		7010		1		P
Total Lead	02/06/2020	14:58	20	198		193		3		P
Total Magnesium	02/06/2020	14:58	20	144000		145000		1		P
Total Manganese	02/06/2020	14:58	20	431		427		1		P
Total Nickel	02/06/2020	14:58	20	219		218		0		P
Total Selenium	02/06/2020	14:58	20	824		827		0		P
Total Silver	02/06/2020	14:58	20	22.8		21.9		4		P
Total Thallium	02/06/2020	14:58	20	663		660		0		P
Total Vanadium	02/06/2020	14:58	20	241		239		1		P
Total Zinc	02/06/2020	14:58	20	241		240		0		P

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID | SDG No.: 151051

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 75378 | Analytical Preparation Date/Time: 02/03/2020 08:07

Analytical Run #: 168590 | ICAL Calibration #:

Sample #: 384969 | Parent Sample #: 384968

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	02/07/2020	10:34	20	104000		104000		0		P
Total Sodium	02/07/2020	10:34	20	109000		110000		1		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra SDG No.: 151051

Concentration Units: ug/L

Analytical Run #: 168650 Sample No.:#: 384961

Analytical Prep Batch #: 75377 Preparation Date/Time: 02/05/2020 11:45

ICAL Calibration #: 02062020

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	02/06/2020 09:34	82-119	1.97		2.00	98		CV

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra SDG No.: 151051

Concentration Units: ug/L

Analytical Run #: 168589 Sample No.:#: 384966

Analytical Prep Batch #: 75378 Preparation Date/Time: 02/03/2020 08:07

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	02/06/2020 14:20	86-115	772.0		800.0	96		P
Total Antimony	02/06/2020 14:20	88-113	219.0		200.0	110		P
Total Arsenic	02/06/2020 14:20	87-113	883.0		800.0	110		P
Total Barium	02/06/2020 14:20	88-113	843.0		800.0	105		P
Total Beryllium	02/06/2020 14:20	89-112	20.90		20.00	104		P
Total Cadmium	02/06/2020 14:20	88-113	20.30		20.00	102		P
Total Calcium	02/06/2020 14:20	87-113	198000		200000	99		P
Total Chromium	02/06/2020 14:20	90-113	88.70		80.00	111		P
Total Cobalt	02/06/2020 14:20	89-114	214.0		200.0	107		P
Total Copper	02/06/2020 14:20	86-114	112.0		100.0	112		P
Total Iron	02/06/2020 14:20	87-115	414.0		400.0	104		P
Total Lead	02/06/2020 14:20	86-113	195.0		200.0	98		P
Total Magnesium	02/06/2020 14:20	85-113	99000		100000	99		P
Total Manganese	02/06/2020 14:20	90-114	208.0		200.0	104		P
Total Nickel	02/06/2020 14:20	88-113	215.0		200.0	108		P
Total Selenium	02/06/2020 14:20	83-114	823.0		800.0	103		P
Total Silver	02/06/2020 14:20	84-115	21.00		20.00	105		P
Total Thallium	02/06/2020 14:20	85-114	678.0		800.0	85		P
Total Vanadium	02/06/2020 14:20	90-111	215.0		200.0	108		P
Total Zinc	02/06/2020 14:20	87-115	216.0		200.0	108		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra SDG No.: 151051

Concentration Units: ug/L

Analytical Run #: 168590 Sample No.:#: 384966

Analytical Prep Batch #: 75378 Preparation Date/Time: 02/03/2020 08:07

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	02/07/2020 10:17	86-114	96400		100000	96		P
Total Sodium	02/07/2020 10:17	87-115	96700		100000	97		P

CT LABORATORIES
delivering more than data from your environmental analyses

9

ICP SERIAL DILUTION

Sample Description

49IDW

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID SDG No.: 151051

Concentration Units: ug/L

Sample No.: 386577 Parent Sample No.: 384619

LIMS Run #: 168589 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time		Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	02/06/2020	14:39	5180.		5100		2		P	
Iron	02/06/2020	14:39	6250.		6950		11		P	*FAIL*
Thallium	02/06/2020	14:39	3.91	U	12.5	U	100		P	*INVALID*
Vanadium	02/06/2020	14:39	9.41	J	8.05	J	14		P	*INVALID*

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

ICP ID Number: TJA SDG No.: 151051

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	2	Fe	0.000006	0.000000	No
			Ce	0.000000	0.000000	No
Ag 338.289 {100}	☒	1	Fe	0.000906	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	1	Al	0.001713	0.000000	No
As 197.262 {471}	☒	1	Al	-0.000113	0.000000	No
Ba 233.527 {445}	☒	3	Fe	-0.000038	0.000000	No
			V	0.000180	0.000000	No
			Al	0.000000	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000029	0.000000	No
Be 313.042 {108}	☒	1	Fe	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000016	0.000000	No
Ca 315.887 {107}	☒	None				
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	2	Fe	0.000090	0.000000	No
			Al	0.000000	0.000000	No
Cd 228.802 {147}	☒	None				
Co 228.616 {447}	☒	5	Fe	0.000009	0.000000	No
			Ti	0.003000	0.000000	No
			Ba	-0.001300	0.000000	No
			Ni	0.000040	0.000000	No
			Al	0.000001	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000188	0.000000	No
Cr 205.560 {464}	☒	1	Fe	-0.000004	0.000000	No
Cr 267.716 {126}	☒	1	Fe	-0.000014	0.000000	No
Cu 224.700 {450}	☒	5	Fe	0.000274	0.000000	No
			Mo	0.001320	0.000000	No
			Ni	-0.006000	0.000000	No
			Pb	0.003030	0.000000	No
			Al	0.000000	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000136	0.000000	No
Cu 327.396 {103}	☒	1	Fe	0.000069	0.000000	No
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	-0.000086	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Mn 259.373 {130}	☒	1	Mg	0.001339	0.000000	No
Mo 202.030 {466}	☒	1	Fe	-0.000011	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000020	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000036	0.000000	No
Ni 221.647 {452}	☒	1	Ca	0.000021	0.000000	No
Ni 231.604 {445}	☒	3	Fe	0.000012	0.000000	No
			Co	0.000000	0.000000	No
			Mo	0.000000	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.001241	0.000000	No
			Na	0.000000	0.000000	No
Pb 220.353 {453}	☒	3	Si	0.000000	0.000000	No
			Al	0.000001	0.000000	No
			Fe	0.000018	0.000000	No
Pb 220.353 {153}	☒	1	Al	-0.000040	0.000000	No
Sb 206.833 {463}	☒	1	Fe	0.000009	0.000000	No
Sb 217.581 {455}	☒	3	Fe	-0.000069	0.000000	No
			V	0.002070	0.000000	No
			Pb	-0.001040	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000360	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.001308	0.000000	No
Tl 190.856 {476}	☒	5	Fe	0.000024	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000050	0.000000	No
			Cr	0.000251	0.000000	No
			V	-0.003800	0.000000	No
Tl 190.856 {477}	☒	1	Fe	-0.000048	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000073	0.000000	No
V 292.402 {115}	☒	3	Fe	0.000020	0.000000	No
			Cr	-0.000400	0.000000	No
			Al	0.000000	0.000000	No
Zn 202.548 {466}	☒	1	Fe	-0.000239	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000003	0.000000	No
Zn 213.856 {457}	☒	2	Fe	0.000167	0.000000	No
			Cu	0.007413	0.000000	No
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Si 251.611 {134}	☒	2	Fe	-0.000105	0.000000	No
			Mo	0.005400	0.000000	No
Ti 323.452 {104}	☒	1	Fe	0.000036	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000052	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000014	0.000000	No
Sr 421.552 { 80}	☒	1	Fe	0.000014	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Sn 189.989 {477}	☒	1	Fe	0.000013	0.000000	No
B 249.678 {135}	☒	2	Fe	0.000001	0.000000	No
			Co	0.003970	0.000000	No
B 249.773 {135}	☒	1	Fe	0.000357	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000011	0.000000	No
K 766.490 { 44}	☒	1	Fe	0.000216	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000079	0.000000	No
S 182.034 {485}	☒	1	Mg	0.000100	0.000000	No
Hg 184.950 {482}	☒	1	Fe	0.000001	0.000000	No
Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

ICP ID Number: TA SDG No.: 151051

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Method: EPA 7470A

SDG No.: 151051

Preparation Batch #: 75377

Preparation Date/Time: 02/05/2020 / 11:45

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
384619	Normal Sample	49IDW	GROUND WATER	25.0
384960	Method Blank		LIQUID	25.0
384961	Lab Control Spike		LIQUID	25.0
384962	Lab Duplicate	49IDW	GROUND WATER	25.0
384963	Matrix Spike	49IDW	GROUND WATER	25.0
384964	Matrix Spike Duplicate	49IDW	GROUND WATER	25.0

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Method: EPA 3010A

SDG No.: 151051

Preparation Batch #: 75378

Preparation Date/Time: 02/03/2020 / 08:07

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
384619	Normal Sample	49IDW	GROUND WATER	50.0
384965	Method Blank		LIQUID	50.0
384966	Lab Control Spike		LIQUID	50.0
384967	Lab Duplicate	49IDW	GROUND WATER	50.0
384968	Matrix Spike	49IDW	GROUND WATER	50.0
384969	Matrix Spike Duplicate	49IDW	GROUND WATER	50.0

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Lab Code: CTL

SDG No.: 151051

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 02/06/2020 to 02/06/2020

Analytical Run #: 168650

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
386178	ICV	1.00	2/06 09:24																X													
386179	ICB	1.00	2/06 09:30																X													
384961	LCSW	1.00	2/06 09:34																X													
384960	MBW	1.00	2/06 09:38																X													
384619	Initial	1.00	2/06 09:40																X													
384962	DUP	1.00	2/06 09:42																X													
384963	MSW	1.00	2/06 09:46																X													
384964	MSDW	1.00	2/06 09:48																X													
386180	CCV	1.00	2/06 09:54																X													
386181	CCB	1.00	2/06 09:58																X													

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Lab Code: CTL

SDG No.: 151051

Instrument ID Number: TJA

Method Number: P

Start & End Date: 02/06/2020 to 02/06/2020

Analytical Run #: 168589

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
386570	ICV	1.00	2/06 13:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386571	ICVLL	1.00	2/06 13:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
386572	ICB	1.00	2/06 13:36	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386573	ICSA	1.00	2/06 13:48	X	X	X		X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386573	ICSA	1	2/06 13:48				X																										
386574	ICSAB	1.00	2/06 13:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386576	ICVLL	1.00	2/06 14:14																							X							
384966	LCSW	1.00	2/06 14:20	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
384965	MBW	1.00	2/06 14:27	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
384619	Initial	1.00	2/06 14:33	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386577	L	5	2/06 14:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
384967	DUP	1.00	2/06 14:46	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
384968	MSW	1.00	2/06 14:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
384969	MSDW	1.00	2/06 14:58	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386578	PDSW	1.00	2/06 15:04	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386579	CCV1	1.00	2/06 15:11	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
386580	CCV2	1.00	2/06 15:17	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
386581	CCB	1.00	2/06 15:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Lab Code: CTL
SDG No.: 151051

Instrument ID Number: TJA
Method Number: P

Start & End Date: 02/07/2020 to 02/07/2020
Analytical Run #: 168590

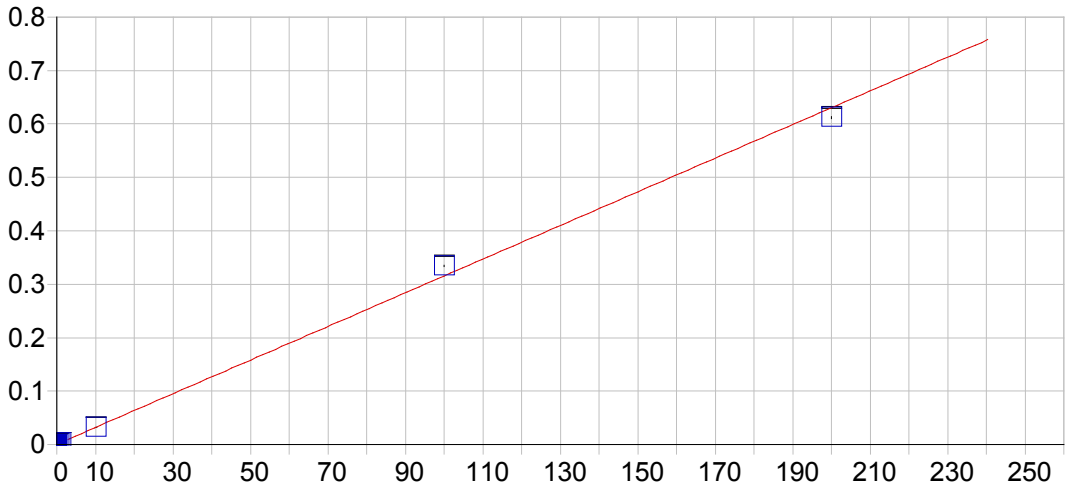
Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
386533	ICV	1.00	2/07 10:00																				X				X					
386534	ICVLL	1.00	2/07 10:03																				X				X					
386535	ICB	1.00	2/07 10:05																				X				X					
386536	MRL	1.00	2/07 10:08																				X				X					
386537	ICSA	1.00	2/07 10:11	X							X				X		X						X				X					
386538	ICSAB	1.00	2/07 10:14	X							X				X		X						X				X					
384966	LCSW	1.00	2/07 10:17																				X				X					
384965	MBW	1.00	2/07 10:20																				X				X					
384619	Initial	1.00	2/07 10:23																				X				X					
386539	L	5	2/07 10:26																				X				X					
384967	DUP	1.00	2/07 10:28																				X				X					
384968	MSW	1.00	2/07 10:31																				X				X					
384969	MSDW	1.00	2/07 10:34																				X				X					
386540	PDSW	1.00	2/07 10:37																				X				X					
386541	CCV	1.00	2/07 10:45																				X				X					
386542	CCB	1.00	2/07 10:48																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	02/07/2020 12:28:38	02/07/2020 09:56:57	Linear	1/Conc	0.000567	0.003150	0.000000	1.000000	0.999158	0.000062	0.033183	0.110609
	K 769.896 { 44}	02/07/2020 12:28:38	02/07/2020 09:56:57	Linear	1/Conc	0.000248	0.004034	0.000000	1.000000	0.999014	0.000087	0.037832	0.126107
	Na 330.237 {102}	02/07/2020 12:28:38	02/07/2020 09:56:57	Linear	1/Conc	0.000071	0.000102	0.000000	1.000000	0.999076	0.000011	0.729603	2.432009
	Na 589.592 { 57}	02/07/2020 12:28:38	02/07/2020 09:56:57	Linear	1/Var	0.003553	0.040417	0.000000	1.000000	0.999649	0.002217	0.004985	0.016617
	Y 320.332 {105}*	02/07/2020 12:28:38	02/07/2020 09:37:12	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 360.073 { 94}	02/07/2020 12:28:38	02/07/2020 09:37:12	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	02/07/2020 12:28:38	02/07/2020 10:00:05	Linear	1/Conc	0.001449	0.000013	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	02/07/2020 12:28:38	02/07/2020 10:00:05	Linear	1/Conc	-0.000003	0.007740	0.000000	1.000000	1.000000	0.000000	0.010061	0.033536
	Mg 285.213 {118}	02/07/2020 12:28:38	02/07/2020 10:00:05	Linear	None	0.000052	0.053162	0.000000	1.000000	1.000000	0.000000	0.000951	0.003170
	Ca 317.933 {106}	02/07/2020 12:28:38	02/07/2020 10:00:05	Linear	None	0.016483	0.009266	0.000000	1.000000	1.000000	0.000000	0.005358	0.017862
	Fe 234.349 {144}	02/07/2020 12:28:38	02/07/2020 10:00:05	Linear	None	0.000134	0.001863	0.000000	1.000000	1.000000	0.000000	0.009576	0.031919

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
K 766.490 { 44}	☒	1	Fe	-0.001921	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000322	0.000000	No
Na 330.237 {102}	☒	1	Fe	-0.001137	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000036	0.000000	No
Y 320.332 {105}*	☒	None				
Y 360.073 { 94}	☒	None				
Al 308.215 {109}	☒	1	Fe	0.000000	0.000000	No
Al 396.152 { 85}	☒	None				
Mg 285.213 {118}	☒	None				
Ca 317.933 {106}	☒	None				
Fe 234.349 {144}	☒	None				

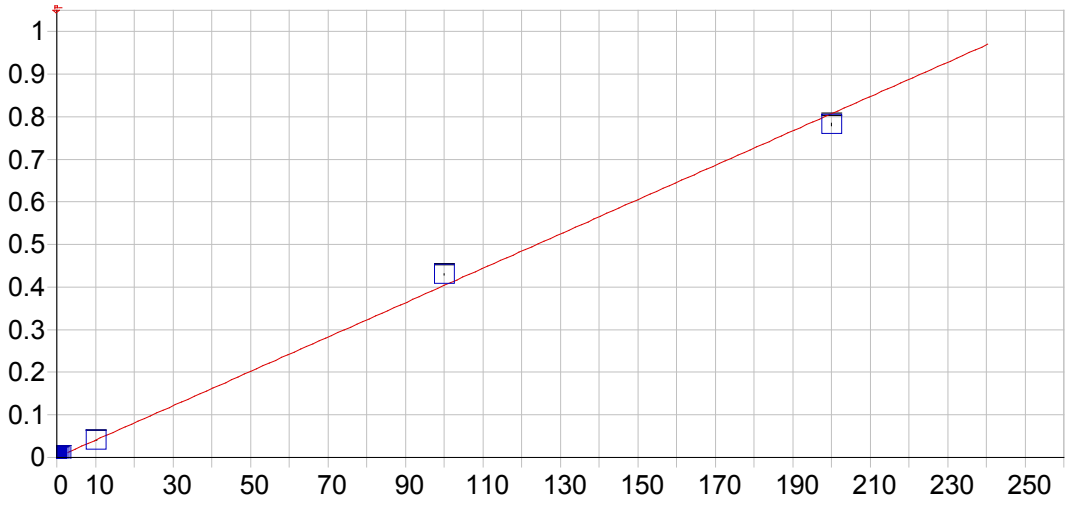


K 766.490 { 44}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000567	Re-Slope:	1.000000
A1 (Gain):	0.003150	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999158	Status:	OK.
Std Error of Est:	0.000062		
Predicted MDL:	0.033183		
Predicted MQL:	0.110609		

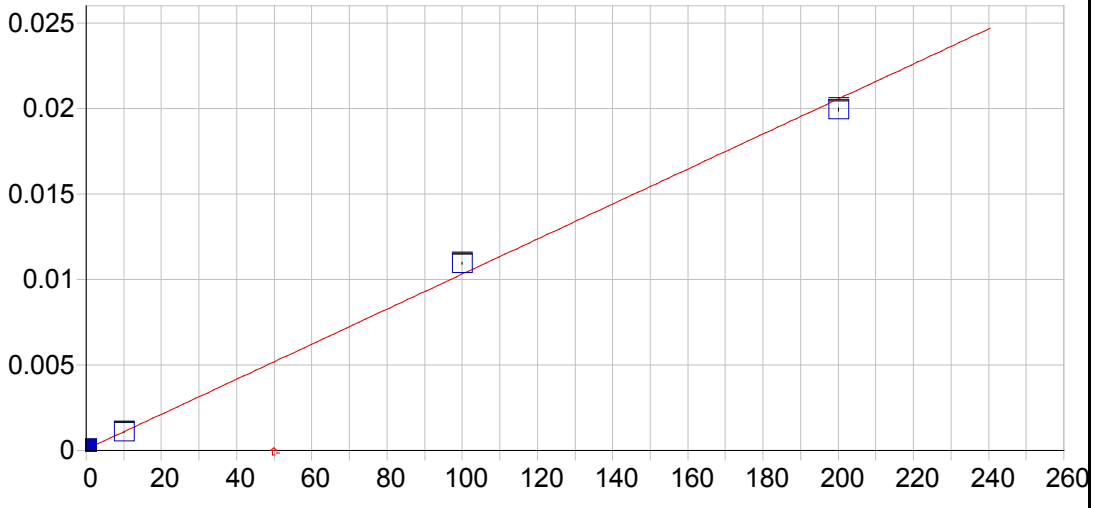
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00001	.000	.000	.00057	.000	1
CalibStd-1.0	1.0000	1.0025	.002	.246	.00372	.000	1
CalibStd-10.	10.000	9.9650	-.035	-.350	.03195	.000	1
CalibStd-0.5	.50000	.47225	-.028	-5.55	.00205	.000	1
CalibStd-200	200.00	194.13	-5.87	-2.93	.61200	.002	1
CalibStd-100	100.00	105.93	5.93	5.93	.33420	.001	1



K 769.896 { 44}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000248		Re-Slope:	1.000000	
A1 (Gain):	0.004034		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999014		Status:	OK.	
Std Error of Est:	0.000087				
Predicted MDL:	0.037832				
Predicted MQL:	0.126107				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00002	.000	.000	.00025	.000	1
CalibStd-1.0	1.0000	1.0220	.022	2.20	.00437	.000	1
CalibStd-10.	10.000	9.9357	-.064	-.643	.04033	.000	1
CalibStd-0.5	.50000	.46019	-.040	-7.96	.00210	.000	1
CalibStd-200	200.00	193.67	-6.33	-3.16	.78152	.003	1
CalibStd-100	100.00	106.41	6.41	6.41	.42950	.001	1

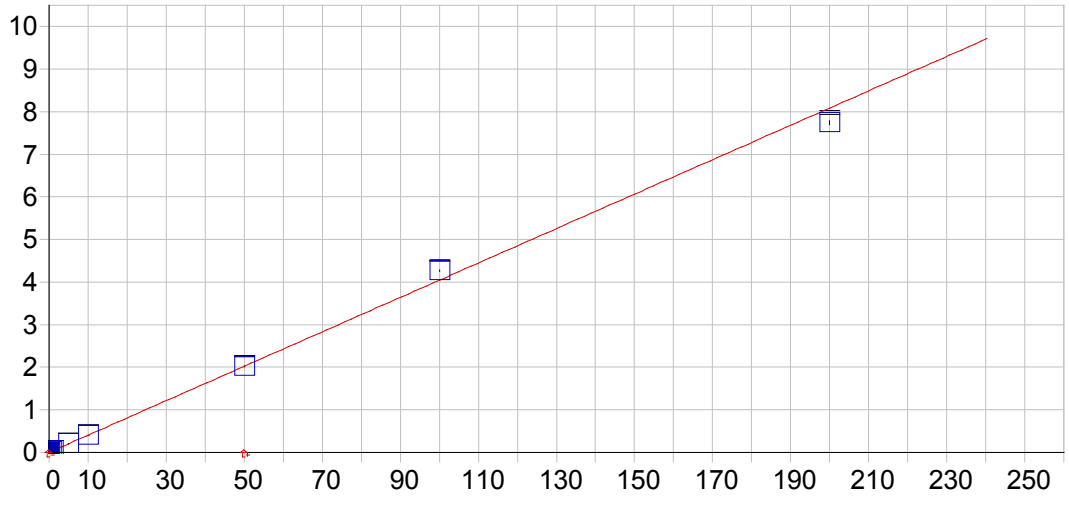


Na 330.237 {102}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000071	Re-Slope:	1.000000
A1 (Gain):	0.000102	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999076	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	0.729603		
Predicted MQL:	2.432009		

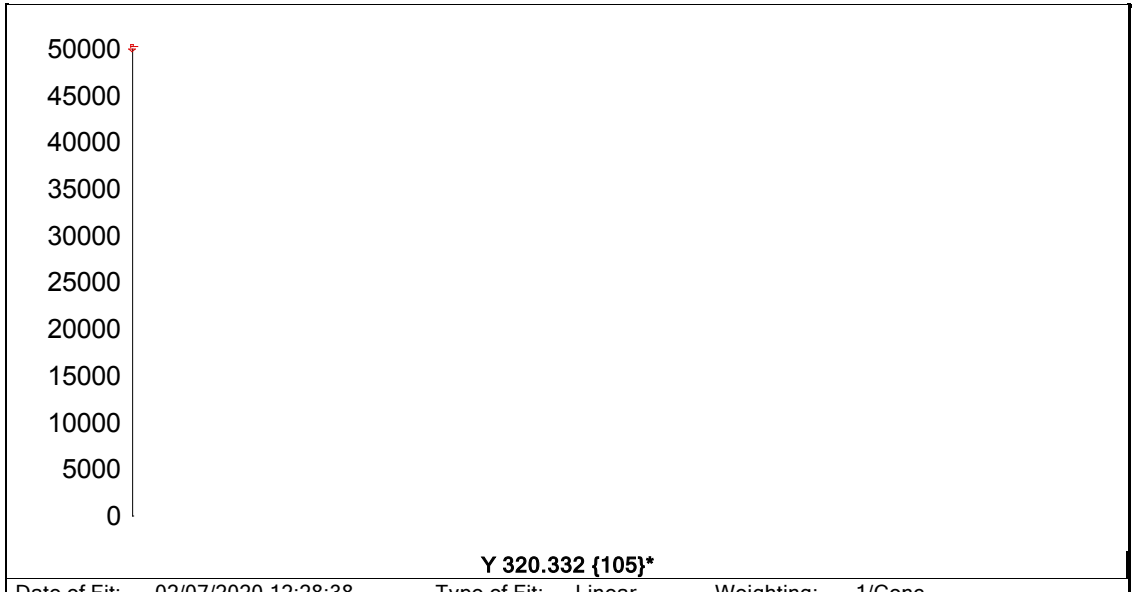
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00024	-.000	.000	.00007	.000	1
CalibStd-200	200.00	193.87	-6.13	-3.07	.01993	.000	1
CalibStd-10.	10.000	9.9270	-.073	-.730	.00109	.000	1
CalibStd-100	100.00	106.20	6.20	6.20	.01095	.000	1



Na 589.592 { 57}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.003553		Re-Slope:	1.000000	
A1 (Gain):	0.040417		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999649		Status:	OK.	
Std Error of Est:	0.002217				
Predicted MDL:	0.004985				
Predicted MQL:	0.016617				

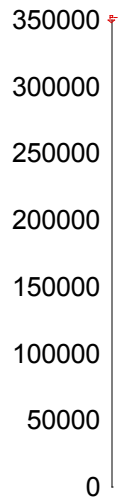
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03734	-.037	.000	.00204	.001	1
CalibStd-0.5	.50000	.50490	.005	.981	.02396	.000	1
CalibStd-1.0	1.0000	.99527	-.005	-.473	.04378	.000	1
CalibStd-5.0	5.0000	4.9625	-.038	-.750	.20412	.001	1
CalibStd-10.	10.000	9.9177	-.082	-.823	.40439	.001	1
CalibStd-50	50.000	49.898	-.102	-.204	2.0203	.016	1
CalibStd-100	100.00	105.51	5.51	5.51	4.2678	.013	1
CalibStd-200	200.00	191.56	-8.44	-4.22	7.7459	.043	1



Y 320.332 {105}*

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

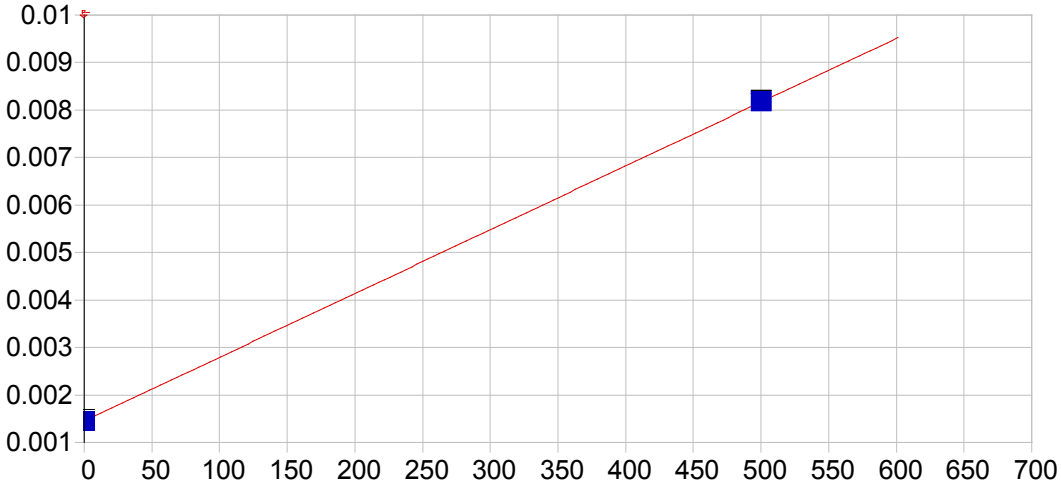
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	38144.	203.	1



Y 360.073 { 94}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	328880.	3020.	1

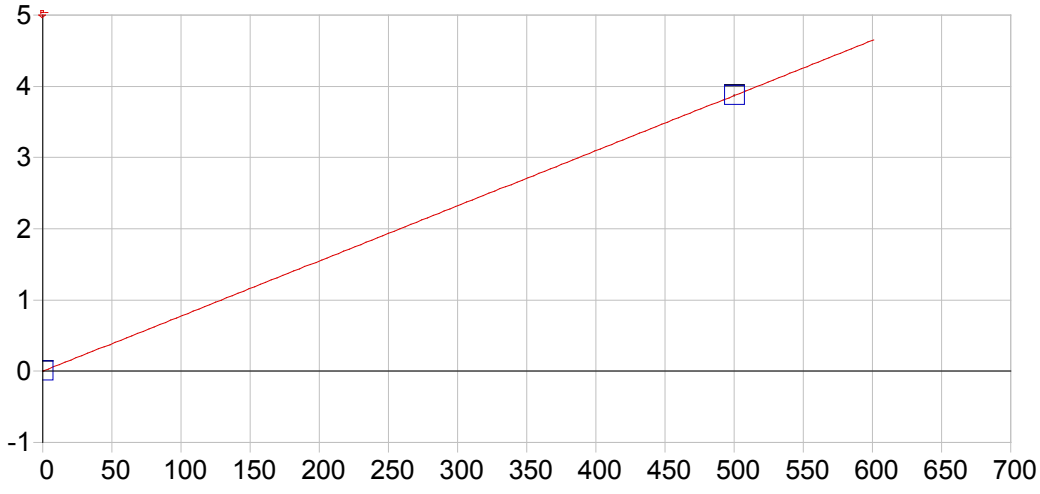


Al 308.215 {109}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001449	Re-Slope:	1.000000
A1 (Gain):	0.000013	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00145	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00817	.000	1

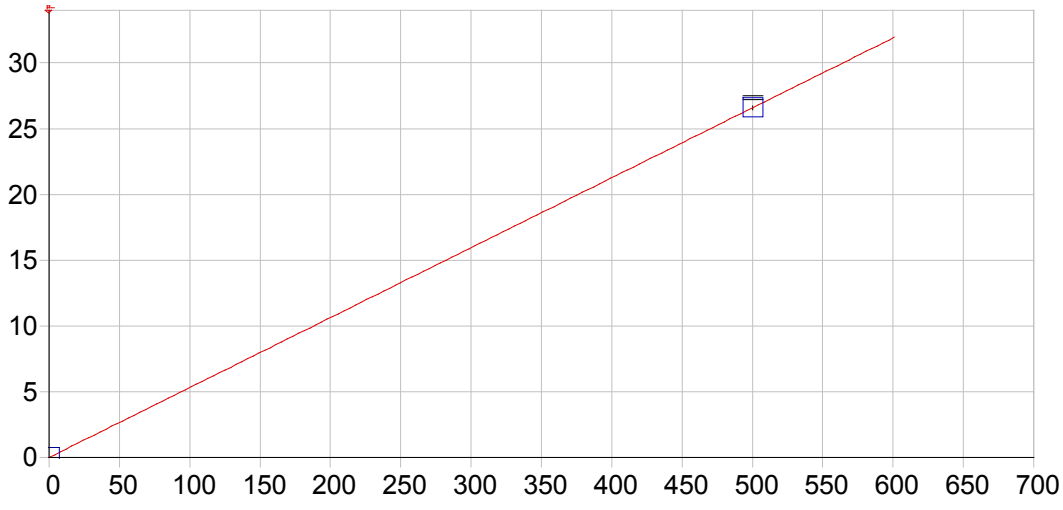


Al 396.152 { 85}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.007740	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.010061		
Predicted MQL:	0.033536		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00000	.000	1
CalibStd-500	500.00	500.00	.000	.000	3.8700	.008	1

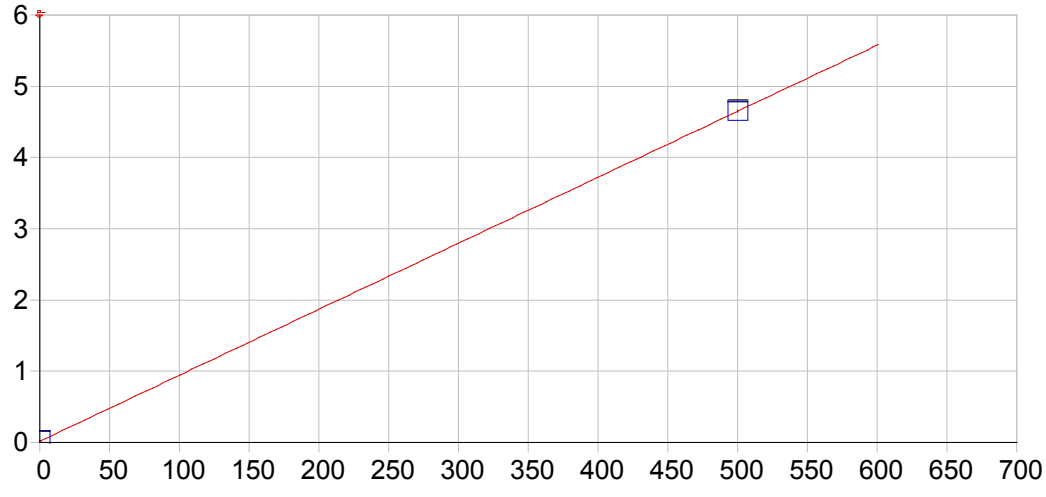


Mg 285.213 {118}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000052	Re-Slope:	1.000000
A1 (Gain):	0.053162	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.000951		
Predicted MQL:	0.003170		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00005	.000	1
CalibStd-500	500.00	500.00	.000	.000	26.581	.149	1

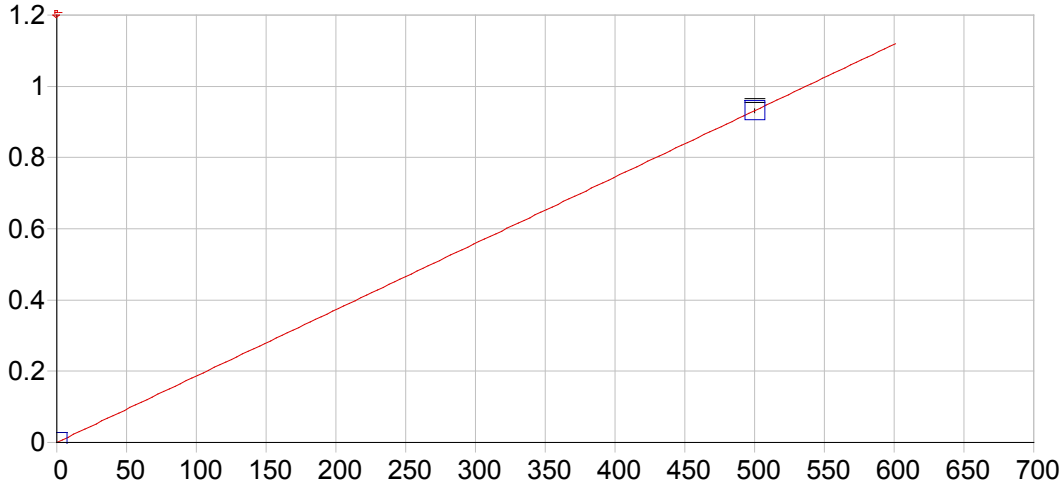


Ca 317.933 {106}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.016483	Re-Slope:	1.000000
A1 (Gain):	0.009266	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.005358		
Predicted MQL:	0.017862		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.01648	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.6496	.015	1



Fe 234.349 {144}

Date of Fit:	02/07/2020 12:28:38	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000134	Re-Slope:	1.000000
A1 (Gain):	0.001863	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.009576		
Predicted MQL:	0.031919		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00013	.000	1
CalibStd-500	500.00	500.00	.000	.000	.93156	.005	1

Sample Name: Blank Acquired: 02/07/2020 09:33:59 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.002**	**-.000**	**.000**	**.016**	**.000**
Stddev	.000	.000	.001	.000	.000	.000	.000
%RSD	11.1	65.1	25.4	1780.	58.6	1.22	16.2

Int. Std.	Y_3203
Units	Cts/S
Avg	**38144.**
Stddev	203.
%RSD	.53175

Sample Name: CalibStd-0.5 Acquired: 02/07/2020 09:37:15 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.002**	**.024**
Stddev	.000	.000
%RSD	2.34	.449

Int. Std.	Y_3203
Units	Cts/S
Avg	**37913.**
Stddev	103.
%RSD	.27067

Sample Name: CalibStd-1.0 Acquired: 02/07/2020 09:40:14 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.004**	**.044**
Stddev	.000	.000
%RSD	1.85	.639

Int. Std.	Y_3203
Units	Cts/S
Avg	**37775.**
Stddev	110.
%RSD	.29044

Sample Name: CalibStd-5.0 Acquired: 02/07/2020 09:43:04 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.204
Stddev	.001
%RSD	.569

Int. Std.	Y_3203
Units	Cts/S
Avg	37690.
Stddev	158.
%RSD	.41842

Sample Name: CalibStd-10.0 Acquired: 02/07/2020 09:45:51 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.034**	**.001**	**.404**
Stddev	.000	.000	.001
%RSD	.414	2.73	.150

Int. Std.	Y_3203
Units	Cts/S
Avg	**37730.**
Stddev	87.
%RSD	.23118

Sample Name: CalibStd-50 Acquired: 02/07/2020 09:48:39 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**2.02**
Stddev	.02
%RSD	.805

Int. Std.	Y_3203
Units	Cts/S
Avg	**37426.**
Stddev	84.
%RSD	.22438

Sample Name: CalibStd-100 Acquired: 02/07/2020 09:51:27 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.350**	**.011**	**4.27**
Stddev	.001	.000	.01
%RSD	.339	.517	.309

Int. Std.	Y_3203
Units	Cts/S
Avg	**37318.**
Stddev	82.
%RSD	.22084

Sample Name: CalibStd-200 Acquired: 02/07/2020 09:54:14 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.641**	**.020**	**7.75**
Stddev	.003	.000	.04
%RSD	.486	.447	.554

Int. Std.	Y_3203
Units	Cts/S
Avg	**37132.**
Stddev	92.
%RSD	.24809

Sample Name: CalibStd-500 Acquired: 02/07/2020 09:57:00 Type: Cal
Method: Sodium and Potassium 1(v1229) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**3.87**	**26.6**	**4.65**	**.932**
Stddev	.01	.1	.01	.005
%RSD	.202	.561	.319	.570

Int. Std.	Y_3203
Units	Cts/S
Avg	**35815.**
Stddev	156.
%RSD	.43487

Sample Name: icv Acquired: 02/07/2020 10:00:14 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**96.7**	**97.7**	**.067**	**.080**	**.074**	**.198**
Stddev	.4	.3	.005	.001	.028	.049
%RSD	.387	.323	7.53	1.61	37.7	24.7
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**37952.**
Stddev	142.
%RSD	.37440

Sample Name: ICVLL Acquired: 02/07/2020 10:03:01 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.05**	**2.98**	**.001**	**.013**	**.030**	**.031**
Stddev	.03	.01	.009	.001	.012	.006
%RSD	.927	.422	625.	6.39	40.1	18.5
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**38464.**
Stddev	83.
%RSD	.21601

Sample Name: icb Acquired: 02/07/2020 10:05:49 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.027**	**-.001**	**.007**	**.006**	**-.011**	**.026**
Stddev	.020	.002	.008	.001	.010	.002
%RSD	73.7	197.	100.	13.7	90.7	9.47
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**38252.**
Stddev	87.
%RSD	.22683

Sample Name: mrl Acquired: 02/07/2020 10:08:39 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.982**	**.954**	**-.003**	**.002**	**-.026**	**-.005**
Stddev	.018	.005	.006	.001	.015	.010
%RSD	1.81	.483	204.	36.4	58.0	215.
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**38301.**
Stddev	59.
%RSD	.15304

Sample Name: icsa Acquired: 02/07/2020 10:11:29 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.000**	**.003**	**457.**	**468.**	**457.**	**466.**
Stddev	.035	.001	2.	2.	3.	2.
%RSD	34e15	50.5	.480	.434	.557	.392
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35590.**
Stddev	65.
%RSD	.18315

Sample Name: icsab Acquired: 02/07/2020 10:14:40 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**111.**	**111.**	**528.**	**523.**	**526.**	**535.**
Stddev	.	1.	1.	2.	1.	1.
%RSD	.380	.759	.263	.398	.169	.262
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**35799.**
Stddev	92.
%RSD	.25757

Sample Name: lcsw75378 Acquired: 02/07/2020 10:17:45 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**96.4**	**96.7**	**.959**	**107.**	**195.**	**.545**
Stddev	.1	.4	.014	.	1.	.043
%RSD	.146	.425	1.49	.290	.445	7.85

Int. Std.	Y_3203
Units	Cts/S
Avg	**36879.**
Stddev	115.
%RSD	.31268

Sample Name: mbw75378 Acquired: 02/07/2020 10:20:29 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.022**	**.056**	**-.007**	**.006**	**.027**	**.017**
Stddev	.036	.008	.004	.001	.014	.008
%RSD	163.	13.8	52.4	14.1	51.2	45.5

Int. Std.	Y_3203
Units	Cts/S
Avg	**38557.**
Stddev	120.
%RSD	.31187

Sample Name: 384619 Acquired: 02/07/2020 10:23:19 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**5.06**	**10.5**	**8.24**	**44.4**	**75.0**	**7.41**
Stddev	.04	.1	.09	.3	.3	.05
%RSD	.848	1.01	1.12	.723	.462	.664

Int. Std.	Y_3203
Units	Cts/S
Avg	**37895.**
Stddev	49.
%RSD	.13033

Sample Name: I384619 Acquired: 02/07/2020 10:26:03 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.02**	**2.07**	**1.74**	**9.18**	**15.9**	**1.55**
Stddev	.01	.03	.02	.05	.0	.02
%RSD	1.20	1.31	1.23	.580	.186	1.06

Int. Std.	Y_3203
Units	Cts/S
Avg	**38760.**
Stddev	77.
%RSD	.19881

Sample Name: dup384619 Acquired: 02/07/2020 10:28:52 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**4.12**	**10.5**	**6.46**	**44.2**	**75.2**	**6.83**
Stddev	.03	.0	.06	.0	.3	.04
%RSD	.689	.223	.870	.058	.357	.595

Int. Std.	Y_3203
Units	Cts/S
Avg	**37776.**
Stddev	126.
%RSD	.33449

Sample Name: msw384619 Acquired: 02/07/2020 10:31:36 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**109.**	**7.44**	**151.**	**268.**	**7.02**
Stddev	1.	2.	.03	1.	1.	.04
%RSD	.639	1.43	.365	.485	.388	.498

Int. Std.	Y_3203
Units	Cts/S
Avg	**36643.**
Stddev	94.
%RSD	.25651

Sample Name: msdw384619 Acquired: 02/07/2020 10:34:19 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**110.**	**7.67**	**151.**	**268.**	**7.25**
Stddev	.	.	.03	.	1.	.01
%RSD	.244	.432	.377	.152	.325	.065

Int. Std.	Y_3203
Units	Cts/S
Avg	**36743.**
Stddev	132.
%RSD	.35893

Sample Name: pdsw384619 Acquired: 02/07/2020 10:37:03 Type: Unk
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.7**	**105.**	**5.01**	**42.2**	**73.9**	**6.41**
Stddev	.4	1.	.02	.1	.1	.03
%RSD	.396	.978	.357	.310	.199	.521

Int. Std.	Y_3203
Units	Cts/S
Avg	**37594.**
Stddev	69.
%RSD	.18435

Sample Name: ccv Acquired: 02/07/2020 10:45:25 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**106.**	**106.**	**.016**	**.021**	**.033**	**.053**
Stddev	.	1.	.004	.001	.019	.010
%RSD	.399	.873	25.8	2.96	56.9	19.5
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**38342.**
Stddev	106.
%RSD	.27674

Sample Name: ccb Acquired: 02/07/2020 10:48:12 Type: QC
Method: Sodium and Potassium 1(v1229) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.037**	**.023**	**-.004**	**.003**	**-.009**	**-.015**
Stddev	.017	.005	.007	.001	.014	.004
%RSD	46.3	21.0	172.	27.3	157.	25.6
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**38761.**
Stddev	116.
%RSD	.29936

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	02/07/2020 12:32:03	02/06/2020 13:05:26	Linear	1/Conc	-0.000007	0.000003	0.000000	1.000000	0.998052	0.000000	0.667712	2.225708
Ag 338.289 {100}	02/07/2020 12:32:03	02/06/2020 13:05:26	Linear	None	-0.000011	0.000001	0.000000	1.000000	0.999765	0.000025	2.611532	8.705107
Al 167.079 {501}	02/07/2020 12:32:03	02/06/2020 12:23:33	Linear	1/Conc	0.000005	0.000003	0.000000	1.000000	0.999619	0.000000	0.692734	2.309113
Al 308.215 {109}	02/07/2020 12:32:03	02/06/2020 12:43:49	Linear	1/Var	0.000041	0.000000	0.000000	1.000000	0.999663	0.000027	11.816176	39.387253
Al 396.152 { 85}	02/07/2020 12:32:03	02/06/2020 12:58:55	Linear	1/Conc	-0.000050	0.000002	0.000000	1.000000	0.999994	0.000009	5.252206	17.507354
As 193.759 {474}	02/07/2020 12:32:03	02/06/2020 12:23:33	Linear	1/Conc	0.000006	0.000001	0.000000	1.000000	0.998453	0.000000	3.959355	13.197851
As 197.262 {471}	02/07/2020 12:32:03	02/06/2020 12:30:25	Linear	1/Var	-0.000002	0.000001	0.000000	1.000000	0.999993	0.000002	4.594174	15.313914
Ba 233.527 {445}	02/07/2020 12:32:03	02/06/2020 12:23:33	Linear	1/Conc	0.000000	0.000001	0.000000	1.000000	0.999880	0.000000	0.362988	1.209959
Ba 455.403 { 74}	02/07/2020 12:32:03	02/06/2020 12:30:25	Linear	1/Var	0.000185	0.000056	0.000000	1.000000	0.996856	0.000074	0.139964	0.466546
Ba 493.409 { 68}	02/07/2020 12:32:03	02/06/2020 13:05:26	Linear	1/Var	-358.29671	29.604105	0.000000	1.000000	0.999003	211.35747	0.402646	1.342153
Be 313.042 {108}	02/07/2020 12:32:03	02/06/2020 12:23:34	Linear	1/Conc	-0.000154	0.000113	0.000000	1.000000	0.999892	0.000001	0.024793	0.082642
Be 234.861 {144}	02/07/2020 12:32:03	02/06/2020 12:23:34	Linear	1/Conc	0.000002	0.000008	0.000000	1.000000	0.999950	0.000002	0.161034	0.536781
Ca 315.887 {107}	02/07/2020 12:32:03	02/06/2020 12:58:55	Curvili	1/Var	0.000058	0.000001	0.000000	1.000000	0.999908	0.000008	3.671033	12.236777
Ca 317.933 {106}	02/07/2020 12:32:03	02/06/2020 12:58:55	Linear	1/Var	0.000800	0.000001	0.000000	1.000000	0.999328	0.000186	1.917527	6.391756
Ca 393.366 { 86}	02/07/2020 12:32:03	02/06/2020 12:23:34	Linear	None	0.000291	0.000187	0.000000	1.000000	0.999998	0.000268	0.030709	0.102365
Ca 396.847 { 85}	02/07/2020 12:32:03	02/06/2020 12:30:26	Linear	1/Conc	0.000217	0.000082	0.000000	1.000000	0.999865	0.000064	0.070446	0.234820
Cd 226.502 {449}	02/07/2020 12:32:03	02/06/2020 12:23:35	Linear	1/Conc	-0.000015	0.000029	0.000000	1.000000	0.999713	0.000001	0.189646	0.632154
Cd 228.802 {447}	02/07/2020 12:32:03	02/06/2020 12:23:35	Linear	1/Conc	0.000019	0.000053	0.000000	1.000000	0.999744	0.000001	0.133874	0.446246
Co 228.616 {447}	02/07/2020 12:32:03	02/06/2020 12:30:26	Linear	1/Conc	0.000011	0.000022	0.000000	1.000000	0.999826	0.000002	0.260512	0.868374
Co 238.892 {141}	02/07/2020 12:32:03	02/06/2020 12:30:26	Linear	1/Var	0.000036	0.000032	0.000000	1.000000	0.999945	0.000036	0.483911	1.613037
Cr 205.560 {464}	02/07/2020 12:32:03	02/06/2020 12:37:33	Linear	1/Var	0.000010	0.000020	0.000000	1.000000	0.999485	0.000030	0.230450	0.768167
Cr 267.716 {126}	02/07/2020 12:32:03	02/06/2020 12:30:27	Linear	1/Conc	-0.000014	0.000031	0.000000	1.000000	0.999833	0.000005	0.530650	1.768833
Cu 223.008 {451}	02/07/2020 12:32:03	02/06/2020 12:30:27	Linear	1/Conc	0.000004	0.000008	0.000000	1.000000	0.999746	0.000002	0.846224	2.820745
Cu 224.700 {450}	02/07/2020 12:32:03	02/06/2020 12:37:33	Linear	1/Var	-0.000101	0.000011	0.000000	1.000000	0.999418	0.000122	0.410789	1.369295
Cu 324.754 {104}	02/07/2020 12:32:03	02/06/2020 12:37:33	Linear	1/Conc	0.000261	0.000003	0.000000	1.000000	0.999789	0.000002	1.324496	4.414987
Cu 327.396 {103}	02/07/2020 12:32:03	02/06/2020 12:30:27	Linear	1/Conc	0.000028	0.000002	0.000000	1.000000	0.999879	0.000000	3.000539	10.001798
Fe 234.349 {144}	02/07/2020 12:32:03	02/06/2020 12:43:49	Linear	1/Conc	0.000032	0.000001	0.000000	1.000000	0.999817	0.000002	1.142602	3.808674
Fe 239.562 {140}	02/07/2020 12:32:03	02/06/2020 12:58:55	Linear	1/Var	0.000007	0.000001	0.000000	1.000000	0.995961	0.000052	1.628793	5.429310
Fe 259.940 {129}	02/07/2020 12:32:03	02/06/2020 12:51:03	Linear	1/Var	0.000011	0.000003	0.000000	1.000000	0.999642	0.000048	1.038735	3.462450
Mg 202.582 {466}	02/07/2020 12:32:03	02/06/2020 12:58:55	Curvili	1/Var	-0.000000	0.000000	0.000000	1.000000	0.999425	0.000006	2.035489	6.784964
Mg 279.079 {121}	02/07/2020 12:32:03	02/06/2020 12:58:56	Linear	1/Var	-0.000006	0.000000	0.000000	1.000000	0.999508	0.000005	13.740125	45.800416
Mg 280.270 {120}	02/07/2020 12:32:03	02/06/2020 12:30:28	Linear	1/Var	470.04687	85.489044	0.000000	1.000000	0.997824	634.25870	0.022360	0.074533
Mn 257.610 {131}	02/07/2020 12:32:03	02/06/2020 12:30:28	Linear	1/Var	0.000009	0.000018	0.000000	1.000000	0.999309	0.000009	0.060889	0.202962
Mn 259.373 {130}	02/07/2020 12:32:03	02/06/2020 12:37:33	Linear	1/Conc	0.000001	0.000009	0.000000	1.000000	0.999957	0.000039	0.273793	0.912642
Mo 202.030 {466}	02/07/2020 12:32:03	02/06/2020 12:23:37	Linear	1/Conc	0.000000	0.000012	0.000000	1.000000	0.999753	0.000001	0.352195	1.173985
Mo 203.844 {465}	02/07/2020 12:32:03	02/06/2020 12:23:37	Linear	1/Var	0.000015	0.000008	0.000000	1.000000	0.997160	0.000021	0.618455	2.061515
Mo 204.598 {464}	02/07/2020 12:32:03	02/06/2020 12:30:28	Linear	1/Conc	0.000001	0.000007	0.000000	1.000000	0.999936	0.000001	0.622474	2.074914
Ni 221.647 {452}	02/07/2020 12:32:03	02/06/2020 12:30:29	Linear	1/Conc	-0.000002	0.000020	0.000000	1.000000	0.999853	0.000016	0.376078	1.253592
Ni 231.604 {445}	02/07/2020 12:32:03	02/06/2020 12:30:29	Linear	1/Conc	-0.000016	0.000019	0.000000	1.000000	0.999730	0.000002	0.377382	1.257941
Pb 216.999 {455}	02/07/2020 12:32:03	02/06/2020 12:37:34	Linear	1/Var	0.000018	0.000002	0.000000	1.000000	0.999021	0.000069	3.523340	11.744468
Pb 220.353 {453}	02/07/2020 12:32:03	02/06/2020 12:23:38	Linear	None	0.000014	0.000004	0.000000	1.000000	0.999991	0.000008	1.911328	6.371092
Pb 220.353 {153}	02/07/2020 12:32:03	02/06/2020 12:37:34	Linear	1/Var	-0.000016	0.000002	0.000000	1.000000	0.999288	0.000309	3.128820	10.429399
Sb 206.833 {463}	02/07/2020 12:32:03	02/06/2020 12:30:29	Linear	1/Var	0.000005	0.000002	0.000000	1.000000	0.999924	0.000015	1.868532	6.228440
Sb 217.581 {455}	02/07/2020 12:32:03	02/06/2020 12:30:29	Linear	1/Var	0.000001	0.000002	0.000000	1.000000	0.999814	0.000010	3.043938	10.146460

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Ag 338.289 {100}	OK.	1.000000	0.000000	1	0
	Al 167.079 {501}	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 197.262 {471}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 223.008 {451}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 203.844 {465}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Se 196.090 {472}	02/07/2020 12:32:03	02/06/2020 12:23:39	Linear	1/Conc	0.000003	0.000001	0.000000	1.000000	0.999792	0.000000	3.847366	12.824552
	Se 203.985 {465}	02/07/2020 12:32:03	02/06/2020 12:23:39	Linear	None	-0.000001	0.000001	0.000000	1.000000	0.999901	0.000008	5.760324	19.201081
	Se 206.279 {463}	02/07/2020 12:32:03	02/06/2020 12:30:29	Linear	1/Conc	-0.000004	0.000000	0.000000	1.000000	0.999946	0.000000	19.143155	63.810517
	Tl 190.856 {476}	02/07/2020 12:32:03	02/06/2020 12:30:30	Linear	1/Conc	1.695733	0.410703	0.000000	1.000000	0.999626	0.052858	2.110753	7.035844
	Tl 190.856 {477}	02/07/2020 12:32:03	02/06/2020 12:30:30	Linear	1/Var	-1.189850	0.212057	0.000000	1.000000	0.999976	0.501130	3.433623	11.445411
	V 290.882 {116}	02/07/2020 12:32:03	02/06/2020 12:30:30	Linear	1/Conc	0.000008	0.000001	0.000000	1.000000	0.999978	0.000000	2.486331	8.287771
	V 292.402 {115}	02/07/2020 12:32:03	02/06/2020 12:30:30	Linear	1/Var	0.000005	0.000009	0.000000	1.000000	0.999558	0.000013	0.415228	1.384092
	Zn 206.200 {463}	02/07/2020 12:32:03	02/06/2020 12:37:34	Curvili	1/Conc	0.000013	0.000026	-0.000000	1.000000	0.999995	0.000003	0.193485	0.644949
	Zn 213.856 {457}	02/07/2020 12:32:03	02/06/2020 12:23:40	Linear	1/Conc	0.000037	0.000054	0.000000	1.000000	0.999925	0.000003	0.099140	0.330468
	Y 224.306 {450}*	02/07/2020 12:32:03	02/06/2020 11:34:36	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 324.228 {104}*	02/07/2020 12:32:03	02/06/2020 11:34:36	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	02/07/2020 12:32:03	02/06/2020 11:34:36	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	02/07/2020 12:32:03	02/06/2020 12:30:30	Linear	None	0.002605	0.000005	0.000000	1.000000	1.000000	0.000111	4.160063	13.866878
	Na 589.592 { 57}	02/07/2020 12:32:03	02/06/2020 12:58:56	Linear	1/Var	0.000061	0.000003	0.000000	1.000000	0.999189	0.000128	4.725001	15.750004
	Si 251.611 {134}	02/07/2020 12:32:03	02/06/2020 12:58:56	Linear	1/Conc	8.408626	0.453358	0.000000	1.000000	0.999040	9.412957	3.599133	11.997110
	Ti 323.452 {104}	02/07/2020 12:32:03	02/06/2020 12:30:31	Linear	1/Conc	0.000204	0.000010	0.000000	1.000000	0.999979	0.000001	0.537395	1.791316
	Ti 334.941 {101}	02/07/2020 12:32:03	02/06/2020 12:30:31	Linear	1/Conc	0.000006	0.000008	0.000000	1.000000	0.999932	0.000001	0.477803	1.592677
	Sr 407.771 { 83}	02/07/2020 12:32:03	02/06/2020 12:30:31	Linear	1/Conc	0.000013	0.000116	0.000000	1.000000	0.999872	0.000007	0.065187	0.217289
	Sr 421.552 { 80}	02/07/2020 12:32:03	02/06/2020 12:30:31	Linear	1/Conc	0.000021	0.000102	0.000000	1.000000	0.999906	0.000005	0.073125	0.243749
	Sn 189.989 {477}	02/07/2020 12:32:03	02/06/2020 12:30:31	Linear	1/Conc	0.000005	0.000004	0.000000	1.000000	0.999744	0.000001	0.897231	2.990770
	B 249.678 {135}	02/07/2020 12:32:03	02/06/2020 12:30:31	Linear	1/Conc	0.000003	0.000003	0.000000	1.000000	0.999976	0.000000	0.704702	2.349006
	B 249.773 {135}	02/07/2020 12:32:03	02/06/2020 12:30:32	Linear	1/Conc	-0.000001	0.000005	0.000000	1.000000	0.999963	0.000001	0.403449	1.344832
	Li 670.784 { 50}	02/07/2020 12:32:03	02/06/2020 12:30:32	Linear	1/Conc	-0.000018	0.000018	0.000000	1.000000	0.999935	0.000003	0.831283	2.770944
	K 766.490 { 44}	02/07/2020 12:32:03	02/06/2020 12:58:56	Linear	1/Var	-14.183496	0.420195	0.000000	1.000000	0.998392	135.25838	20.998116	69.993720
	K 769.896 { 44}	02/07/2020 12:32:03	02/06/2020 12:58:56	Linear	1/Conc	27.324766	0.178840	0.000000	1.000000	0.999400	9.194481	36.762720	122.54239
	P 213.618 {457}	02/07/2020 12:32:03	02/06/2020 12:30:32	Linear	1/Conc	-0.000015	0.000015	0.000000	1.000000	1.000000	0.000000	0.334937	1.116458
	S 182.034 {485}	02/07/2020 12:32:03	02/06/2020 12:58:56	Curvili	1/Conc	0.000005	0.000001	0.000000	1.000000	1.000000	0.000000	3.774416	12.581387
	Hg 184.950 {482}	02/07/2020 12:32:03	02/06/2020 12:23:42	Linear	1/Conc	0.000002	0.000000	0.000000	1.000000	0.999909	0.000000	0.873024	2.910080
	Ce 404.076 { 83}	02/07/2020 12:32:03	02/06/2020 12:23:42	Linear	1/Conc	0.000028	0.000001	0.000000	1.000000	1.000000	0.000000	10.236831	34.122770

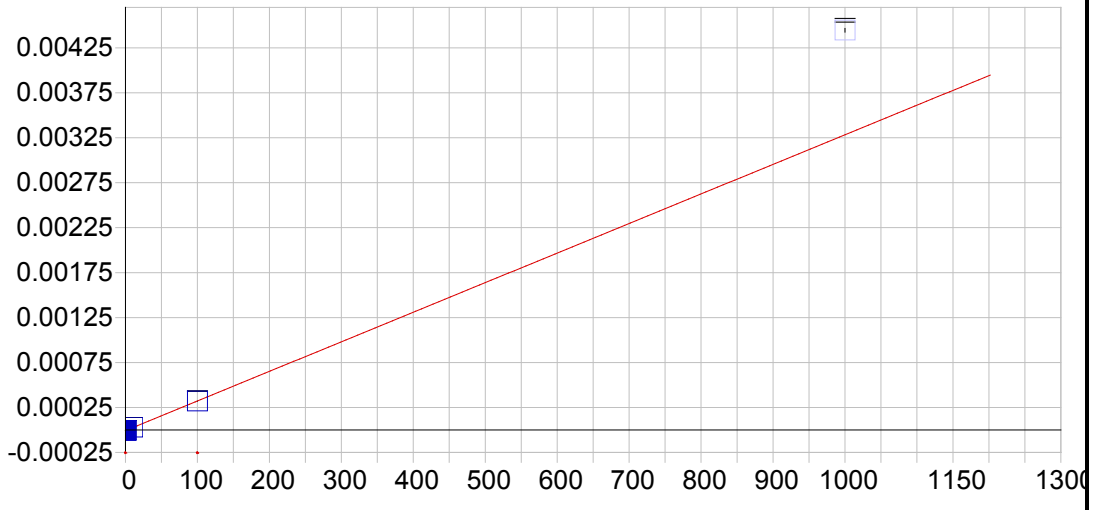
	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 203.985 {465}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {457}	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	Warnin	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 323.452 {104}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sr 421.552 { 80}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	2	Fe	0.000000	0.000000	No
			Ce	-0.002667	0.000000	No
Ag 338.289 {100}	☒	2	Fe	0.000299	0.000000	No
			Ti	0.002000	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	4	Al	0.001463	0.000000	No
			Mn	-0.000114	0.000000	No
			Ni	-0.000722	0.000000	No
			Cr	0.000734	0.000000	No
As 197.262 {471}	☒	2	Al	0.000210	0.000000	No
			V	0.006278	0.000000	No
Ba 233.527 {445}	☒	3	Fe	0.000034	0.000000	No
			V	0.000000	0.000000	No
			Cr	0.000118	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000102	0.000000	No
Be 313.042 {108}	☒	4	Fe	0.000002	0.000000	No
			Ti	-0.000006	0.000000	No
			V	0.000050	0.000000	No
			Ni	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	0.000001	0.000000	No
Ca 315.887 {107}	☒	1	Fe	0.000000	0.000000	No
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	1	Fe	0.000071	0.000000	No
Cd 228.802 {447}	☒	1	Fe	0.000000	0.000000	No
Co 228.616 {447}	☒	3	Fe	-0.000004	0.000000	No
			Ba	-0.000881	0.000000	No
			Ti	0.001700	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000226	0.000000	No
Cr 205.560 {464}	☒	1	Fe	0.000000	0.000000	No
Cr 267.716 {126}	☒	4	Fe	0.000005	0.000000	No
			Mn	0.000234	0.000000	No
			Ti	0.000100	0.000000	No
			V	-0.000074	0.000000	No
Cu 223.008 {451}	☒	1	Fe	-0.000063	0.000000	No
Cu 224.700 {450}	☒	2	Fe	0.000068	0.000000	No
			Ni	-0.007040	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000081	0.000000	No
Cu 327.396 {103}	☒	2	Fe	-0.000003	0.000000	No
			Mo	-0.000590	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	-0.000012	0.000000	No
Mn 259.373 {130}	☒	1	Mg	0.001300	0.000000	No
Mo 202.030 {466}	☒	2	Fe	-0.000018	0.000000	No
			Ti	0.001417	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000019	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000099	0.000000	No
Ni 221.647 {452}	☒	1	Ca	0.000021	0.000000	No
Ni 231.604 {445}	☒	5	Fe	-0.000056	0.000000	No
			Co	0.001774	0.000000	No
			Mo	0.000000	0.000000	No
			Al	0.000003	0.000000	No
			Mn	0.000089	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.003361	0.000000	No
			Na	0.000000	0.000000	No
Pb 220.353 {453}	☒	5	Si	0.000000	0.000000	No
			Al	0.000014	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	-0.000635	0.000000	No
			V	-0.000088	0.000000	No
Pb 220.353 {153}	☒	2	Fe	-0.000002	0.000000	No
			Al	-0.000123	0.000000	No
Sb 206.833 {463}	☒	1	Fe	0.000108	0.000000	No
Sb 217.581 {455}	☒	3	Fe	-0.000067	0.000000	No
			Ni	0.000133	0.000000	No
			V	0.000000	0.000000	No
Se 196.090 {472}	☒	2	Fe	-0.000039	0.000000	No
			Mn	0.000304	0.000000	No
Se 203.985 {465}	☒	1	Fe	-0.000160	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.001816	0.000000	No
Tl 190.856 {476}	☒	8	Fe	-0.000364	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	-0.000379	0.000000	No
			V	0.000000	0.000000	No
			Ce	0.000000	0.000000	No
			Mn	0.000068	0.000000	No
			Ni	-0.000070	0.000000	No
			Co	0.000000	0.000000	No
Tl 190.856 {477}	☒	2	Fe	-0.000452	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cr	0.000884	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000207	0.000000	No
V 292.402 {115}	☒	5	Fe	0.000018	0.000000	No
			Cr	0.003071	0.000000	No
			Al	0.000000	0.000000	No
			Ti	0.000420	0.000000	No
			Mo	-0.003753	0.000000	No
Zn 206.200 {463}	☒	1	Fe	0.000026	0.000000	No
Zn 213.856 {457}	☒	9	Fe	0.000170	0.000000	No
			Cu	0.000000	0.000000	No
			Al	0.000000	0.000000	No
			Mn	0.000094	0.000000	No
			Ni	0.005870	0.000000	No
			Ti	-0.000307	0.000000	No
			Mg	0.000004	0.000000	No
			Mo	0.000851	0.000000	No
			Ca	0.000000	0.000000	No
Y 224.306 {450}*	☒	None				
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Na 589.592 { 57}	☒	1	Fe	-0.000003	0.000000	No
Si 251.611 {134}	☒	4	Fe	-0.000019	0.000000	No
			Mo	0.028793	0.000000	No
			Ti	0.028118	0.000000	No
			Sn	0.022103	0.000000	No
Ti 323.452 {104}	☒	6	Fe	0.000011	0.000000	No
			Ce	-0.000795	0.000000	No
			Mn	0.000074	0.000000	No
			Ni	0.000273	0.000000	No
			Cr	0.000125	0.000000	No
			V	0.000477	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000099	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000015	0.000000	No
Sr 421.552 { 80}	☒	2	Ca	0.000013	0.000000	No
			Al	0.000025	0.000000	No
Sn 189.989 {477}	☒	1	Fe	0.000034	0.000000	No
B 249.678 {135}	☒	1	Fe	-0.000029	0.000000	No
B 249.773 {135}	☒	1	Fe	0.001194	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000016	0.000000	No
K 766.490 { 44}	☒	1	Fe	-0.000191	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000201	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000011	0.000000	No
S 182.034 {485}	☒	2	Mn	0.002145	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
				Al	0.001210	0.000000	No
	Hg 184.950 {482}	☒	1	Fe	0.000009	0.000000	No
	Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

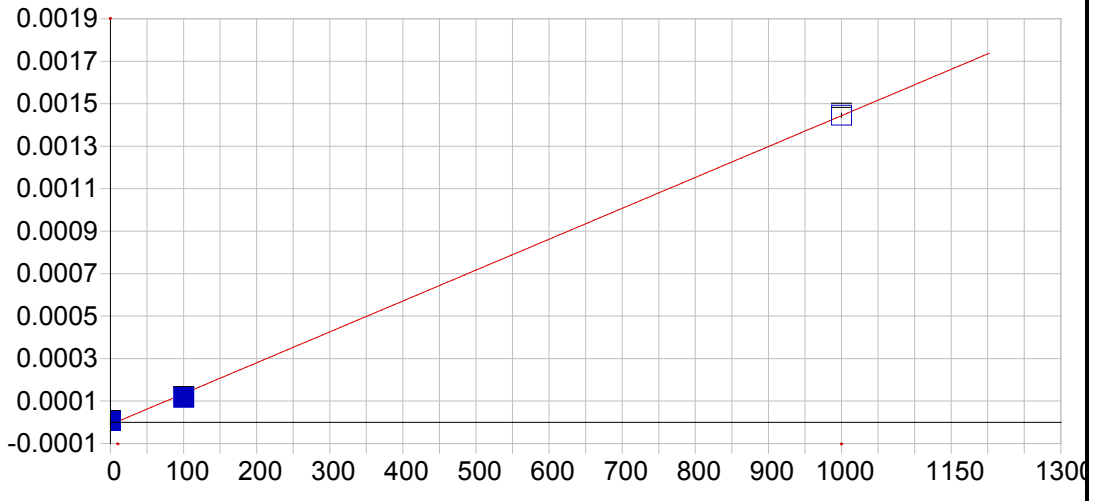


Ag 328.068 {103}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998052	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.667712		
Predicted MQL:	2.225708		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00051	.001	.000	-.00001	.000	1
CalStd5=10	10.000	10.903	.903	9.03	.00003	.000	1
CalStd8=100	100.00	99.689	-.311	-.311	.00032	.000	1
CalStd3=1	1.0000	.40768	-.592	-59.2	-.00001	.000	1
Ag Ba 1000,	1000.0	1353.5	354.	35.4	.00445	.000	0

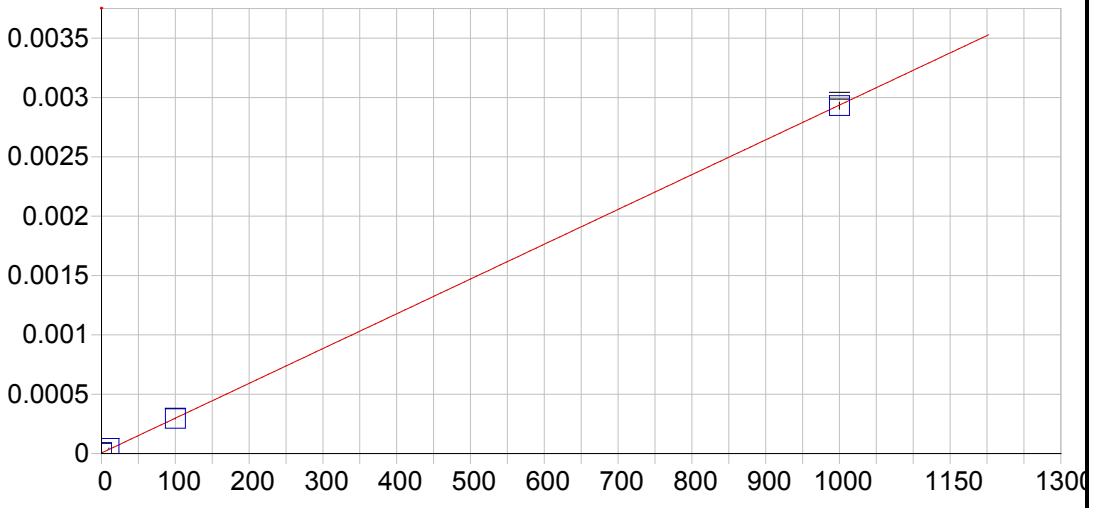


Ag 338.289 {100}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999765	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	2.611532		
Predicted MQL:	8.705107		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	11.267	11.3	.000	.00001	.000	1
CalStd8=100	100.00	87.479	-12.5	-12.5	.00012	.000	1
Ag Ba 1000,	1000.0	1001.3	1.25	.125	.00145	.000	1

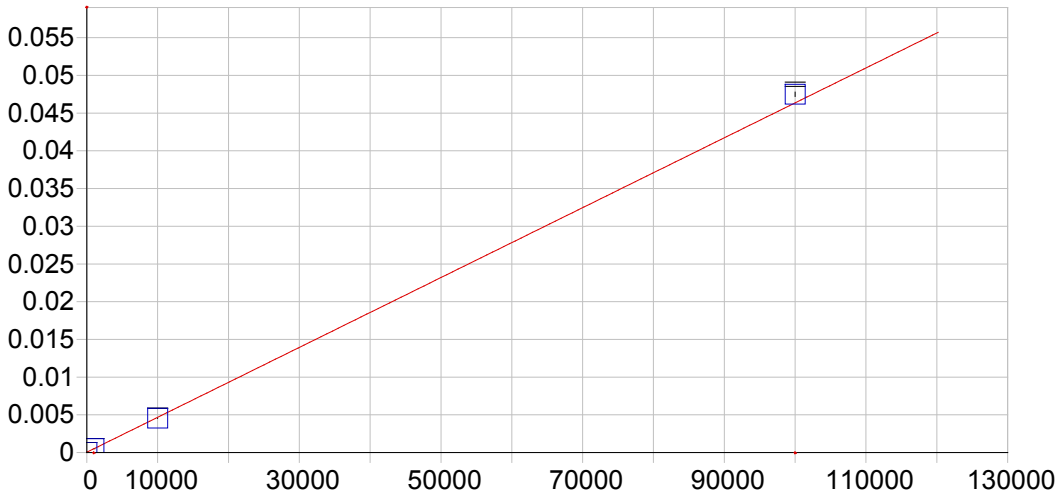


Al 167.079 {501}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999619	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.692734		
Predicted MQL:	2.309113		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00275	-.003	.000	.00000	.000	1
CalStd9=100	1000.0	998.23	-1.77	-.177	.00293	.000	1
CalStd5=10	10.000	12.882	2.88	28.8	.00004	.000	1
CalStd8=100	100.00	98.885	-1.11	-1.11	.00029	.000	1

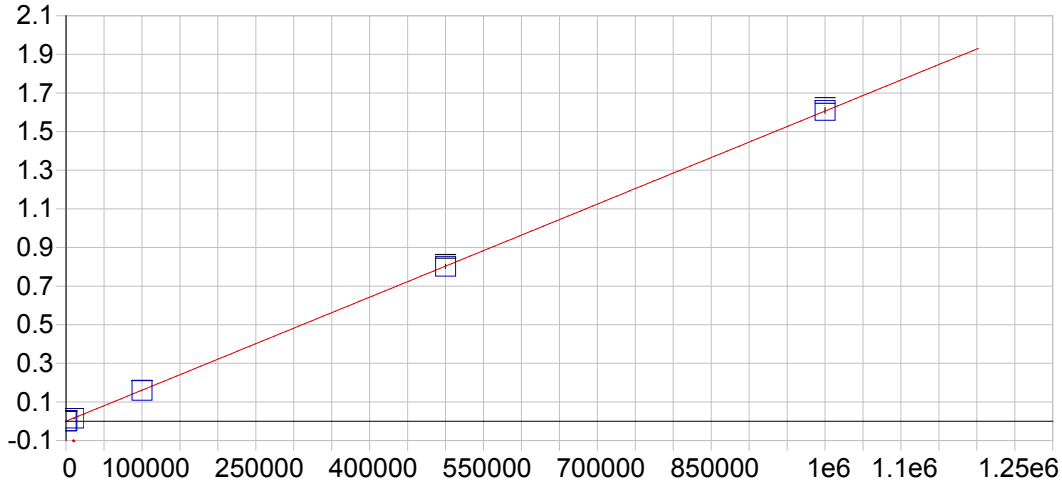


Al 308.215 {109}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999663	Status:	OK.
Std Error of Est:	0.000027		
Predicted MDL:	11.816176		
Predicted MQL:	39.387253		

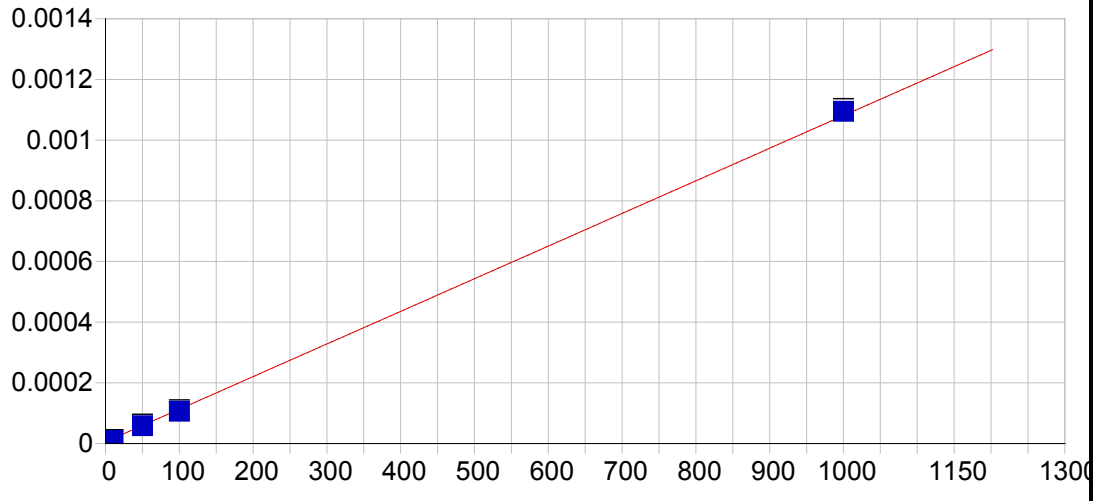
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.51512	.515	.000	.00004	.000	1
CalStd10=10	10000.	9716.0	-284.	-2.84	.00454	.000	1
CalStd9=100	1000.0	1006.2	6.20	.620	.00051	.000	1
CalStd13=10	100000.	102460.	2460.	2.46	.04750	.000	1



Al 396.152 { 85}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	-0.000050		Re-Slope:	1.000000	
A1 (Gain):	0.000002		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999994		Status:	OK.	
Std Error of Est:	0.000009				
Predicted MDL:	5.252206				
Predicted MQL:	17.507354				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00317	.003	.000	-.00005	.000	1
CalStd14=50	500000.	499420.	-579.	-.116	.80222	.009	1
CalStd13=10	100000.	99071.	-929.	-.929	.15910	.001	1
CalStd10=10	10000.	9754.1	-246.	-2.46	.01562	.000	1
CalStd9=100	1000.0	1030.1	30.1	3.01	.00161	.000	1
CalibStd15=	1000000.	1001700.	1720.	.172	1.6091	.014	1

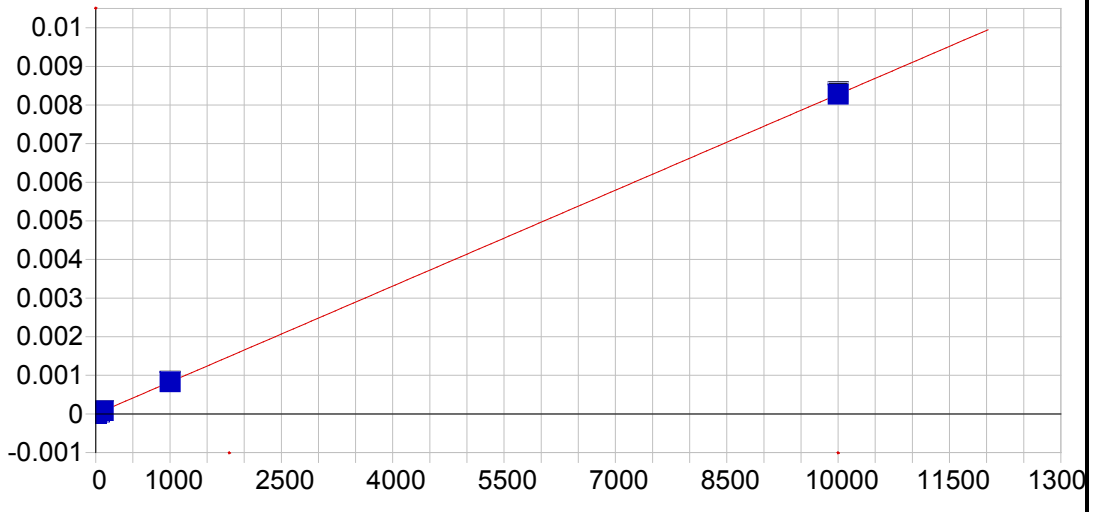


As 193.759 {474}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998453	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.959355		
Predicted MQL:	13.197851		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00619	.006	.000	.00001	.000	1
CalStd9=100	1000.0	1012.7	12.7	1.27	.00110	.000	1
CalStd7=50	50.000	49.092	-.908	-1.82	.00006	.000	1
CalStd5=10	10.000	4.4921	-5.51	-55.1	.00001	.000	1
CalStd8=100	100.00	93.739	-6.26	-6.26	.00011	.000	1

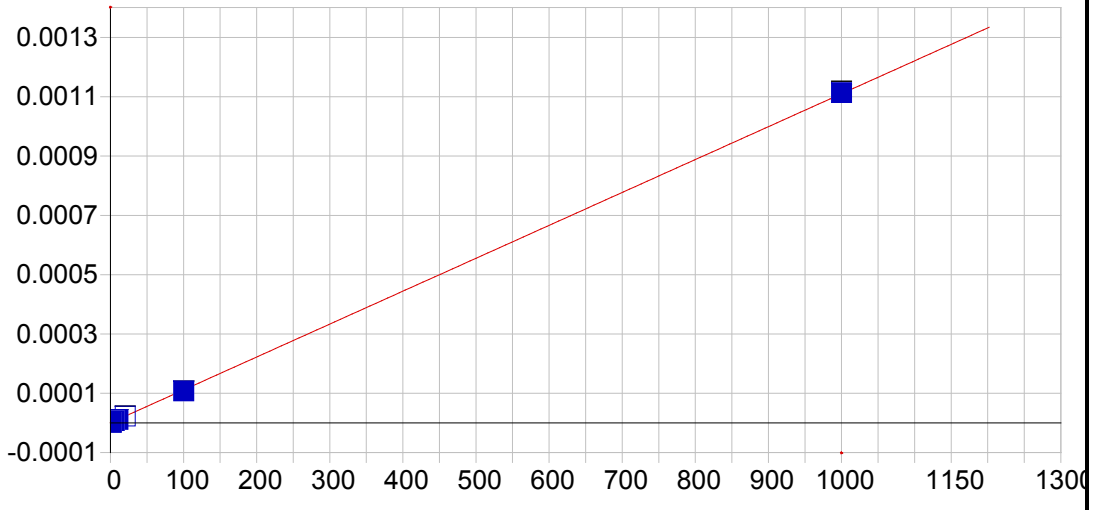


As 197.262 {471}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	4.594174		
Predicted MQL:	15.313914		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.05716	.057	.000	-.00000	.000	1
CalStd9=100	1000.0	1004.0	3.98	.398	.00083	.000	1
CalStd7=50	50.000	54.318	4.32	8.64	.00004	.000	1
CalStd5=10	10.000	10.116	.116	1.16	.00001	.000	1
CalStd8=100	100.00	94.169	-5.83	-5.83	.00008	.000	1
CalStd10=10	10000.	9999.9	-.149	-.001	.00833	.000	1

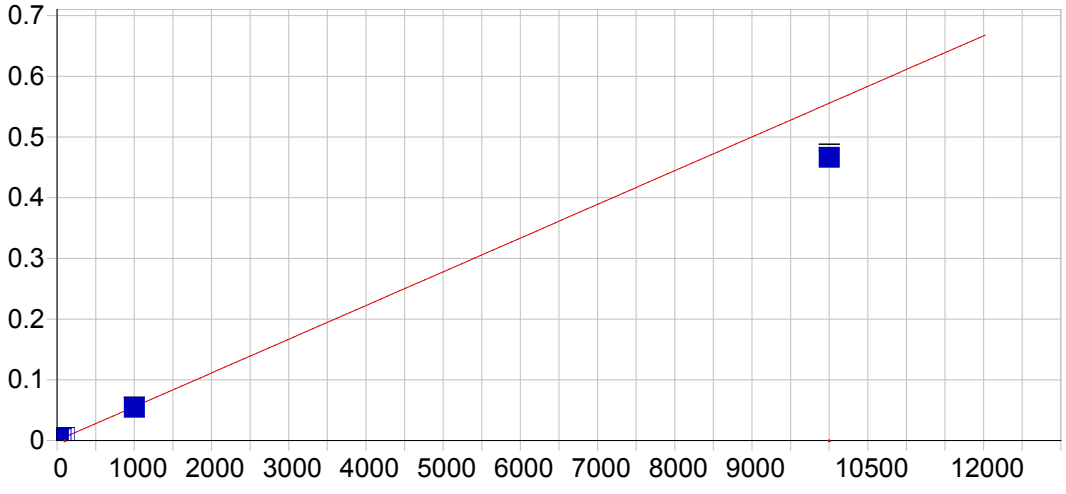


Ba 233.527 {445}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999880	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.362988		
Predicted MQL:	1.209959		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00016	.000	.000	.00000	.000	1
CalStd5=10	10.000	10.047	.047	.469	.00001	.000	1
CalStd6=20	20.000	20.134	.134	.670	.00002	.000	1
CalStd8=100	100.00	96.631	-3.37	-3.37	.00011	.000	1
CalStd4=5	5.0000	5.6291	.629	12.6	.00001	.000	1
CalStd9=100	1000.0	1002.8	2.82	.282	.00111	.000	1
CalStd3=1	1.0000	.73492	-.265	-26.5	.00000	.000	1

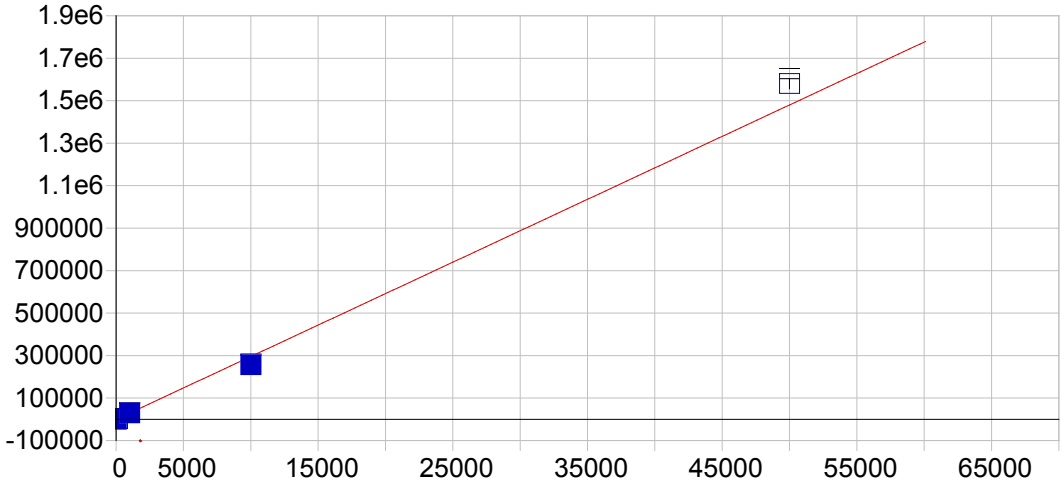


Ba 455.403 { 74}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000185	Re-Slope:	1.000000
A1 (Gain):	0.000056	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.996856	Status:	OK.
Std Error of Est:	0.000074		
Predicted MDL:	0.139964		
Predicted MQL:	0.466546		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.36319	-.363	.000	.00016	.000	1
CalStd7=50	50.000	53.843	3.84	7.69	.00318	.000	1
CalStd5=10	10.000	9.7597	-.240	-2.40	.00073	.000	1
CalStd6=20	20.000	19.794	-.206	-1.03	.00128	.000	1
CalStd8=100	100.00	96.422	-3.58	-3.58	.00554	.000	1
CalStd4=5	5.0000	5.2818	.282	5.64	.00048	.000	1
CalStd9=100	1000.0	980.36	-19.6	-1.96	.05465	.000	1
CalStd3=1	1.0000	.73147	-.269	-26.9	.00023	.000	1
CalStd10=10	10000.	8393.4	-1610.	-16.1	.46644	.005	1

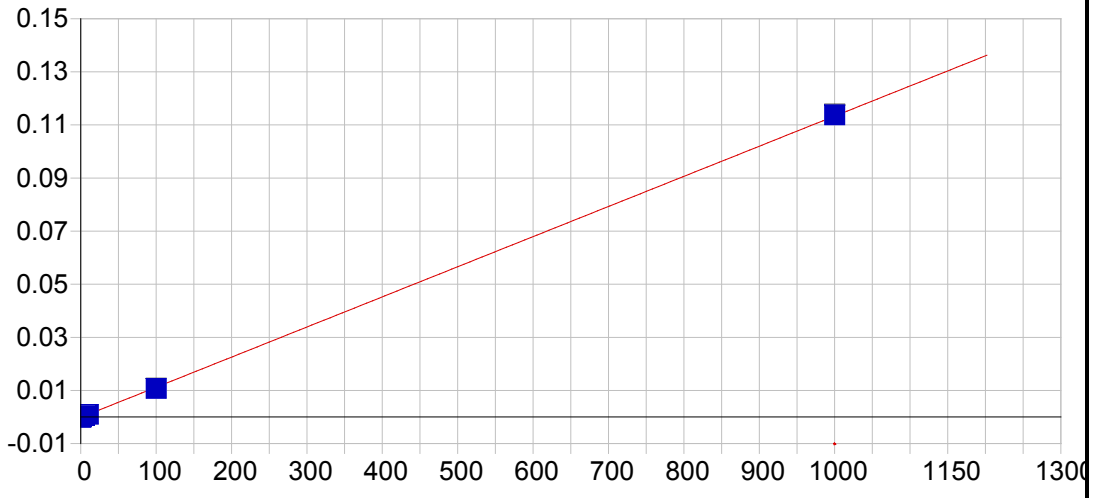


Ba 493.409 { 68}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-358.296710	Re-Slope:	1.000000
A1 (Gain):	29.604105	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999003	Status:	OK.
Std Error of Est:	211.357476		
Predicted MDL:	0.402646		
Predicted MQL:	1.342153		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.1192	1.12	.000	-325.17	13.5	1
CalStd9=100	1000.0	1017.7	17.7	1.77	29774.	79.8	1
CalStd8=100	100.00	98.717	-1.28	-1.28	2564.1	12.2	1
CalStd10=10	10000.	8683.1	-1320.	-13.2	256730.	2440.	1
Ag Ba 1000,	50000.	53398.	3400.	6.80	1580400.	24000.	1

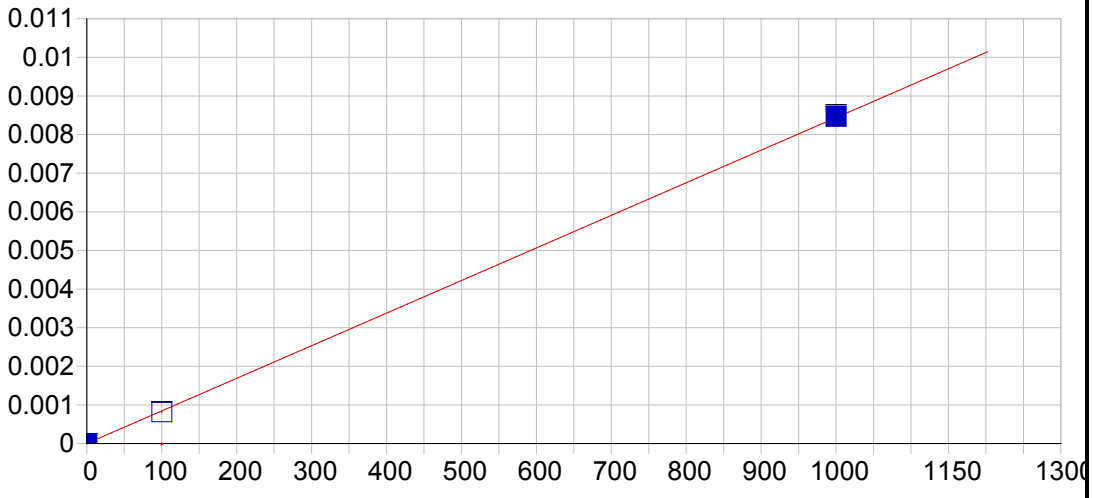


Be 313.042 {108}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000154	Re-Slope:	1.000000
A1 (Gain):	0.000113	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999892	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.024793		
Predicted MQL:	0.082642		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00001	.000	.000	-.00015	.000	1
CalStd5=10	10.000	9.9420	-.058	-.580	.00097	.000	1
CalStd8=100	100.00	95.805	-4.20	-4.20	.01072	.000	1
CalStd2=0.5	.50000	.44372	-.056	-11.3	-.00010	.000	1
CalStd4=5	5.0000	5.4564	.456	9.13	.00047	.000	1
CalStd9=100	1000.0	1003.8	3.81	.381	.11377	.000	1
CalStd3=1	1.0000	1.0445	.045	4.45	-.00004	.000	1

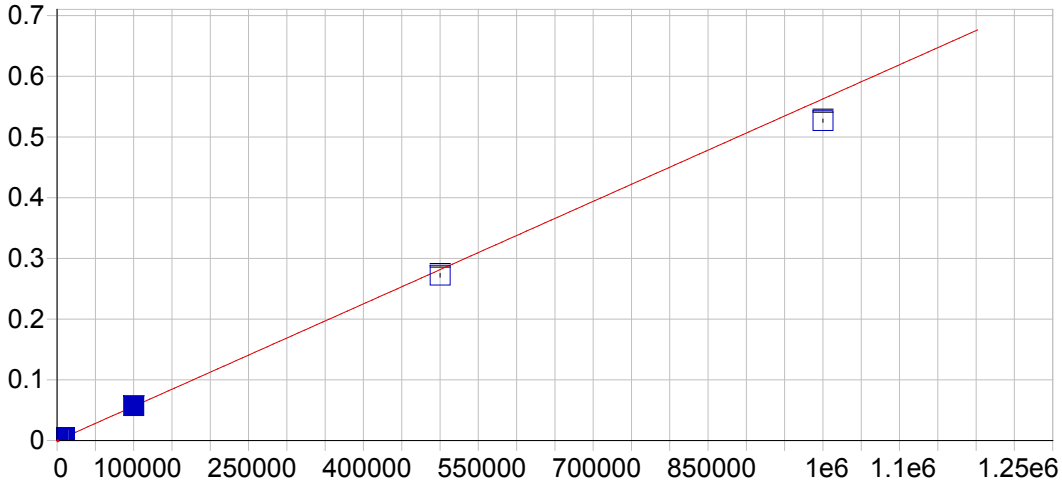


Be 234.861 {144}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999950	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.161034		
Predicted MQL:	0.536781		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00284	.003	.000	.00000	.000	1
CalStd9=100	1000.0	1003.2	3.16	.316	.00847	.000	1
CalStd8=100	100.00	96.843	-3.16	-3.16	.00082	.000	1

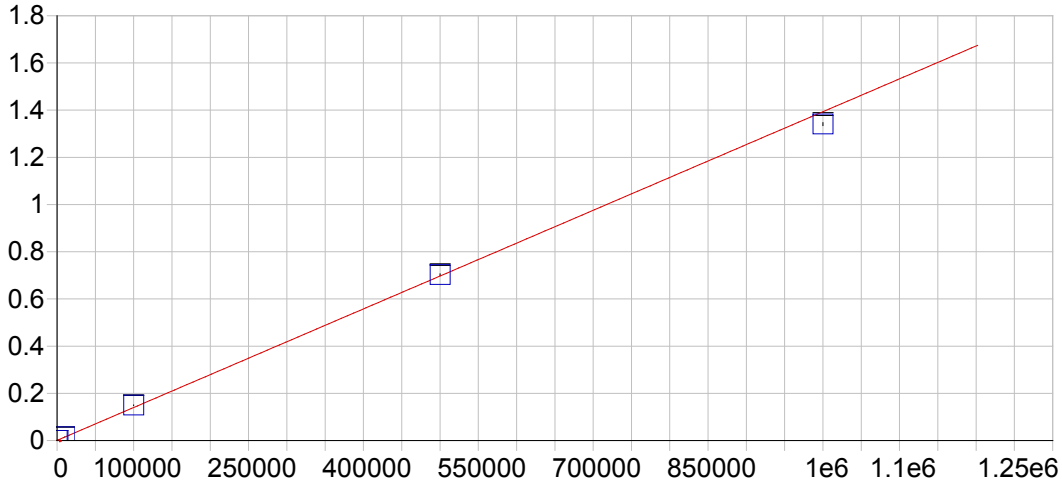


Ca 315.887 {107}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000058	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	3.671033		
Predicted MQL:	12.236777		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.11892	-.119	.000	.00006	.000	1
CalStd10=10	10000.	9806.8	-193.	-1.93	.00558	.000	1
CalStd13=10	100000.	101480.	1480.	1.48	.05716	.000	1
CalStd14=50	500000.	483540.	-16500.	-3.29	.27214	.003	1
CalStd9=100	1000.0	1008.3	8.34	.834	.00063	.000	1
CalibStd15=	1000000.	936090.	-63900.	-6.39	.52678	.002	1

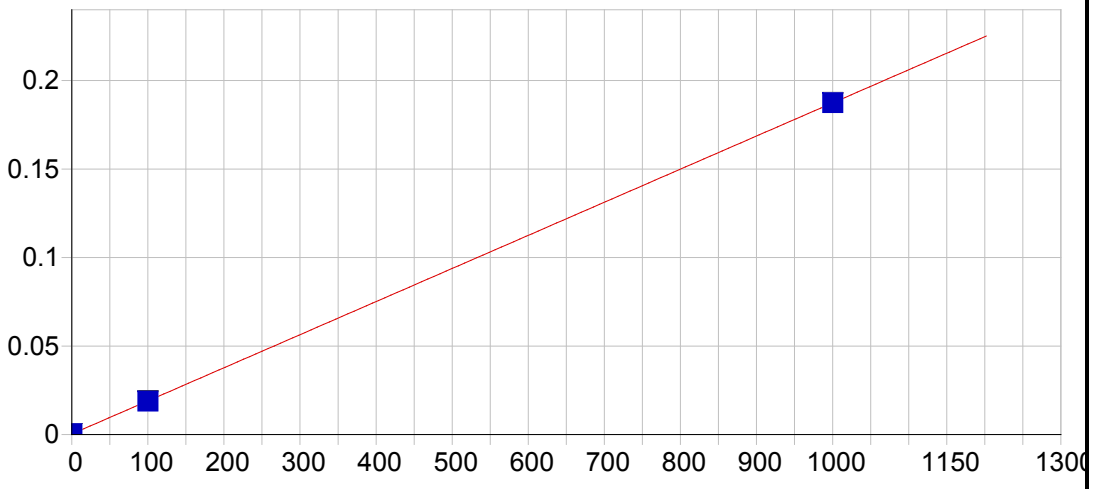


Ca 317.933 {106}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000800	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999328	Status:	OK.
Std Error of Est:	0.000186		
Predicted MDL:	1.917527		
Predicted MQL:	6.391756		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-11.712	-11.7	.000	.00078	.000	1
CalStd10=10	10000.	10374.	374.	3.74	.01525	.000	1
CalStd13=10	100000.	106890.	6890.	6.89	.14965	.001	1
CalStd14=50	500000.	504090.	4090.	.818	.70278	.003	1
CalStd9=100	1000.0	1013.6	13.6	1.36	.00221	.000	1
CalibStd15=	1000000.	962240.	-37800.	-3.78	1.3408	.006	1

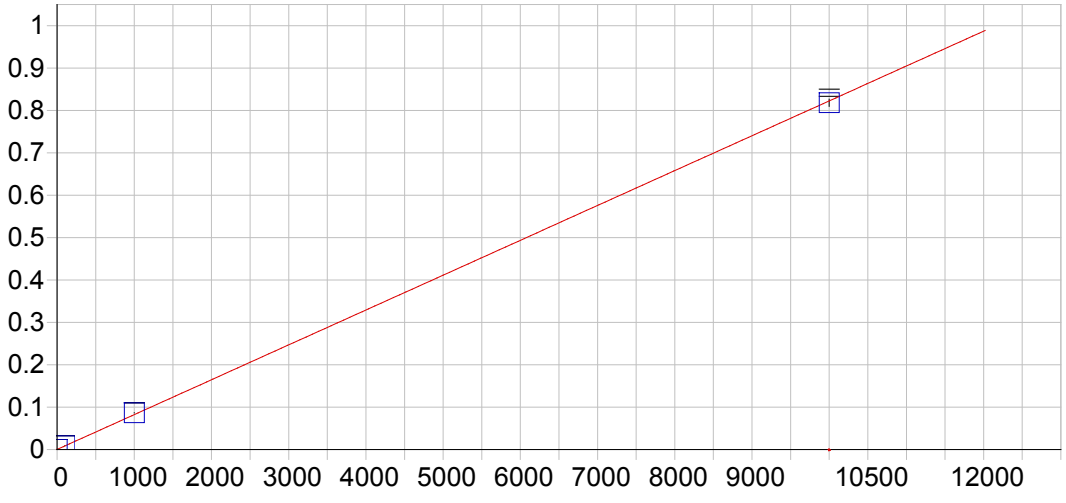


Ca 393.366 { 86}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000291	Re-Slope:	1.000000
A1 (Gain):	0.000187	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000268		
Predicted MDL:	0.030709		
Predicted MQL:	0.102365		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.95400	.954	.000	.00047	.000	1
CalStd9=100	1000.0	1000.1	.106	.011	.18739	.000	1
CalStd8=100	100.00	98.940	-1.06	-1.06	.01880	.000	1

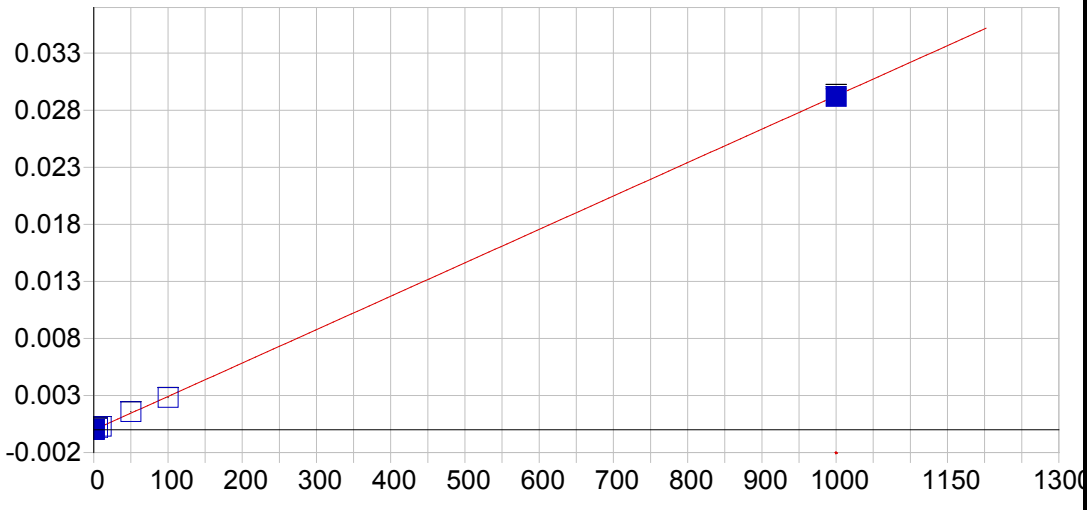


Ca 396.847 { 85}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000217	Re-Slope:	1.000000
A1 (Gain):	0.000082	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999865	Status:	OK.
Std Error of Est:	0.000064		
Predicted MDL:	0.070446		
Predicted MQL:	0.234820		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00907	-.009	.000	.00022	.000	1
CalStd10=10	10000.	9945.6	-54.4	-.544	.81815	.008	1
CalStd8=100	100.00	104.64	4.64	4.64	.00882	.000	1
CalStd9=100	1000.0	1049.8	49.8	4.98	.08655	.000	1

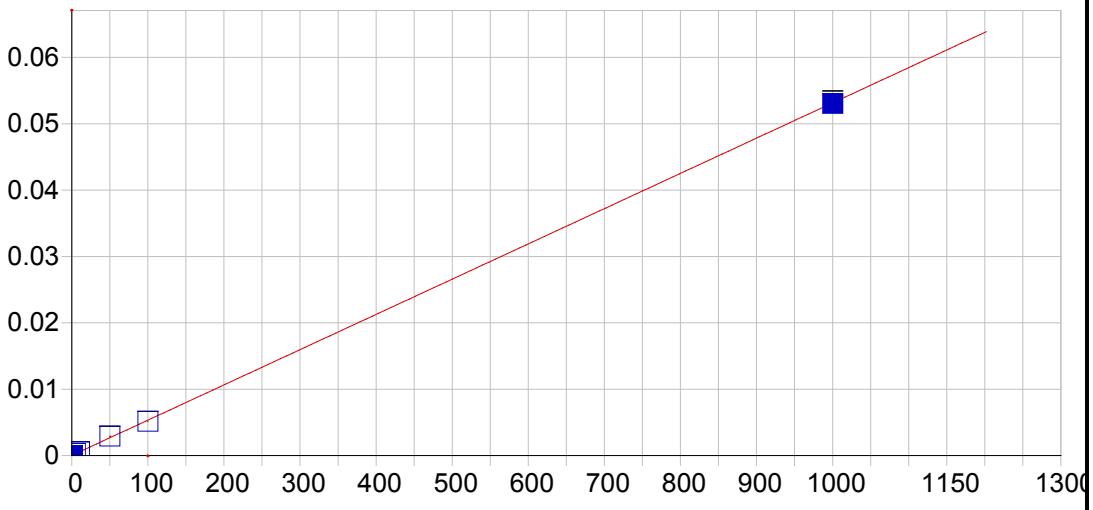


Cd 226.502 {449}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000029	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999713	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.189646		
Predicted MQL:	0.632154		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00036	-.000	.000	-.00002	.000	1
CalStd7=50	50.000	54.329	4.33	8.66	.00158	.000	1
CalStd3=1	1.0000	1.1460	.146	14.6	.00002	.000	1
CalStd2=0.5	.50000	.66870	.169	33.7	.00000	.000	1
CalStd4=5	5.0000	5.6565	.656	13.1	.00015	.000	1
CalStd8=100	100.00	96.888	-3.11	-3.11	.00282	.000	1
CalStd5=10	10.000	10.503	.503	5.03	.00029	.000	1
CalStd9=100	1000.0	997.31	-2.69	-.269	.02919	.000	1

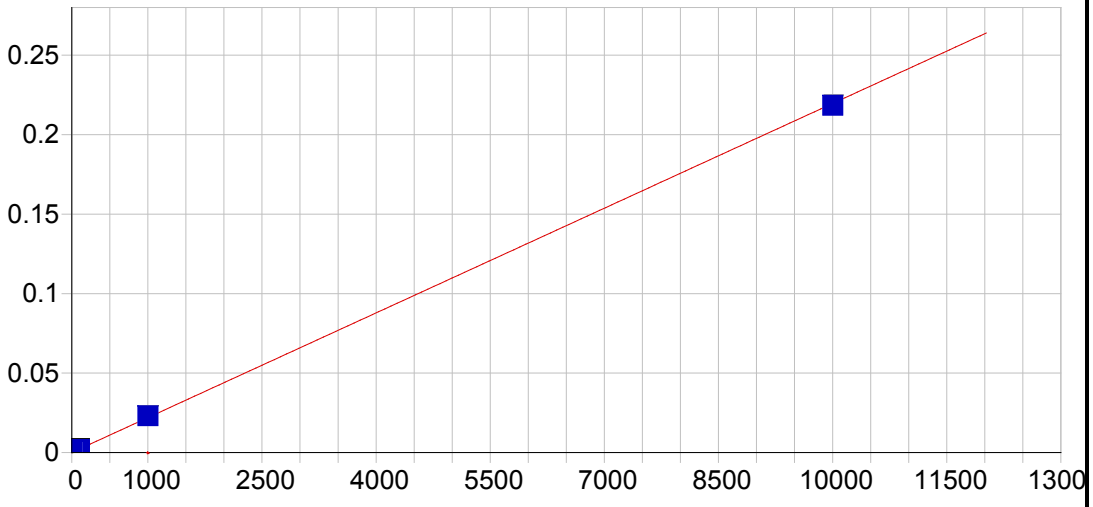


Cd 228.802 {447}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000019	Re-Slope:	1.000000
A1 (Gain):	0.000053	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999744	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.133874		
Predicted MQL:	0.446246		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00017	-.000	.000	.00002	.000	1
CalStd7=50	50.000	54.357	4.36	8.71	.00291	.000	1
CalStd3=1	1.0000	1.1095	.110	11.0	.00008	.000	1
CalStd2=0.5	.50000	.52188	.022	4.38	.00005	.000	1
CalStd4=5	5.0000	5.6303	.630	12.6	.00032	.000	1
CalStd8=100	100.00	96.541	-3.46	-3.46	.00515	.000	1
CalStd5=10	10.000	10.177	.177	1.77	.00056	.000	1
CalStd9=100	1000.0	998.16	-1.84	-.184	.05304	.000	1

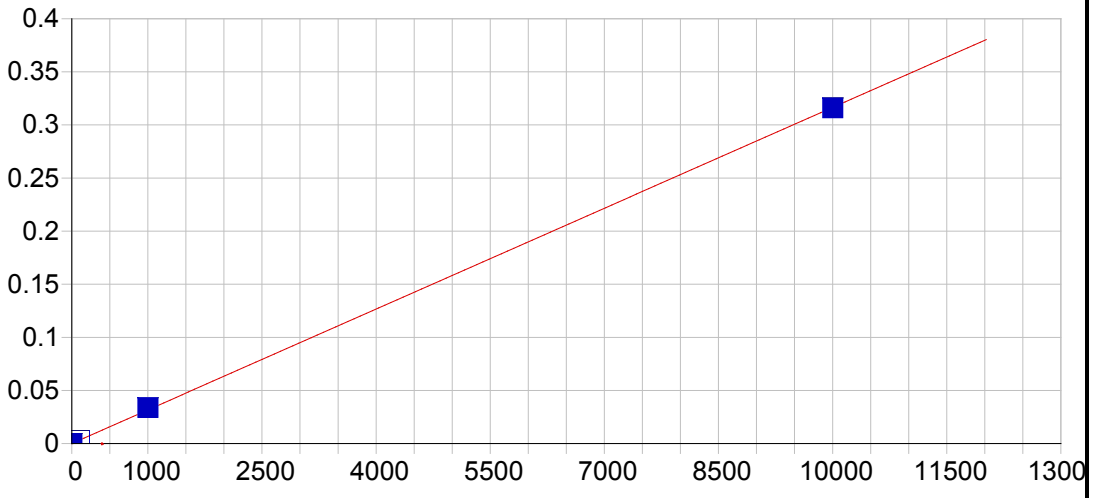


Co 228.616 {447}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999826	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.260512		
Predicted MQL:	0.868374		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00033	-.000	.000	.00001	.000	1
CalStd7=50	50.000	56.724	6.72	13.4	.00126	.000	1
CalStd5=10	10.000	10.272	.272	2.72	.00024	.000	1
CalStd4=5	5.0000	5.9565	.957	19.1	.00014	.000	1
CalStd8=100	100.00	101.87	1.87	1.87	.00225	.000	1
CalStd9=100	1000.0	1049.2	49.2	4.92	.02307	.000	1
CalStd3=1	1.0000	.91634	-.084	-8.37	.00003	.000	1
CalStd10=10	10000.	9941.1	-58.9	-.589	.21870	.000	1

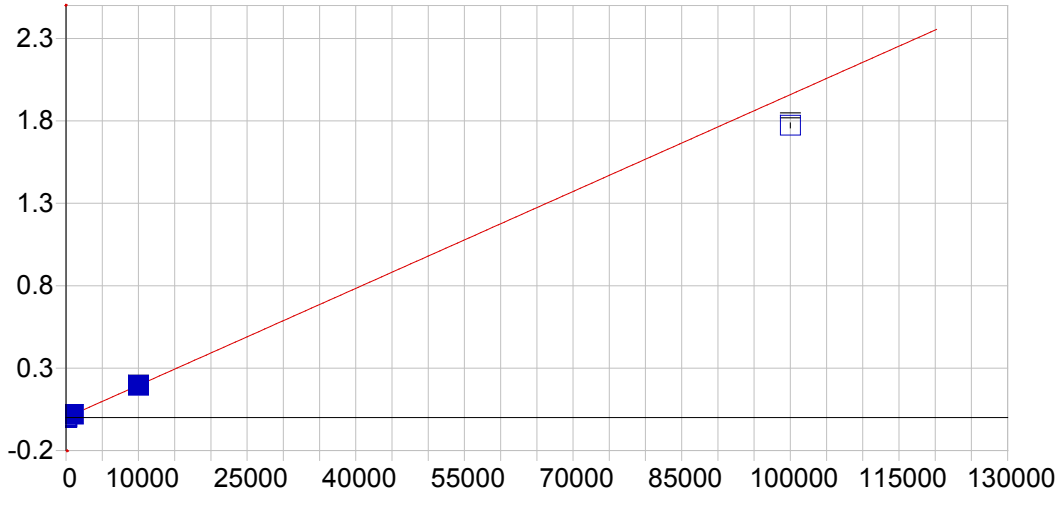


Co 238.892 {141}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000036	Re-Slope:	1.000000
A1 (Gain):	0.000032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999945	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	0.483911		
Predicted MQL:	1.613037		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02182	-.022	.000	.00004	.000	1
CalStd9=100	1000.0	1065.5	65.5	6.55	.03376	.000	1
CalStd10=10	10000.	9982.1	-17.9	-.179	.31599	.000	1
CalStd8=100	100.00	103.79	3.79	3.79	.00332	.000	1

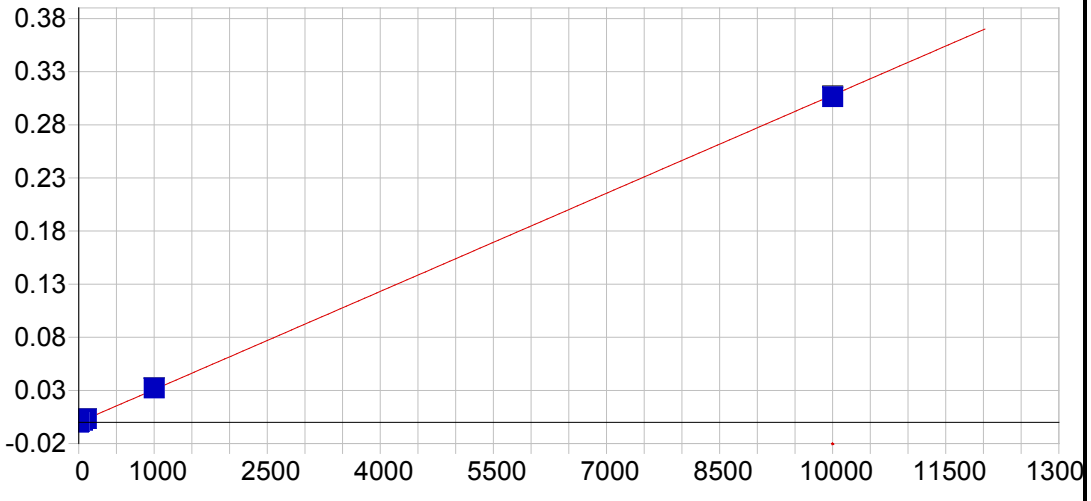


Cr 205.560 {464}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999485	Status:	OK.
Std Error of Est:	0.000030		
Predicted MDL:	0.230450		
Predicted MQL:	0.768167		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.94275	-.943	.000	-.00001	.000	1
CalStd5=10	10.000	10.156	.156	1.56	.00021	.000	1
CalStd7=50	50.000	55.693	5.69	11.4	.00110	.000	1
CalStd9=100	1000.0	1047.3	47.3	4.73	.02053	.000	1
CalStd8=100	100.00	100.59	.592	.592	.00198	.000	1
CalStd4=5	5.0000	5.6124	.612	12.2	.00012	.000	1
CalStd3=1	1.0000	.76472	-.235	-23.5	.00003	.000	1
CalStd10=10	10000.	9958.0	-42.0	-.420	.19513	.000	1
CalStd12=10	100000.	90461.	-9540.	-9.54	1.7726	.015	1

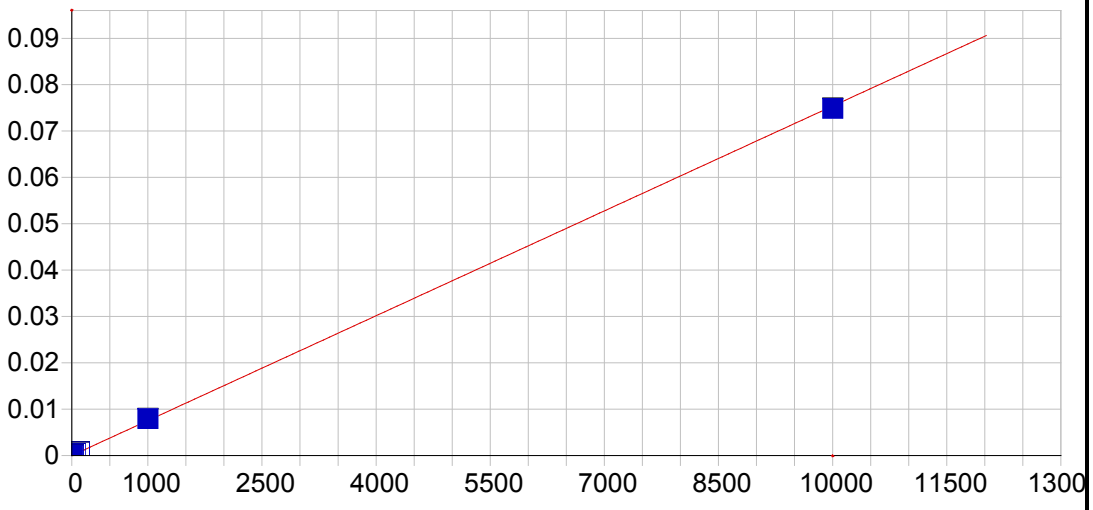


Cr 267.716 {126}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000031	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999833	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.530650		
Predicted MQL:	1.768833		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00313	-.003	.000	-.00001	.000	1
CalStd5=10	10.000	11.179	1.18	11.8	.00033	.000	1
CalStd7=50	50.000	56.584	6.58	13.2	.00173	.000	1
CalStd9=100	1000.0	1043.3	43.3	4.33	.03212	.000	1
CalStd8=100	100.00	101.12	1.12	1.12	.00310	.000	1
CalStd4=5	5.0000	6.6391	1.64	32.8	.00019	.000	1
CalStd10=10	10000.	9946.2	-53.8	-.538	.30636	.001	1

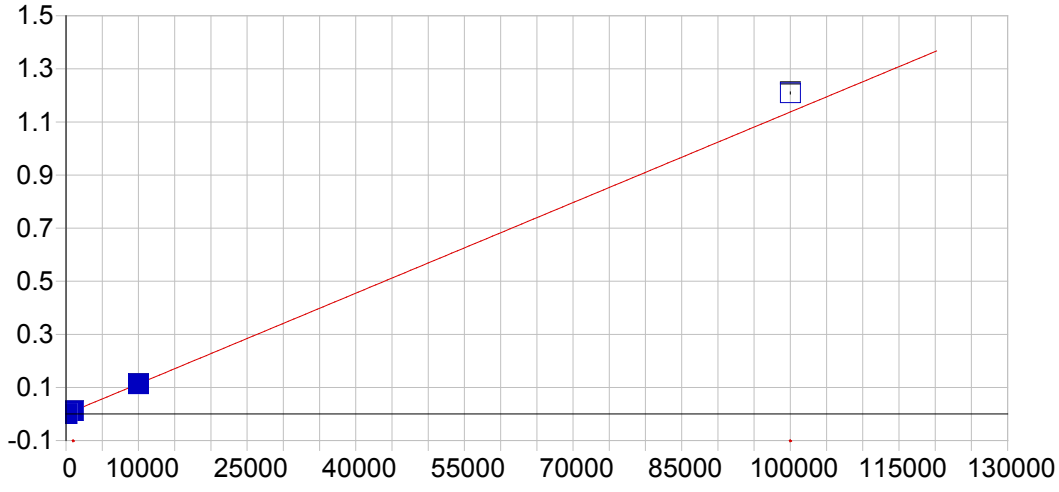


Cu 223.008 {451}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999746	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.846224		
Predicted MQL:	2.820745		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00591	-.006	.000	.00000	.000	1
CalStd9=100	1000.0	1052.5	52.5	5.25	.00794	.000	1
CalStd7=50	50.000	58.890	8.89	17.8	.00045	.000	1
CalStd8=100	100.00	103.01	3.01	3.01	.00078	.000	1
CalStd6=20	20.000	22.591	2.59	13.0	.00017	.000	1
CalStd10=10	10000.	9930.9	-69.1	-.691	.07486	.000	1
CalStd5=10	10.000	12.082	2.08	20.8	.00009	.000	1

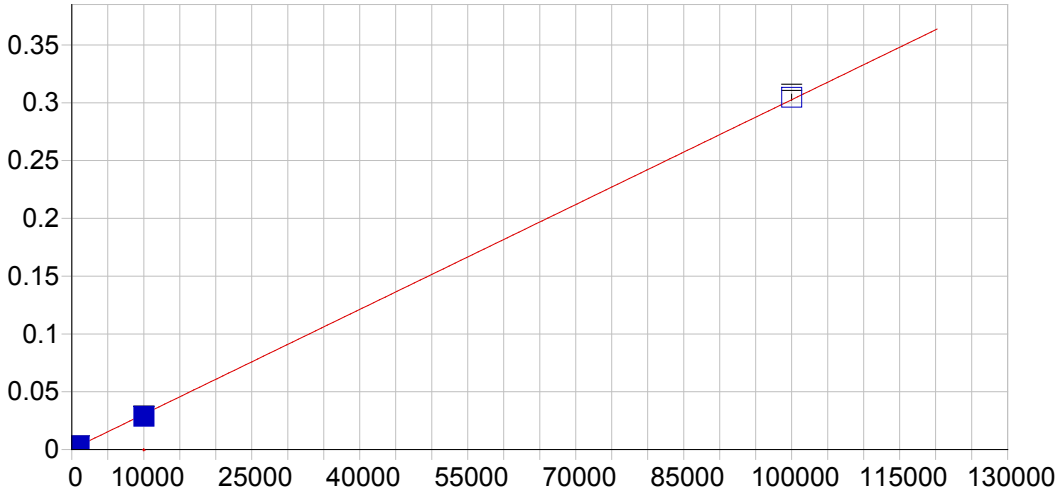


Cu 224.700 {450}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000101	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999418	Status:	OK.
Std Error of Est:	0.000122		
Predicted MDL:	0.410789		
Predicted MQL:	1.369295		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	8.8435	8.84	.000	-.00000	.000	1
CalStd9=100	1000.0	1053.7	53.7	5.37	.01181	.000	1
CalStd7=50	50.000	42.030	-7.97	-15.9	.00038	.000	1
CalStd8=100	100.00	83.657	-16.3	-16.3	.00084	.000	1
CalStd6=20	20.000	15.401	-4.60	-23.0	.00007	.000	1
CalStd12=10	100000.	106300.	6300.	6.30	1.2093	.004	1
CalStd10=10	10000.	9982.2	-17.8	-.178	.11267	.000	1

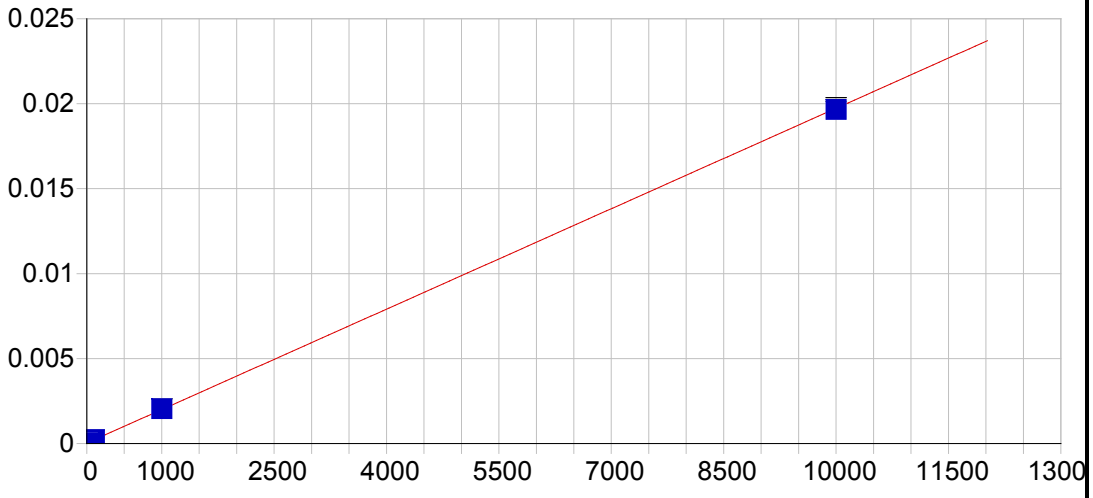


Cu 324.754 {104}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000261	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999789	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.324496		
Predicted MQL:	4.414987		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00842	.008	.000	.00026	.000	1
CalStd9=100	1000.0	956.77	-43.2	-4.32	.00315	.000	1
CalStd8=100	100.00	91.817	-8.18	-8.18	.00054	.000	1
CalStd10=10	10000.	9392.3	-608.	-6.08	.02866	.000	1
CalStd12=10	100000.	100670.	670.	.670	.30468	.003	1
CalStd5=10	10.000	6.8345	-3.17	-31.7	.00028	.000	1
CalStd6=20	20.000	13.630	-6.37	-31.9	.00030	.000	1
CalStd7=50	50.000	48.589	-1.41	-2.82	.00041	.000	1

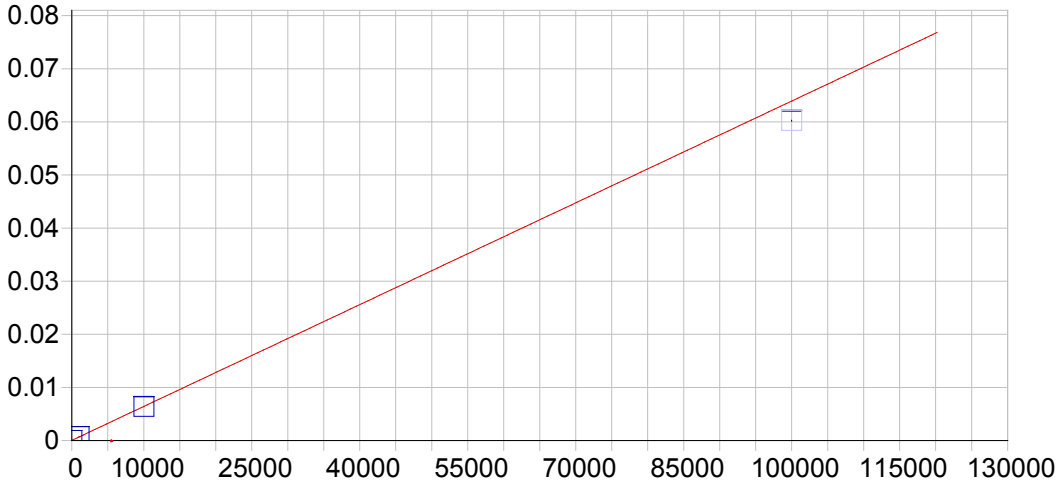


Cu 327.396 {103}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999879	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.000539		
Predicted MQL:	10.001798		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00265	-.003	.000	.00003	.000	1
CalStd6=20	20.000	21.460	1.46	7.30	.00007	.000	1
CalStd7=50	50.000	58.515	8.52	17.0	.00014	.000	1
CalStd8=100	100.00	101.49	1.49	1.49	.00023	.000	1
CalStd9=100	1000.0	1024.9	24.9	2.49	.00205	.000	1
CalStd10=10	10000.	9961.5	-38.5	-.385	.01965	.000	1
CalStd4=5	5.0000	5.3610	.361	7.22	.00004	.000	1
CalStd5=10	10.000	11.795	1.79	17.9	.00005	.000	1

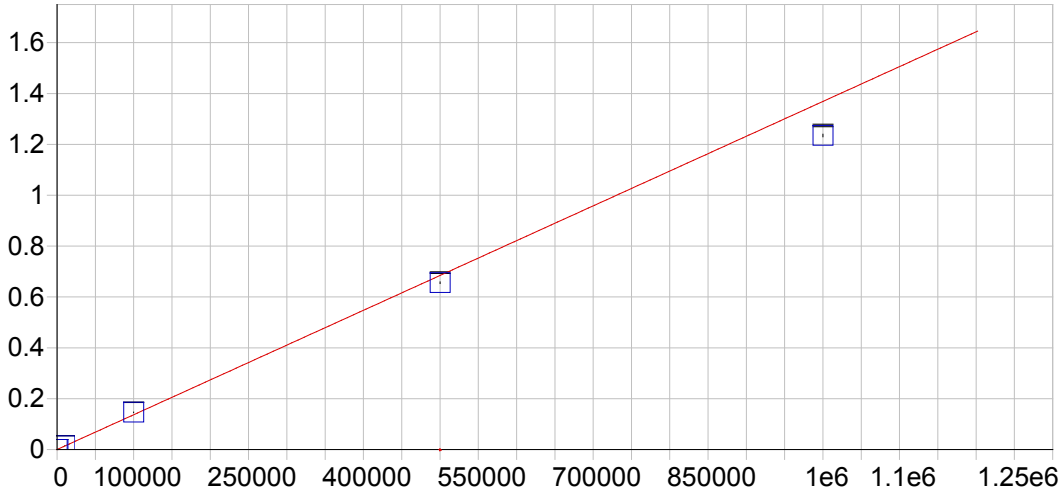


Fe 234.349 {144}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000032	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999817	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.142602		
Predicted MQL:	3.808674		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.05441	-.054	.000	.00003	.000	1
CalStd10=10	10000.	9939.5	-60.5	-.605	.00638	.000	1
CalStd13=10	100000.	94219.	-5780.	-5.78	.06023	.000	0
CalStd9=100	1000.0	1060.5	60.5	6.05	.00071	.000	1

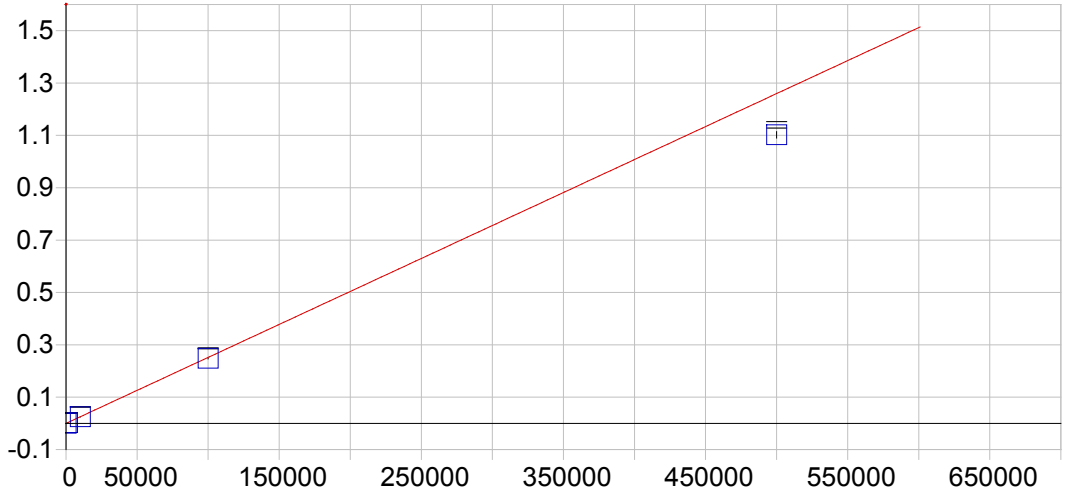


Fe 239.562 {140}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.995961	Status:	OK.
Std Error of Est:	0.000052		
Predicted MDL:	1.628793		
Predicted MQL:	5.429310		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.0095	-4.01	.000	.00000	.000	1
CalStd10=10	10000.	10723.	723.	7.23	.01468	.000	1
CalStd13=10	100000.	106900.	6900.	6.90	.14634	.001	1
CalStd14=50	500000.	479150.	-20900.	-4.17	.65590	.003	1
CalStd9=100	1000.0	1108.7	109.	10.9	.00152	.000	1
CalibStd15=	1000000.	902110.	-97900.	-9.79	1.2349	.005	1

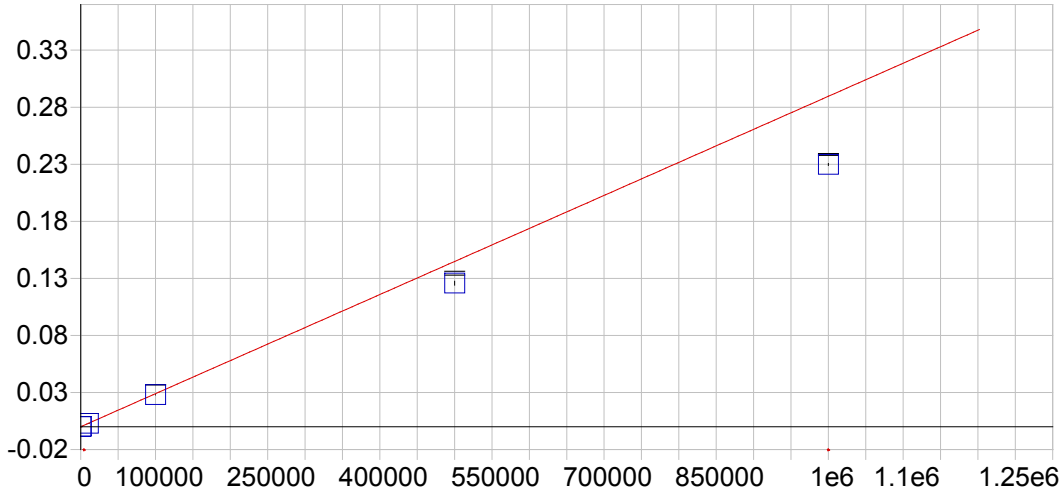


Fe 259.940 {129}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999642	Status:	OK.
Std Error of Est:	0.000048		
Predicted MDL:	1.038735		
Predicted MQL:	3.462450		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.4391	-4.44	.000	.00000	.000	1
CalStd10=10	10000.	9763.4	-237.	-2.37	.02461	.000	1
CalStd13=10	100000.	98593.	-1410.	-1.41	.24841	.002	1
CalStd14=50	500000.	437490.	-62500.	-12.5	1.1022	.012	1
CalStd9=100	1000.0	1004.4	4.40	.440	.00254	.000	1

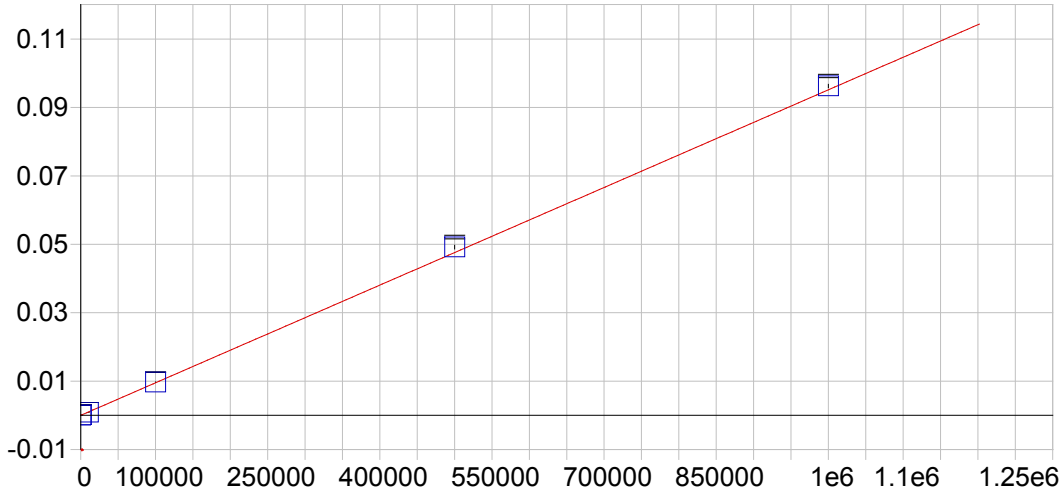


Mg 202.582 {466}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999425	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	2.035489		
Predicted MQL:	6.784964		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.2028	-1.20	.000	-.00000	.000	1
CalStd13=10	100000.	96633.	-3370.	-3.37	.02798	.000	1
CalStd10=10	10000.	9927.4	-72.6	-.726	.00287	.000	1
CalStd14=50	500000.	434380.	-65600.	-13.1	.12579	.002	1
CalStd9=100	1000.0	1151.3	151.	15.1	.00033	.000	1
CalibStd15=	1000000.	793610.	-206000.	-20.6	.22981	.001	1

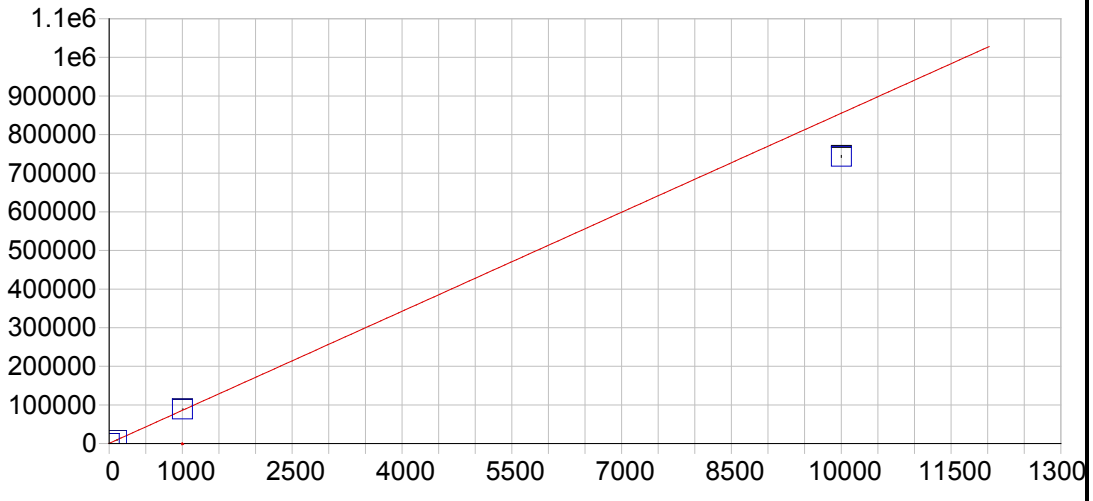


Mg 279.079 {121}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999508	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	13.740125		
Predicted MQL:	45.800416		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	32.152	32.2	.000	-.00000	.000	1
CalStd13=10	100000.	101850.	1850.	1.85	.00969	.000	1
CalStd10=10	10000.	9439.3	-561.	-5.61	.00089	.000	1
CalStd14=50	500000.	516850.	16900.	3.37	.04918	.001	1
CalStd9=100	1000.0	999.23	-.773	-.077	.00009	.000	1
CalibStd15=	1000000.	1011700.	11700.	1.17	.09628	.000	1

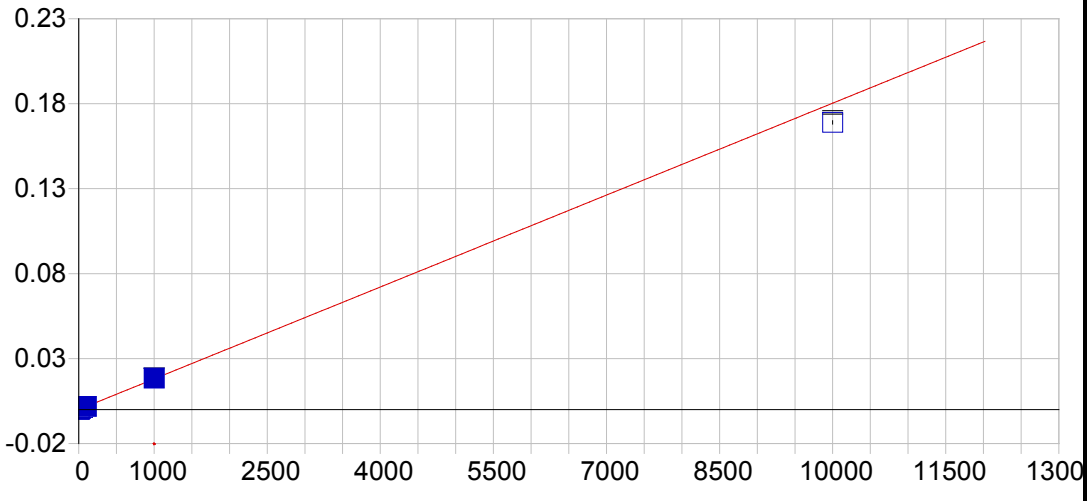


Mg 280.270 {120}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	470.046874	Re-Slope:	1.000000
A1 (Gain):	85.489044	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997824	Status:	OK.
Std Error of Est:	634.258707		
Predicted MDL:	0.022360		
Predicted MQL:	0.074533		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.16534	-.165	.000	455.91	9.20	1
CalStd9=100	1000.0	1037.0	37.0	3.70	89120.	133.	1
CalStd10=10	10000.	8689.7	-1310.	-13.1	743340.	2490.	1
CalStd8=100	100.00	100.06	.058	.058	9023.9	31.3	1

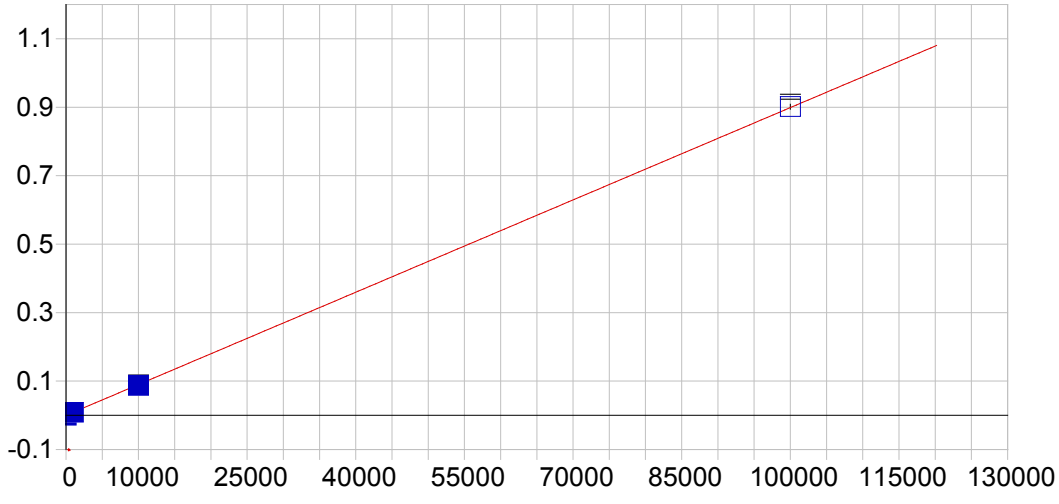


Mn 257.610 {131}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999309	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.060889		
Predicted MQL:	0.202962		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.49120	-.491	.000	-.00000	.000	1
CalStd5=10	10.000	9.9978	-.002	-.022	.00019	.000	1
CalStd7=50	50.000	55.332	5.33	10.7	.00101	.000	1
CalStd6=20	20.000	20.356	.356	1.78	.00038	.000	1
CalStd8=100	100.00	99.226	-.774	-.774	.00180	.000	1
CalStd4=5	5.0000	5.4505	.450	9.01	.00011	.000	1
CalStd9=100	1000.0	1020.8	20.8	2.08	.01841	.000	1
CalStd10=10	10000.	9372.6	-627.	-6.27	.16899	.001	1

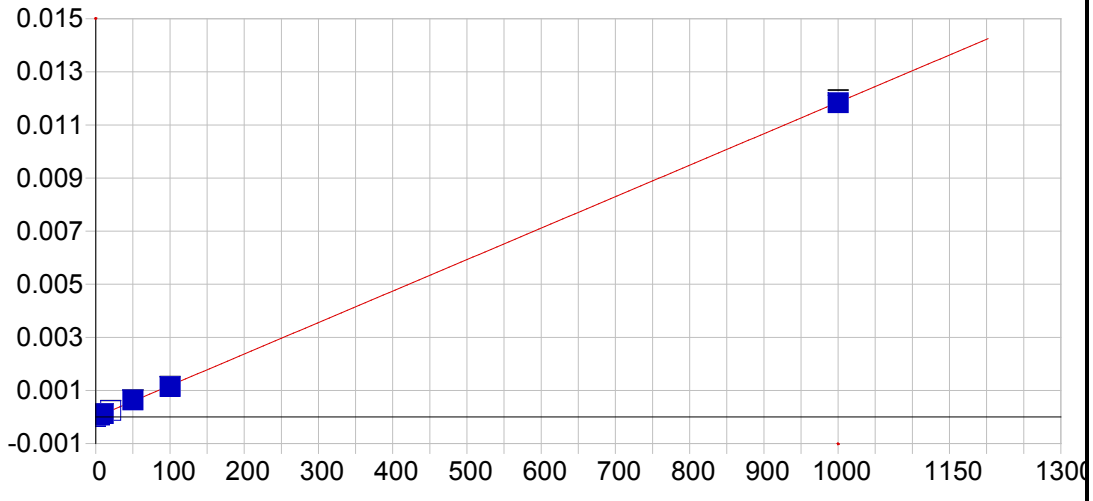


Mn 259.373 {130}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999957	Status:	OK.
Std Error of Est:	0.000039		
Predicted MDL:	0.273793		
Predicted MQL:	0.912642		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01939	.019	.000	.00000	.000	1
CalStd10=10	10000.	9704.4	-296.	-2.96	.08735	.001	1
CalStd9=100	1000.0	1007.3	7.29	.729	.00907	.000	1
CalStd12=10	100000.	100290.	289.	.289	.90146	.007	1

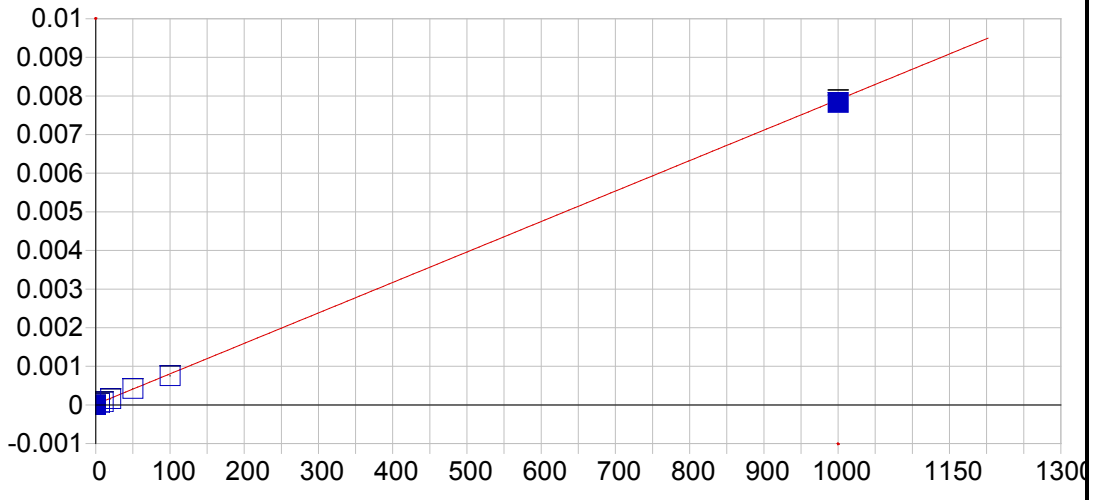


Mo 202.030 {466}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999753	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.352195		
Predicted MQL:	1.173985		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00136	-.001	.000	.00000	.000	1
CalStd7=50	50.000	53.728	3.73	7.46	.00064	.000	1
CalStd6=20	20.000	20.486	.486	2.43	.00024	.000	1
CalStd5=10	10.000	10.269	.269	2.69	.00012	.000	1
CalStd8=100	100.00	96.516	-3.48	-3.48	.00115	.000	1
CalStd4=5	5.0000	5.9103	.910	18.2	.00007	.000	1
CalStd9=100	1000.0	998.09	-1.91	-.191	.01185	.000	1

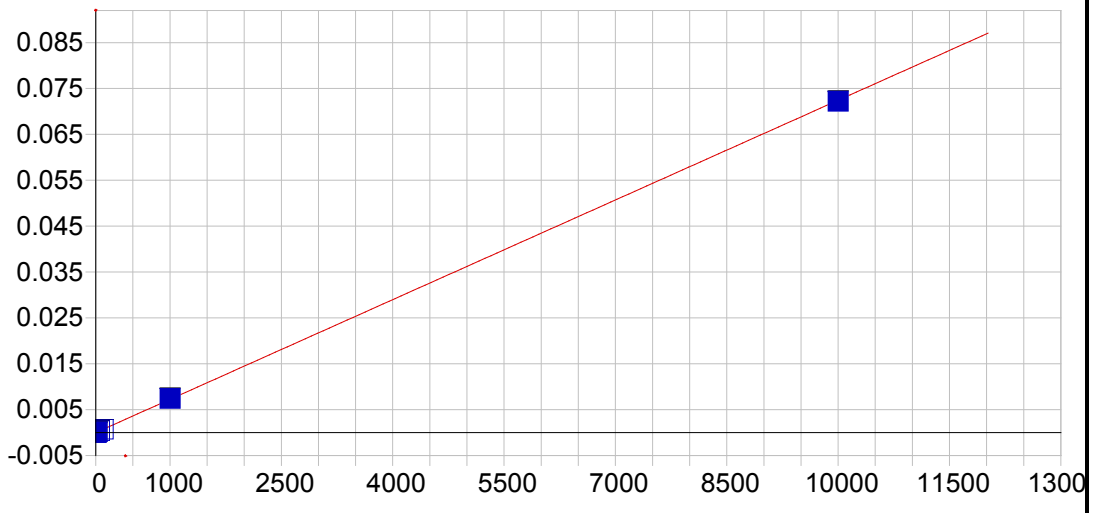


Mo 203.844 {465}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997160	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	0.618455		
Predicted MQL:	2.061515		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.0819	-2.08	.000	-.00000	.000	1
CalStd7=50	50.000	51.561	1.56	3.12	.00042	.000	1
CalStd6=20	20.000	18.115	-1.88	-9.42	.00016	.000	1
CalStd5=10	10.000	7.9805	-2.02	-20.2	.00008	.000	1
CalStd8=100	100.00	93.461	-6.54	-6.54	.00075	.000	1
CalStd4=5	5.0000	4.2972	-.703	-14.1	.00005	.000	1
CalStd9=100	1000.0	990.46	-9.54	-.954	.00783	.000	1

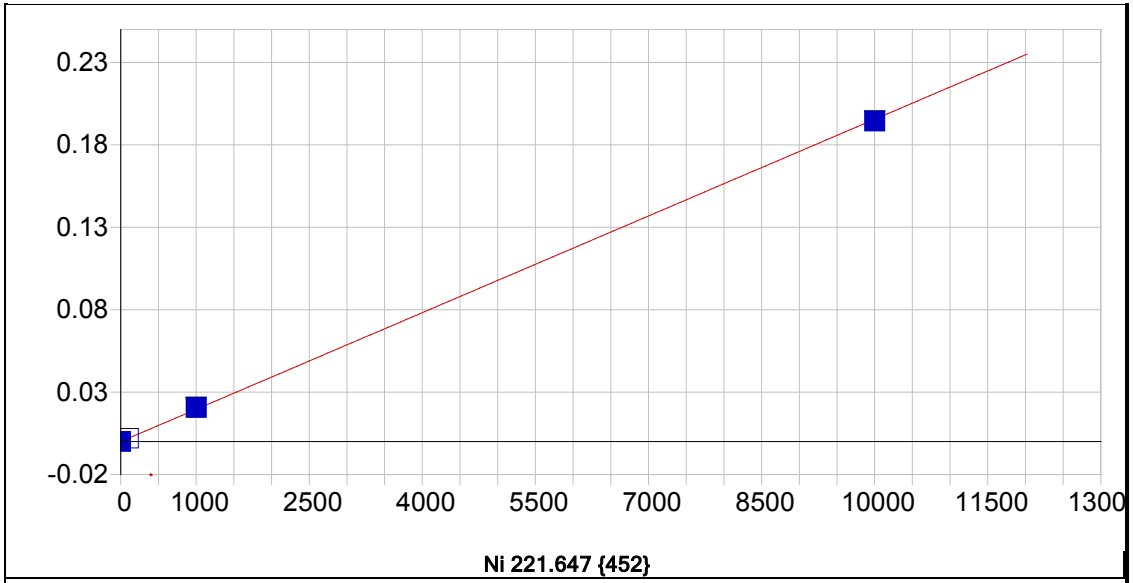


Mo 204.598 {464}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.622474		
Predicted MQL:	2.074914		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00094	-.001	.000	.00000	.000	1
CalStd7=50	50.000	55.000	5.00	10.0	.00040	.000	1
CalStd6=20	20.000	19.989	-.011	-.056	.00015	.000	1
CalStd5=10	10.000	9.9698	-.030	-.302	.00007	.000	1
CalStd8=100	100.00	98.581	-1.42	-1.42	.00071	.000	1
CalStd4=5	5.0000	5.4049	.405	8.10	.00004	.000	1
CalStd9=100	1000.0	1028.1	28.1	2.81	.00745	.000	1
CalStd10=10	10000.	9968.0	-32.0	-.320	.07221	.000	1

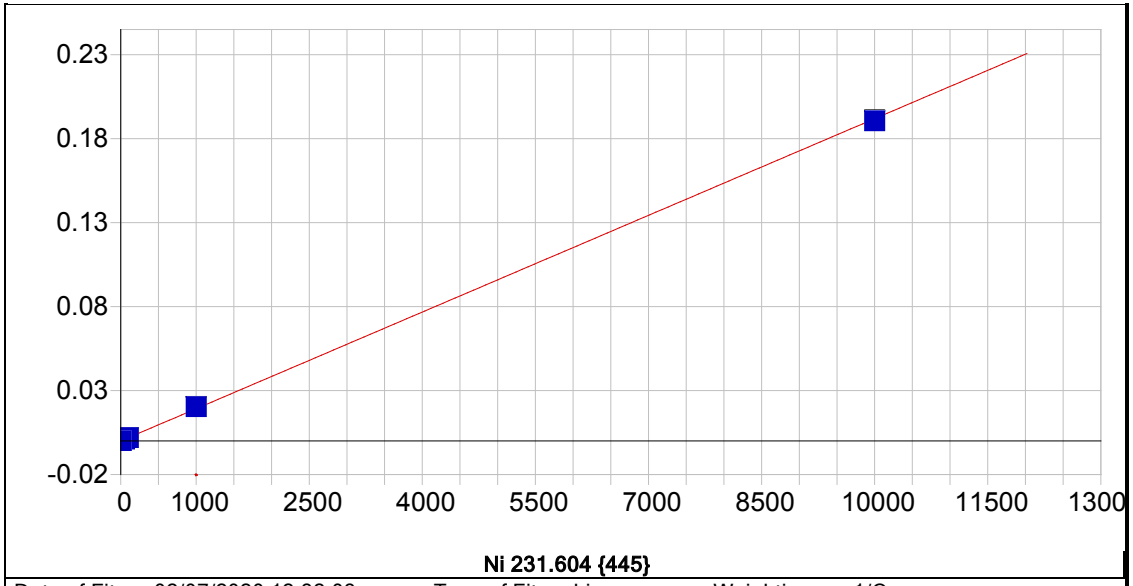


Ni 221.647 {452}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000020	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999853	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	0.376078		
Predicted MQL:	1.253592		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00726	-.007	.000	-.00000	.000	1
CalStd10=10	10000.	9943.8	-56.2	-.562	.19444	.000	1
CalStd8=100	100.00	102.44	2.44	2.44	.00200	.000	1
CalStd9=100	1000.0	1053.8	53.8	5.38	.02060	.000	1

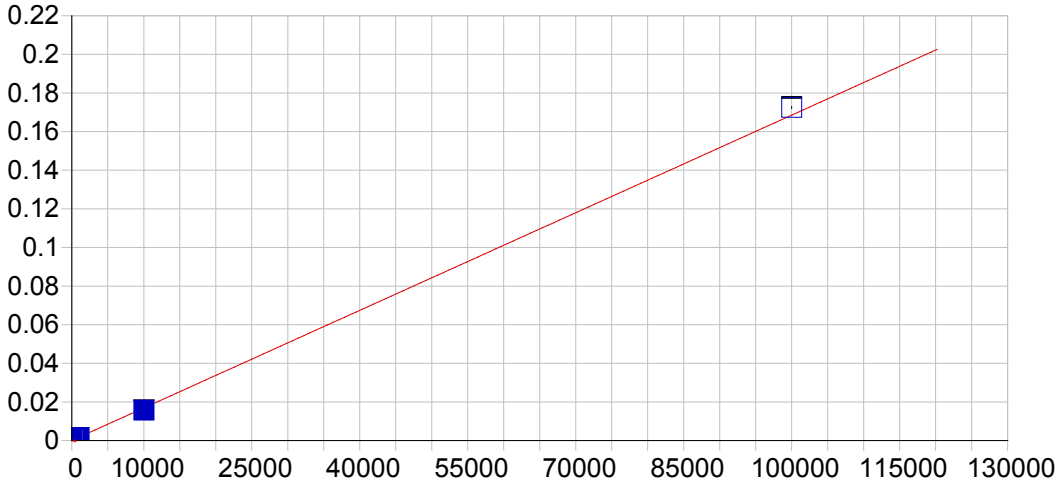


Ni 231.604 {445}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000019	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999730	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.377382		
Predicted MQL:	1.257941		

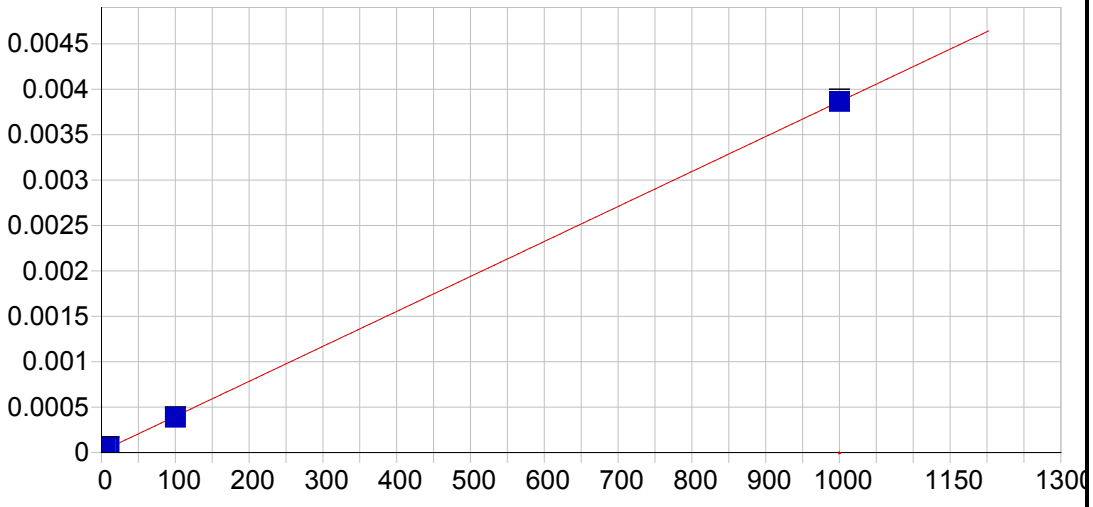
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00110	-.001	.000	-.00002	.000	1
CalStd7=50	50.000	57.596	7.60	15.2	.00109	.000	1
CalStd5=10	10.000	10.969	.969	9.69	.00019	.000	1
CalStd8=100	100.00	102.87	2.87	2.87	.00196	.000	1
CalStd4=5	5.0000	6.6591	1.66	33.2	.00011	.000	1
CalStd9=100	1000.0	1058.8	58.8	5.88	.02034	.000	1
CalStd3=1	1.0000	1.4375	.438	43.8	.00001	.000	1
CalStd10=10	10000.	9927.6	-72.4	-.724	.19087	.000	1



Pb 216.999 {455}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000018		Re-Slope:	1.000000	
A1 (Gain):	0.000002		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999021		Status:	OK.	
Std Error of Est:	0.000069				
Predicted MDL:	3.523340				
Predicted MQL:	11.744468				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-6.1181	-6.12	.000	.00001	.000	1
CalStd9=100	1000.0	1029.0	29.0	2.90	.00176	.000	1
CalStd10=10	10000.	9309.8	-690.	-6.90	.01571	.000	1
CalStd8=100	100.00	96.124	-3.88	-3.88	.00018	.000	1
CalStd5=10	10.000	5.4577	-4.54	-45.4	.00003	.000	1
CalStd12=10	100000.	102350.	2350.	2.35	.17249	.000	1

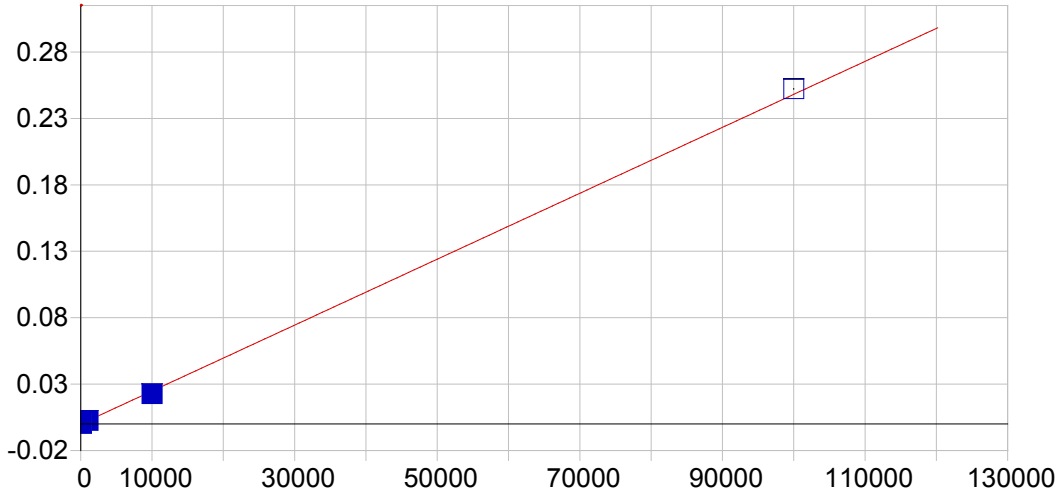


Pb 220.353 {453}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	1.911328		
Predicted MQL:	6.371092		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.42584	-.426	.000	.00001	.000	1
CalStd5=10	10.000	11.811	1.81	18.1	.00006	.000	1
CalStd8=100	100.00	97.089	-2.91	-2.91	.00039	.000	1
CalStd4=5	5.0000	6.2589	1.26	25.2	.00004	.000	1
CalStd9=100	1000.0	1000.3	.267	.027	.00386	.000	1

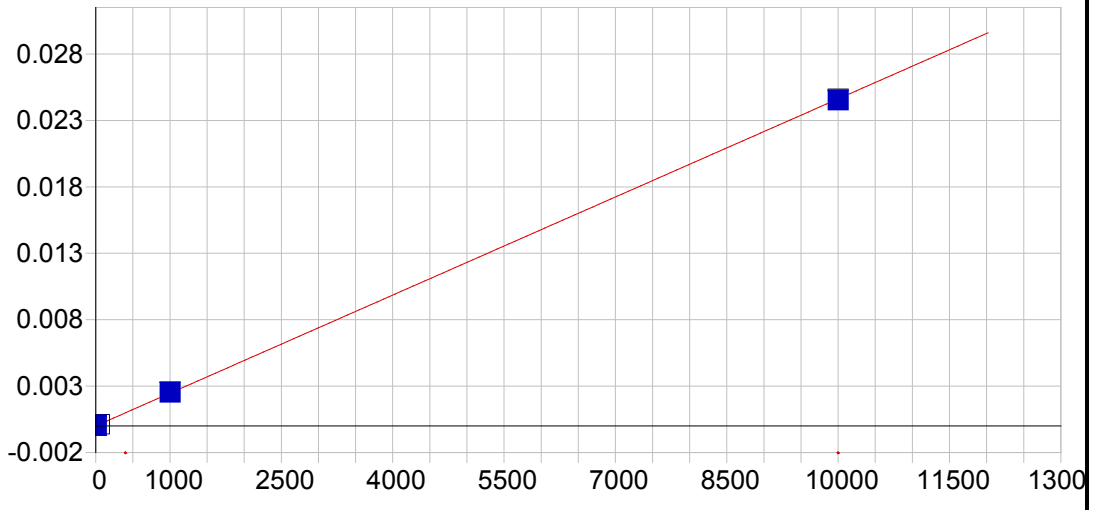


Pb 220.353 {153}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999288	Status:	OK.
Std Error of Est:	0.000309		
Predicted MDL:	3.128820		
Predicted MQL:	10.429399		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.7382	5.74	.000	-.00000	.000	1
CalStd9=100	1000.0	1023.2	23.2	2.32	.00252	.000	1
CalStd10=10	10000.	9166.5	-834.	-8.34	.02273	.000	1
CalStd8=100	100.00	109.53	9.53	9.53	.00026	.000	1
CalStd12=10	100000.	101670.	1670.	1.67	.25226	.000	1

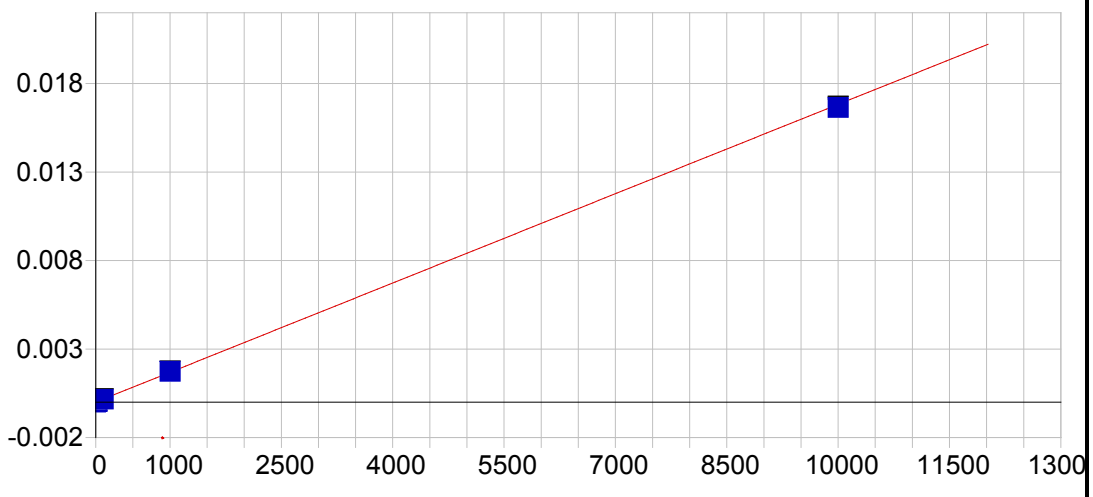


Sb 206.833 {463}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999924	Status:	OK.
Std Error of Est:	0.000015		
Predicted MDL:	1.868532		
Predicted MQL:	6.228440		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.4185	-4.42	.000	-.00001	.000	1
CalStd9=100	1000.0	1028.0	28.0	2.80	.00254	.000	1
CalStd5=10	10.000	6.3320	-3.67	-36.7	.00002	.000	1
CalStd7=50	50.000	51.701	1.70	3.40	.00013	.000	1
CalStd10=10	10000.	9963.0	-37.0	-.370	.02454	.000	1

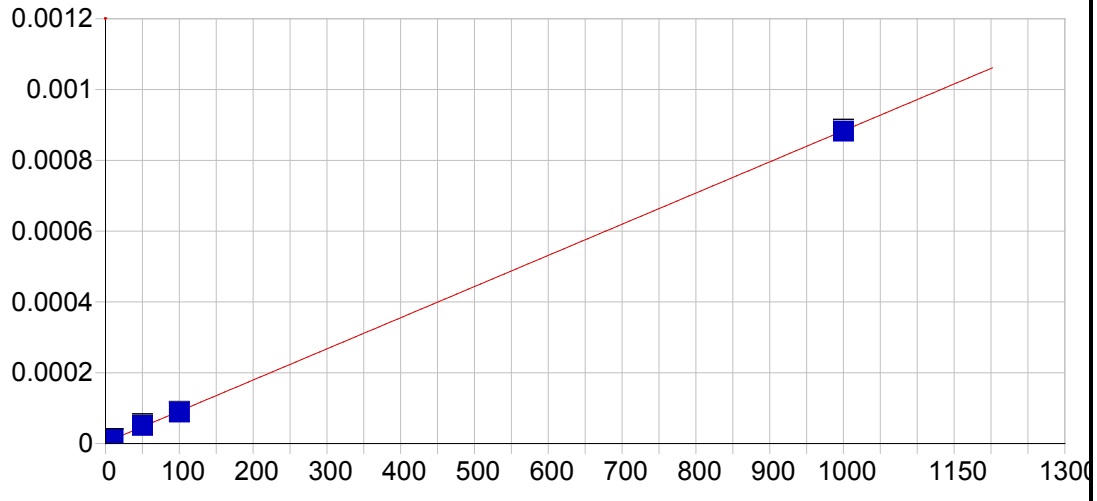


Sb 217.581 {455}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999814	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	3.043938		
Predicted MQL:	10.146460		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.3892	-1.39	.000	-.00000	.000	1
CalStd9=100	1000.0	1032.3	32.3	3.23	.00174	.000	1
CalStd6=20	20.000	19.470	-.530	-2.65	.00003	.000	1
CalStd5=10	10.000	9.4694	-.531	-5.31	.00002	.000	1
CalStd8=100	100.00	99.757	-.243	-.243	.00017	.000	1
CalStd4=5	5.0000	7.1427	2.14	42.9	.00001	.000	1
CalStd10=10	10000.	9890.9	-109.	-1.09	.01664	.000	1

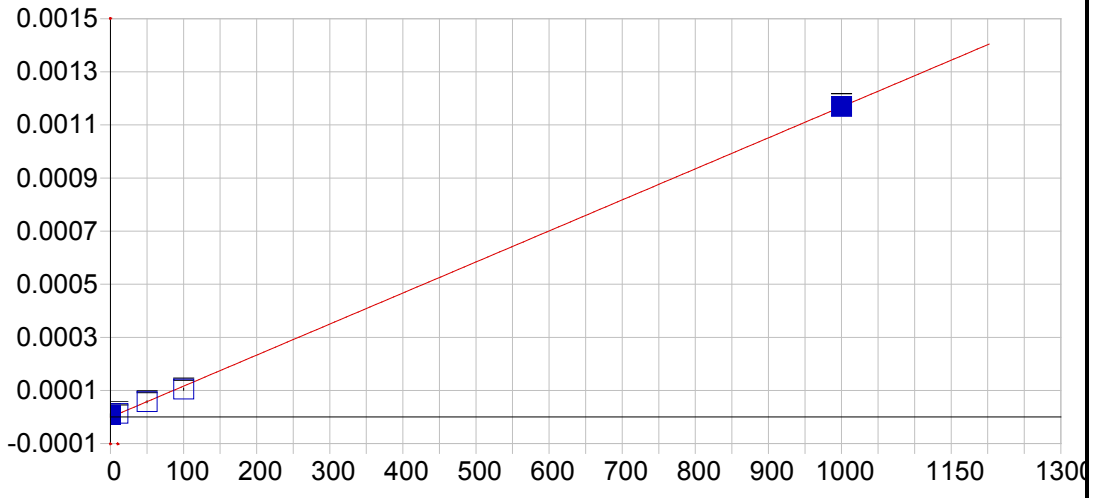


Se 196.090 {472}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999792	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.847366		
Predicted MQL:	12.824552		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00108	-.001	.000	.00000	.000	1
CalStd7=50	50.000	54.207	4.21	8.41	.00005	.000	1
CalStd9=100	1000.0	998.28	-1.72	-.172	.00088	.000	1
CalStd5=10	10.000	10.565	.565	5.65	.00001	.000	1
CalStd8=100	100.00	96.944	-3.06	-3.06	.00009	.000	1

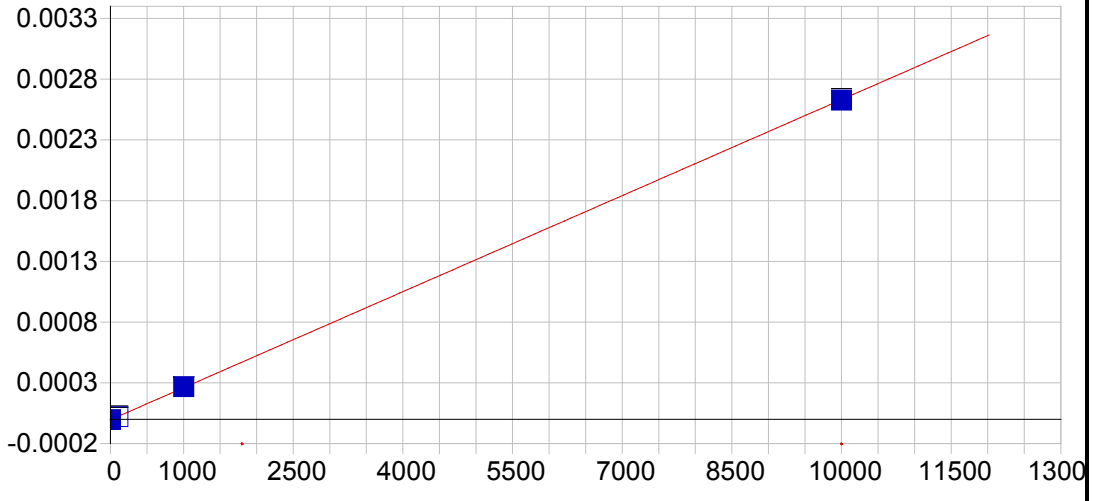


Se 203.985 {465}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999901	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	5.760324		
Predicted MQL:	19.201081		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	6.7973	6.80	.000	.00001	.000	1
CalStd7=50	50.000	49.821	-.179	-.357	.00006	.000	1
CalStd9=100	1000.0	1001.0	.966	.097	.00117	.000	1
CalStd5=10	10.000	12.206	2.21	22.1	.00001	.000	1
CalStd8=100	100.00	90.209	-9.79	-9.79	.00010	.000	1

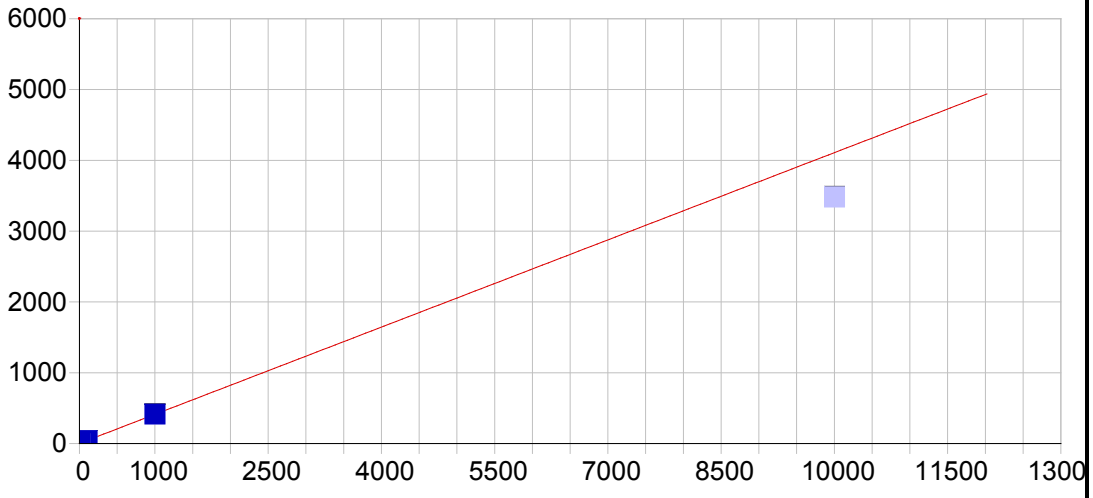


Se 206.279 {463}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999946	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	19.143155		
Predicted MQL:	63.810517		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00368	.004	.000	-.00000	.000	1
CalStd9=100	1000.0	1027.8	27.8	2.78	.00027	.000	1
CalStd10=10	10000.	9978.4	-21.6	-.216	.00263	.000	1
CalStd8=100	100.00	93.752	-6.25	-6.25	.00002	.000	1

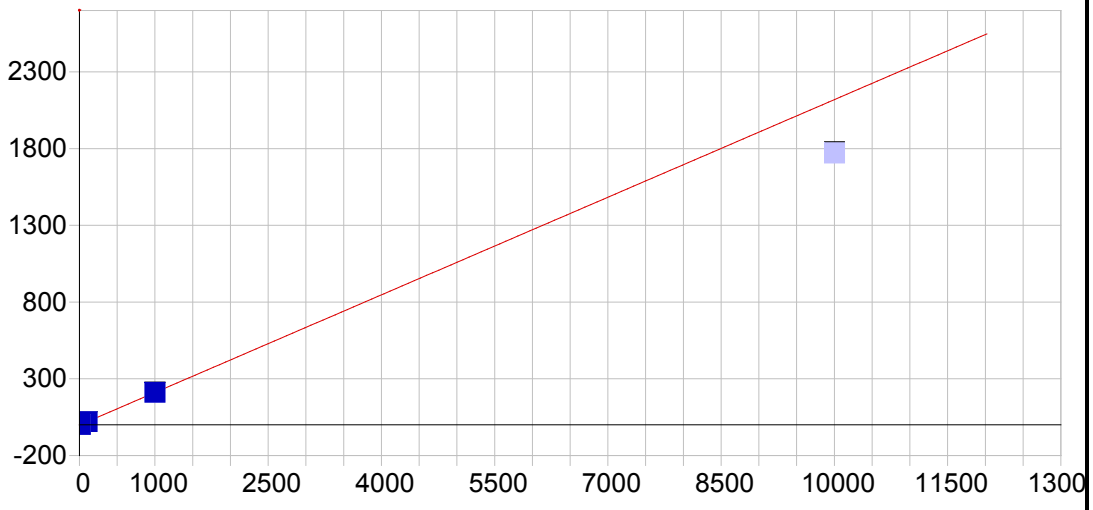


Tl 190.856 {476}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	1.695733	Re-Slope:	1.000000
A1 (Gain):	0.410703	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999626	Status:	OK.
Std Error of Est:	0.052858		
Predicted MDL:	2.110753		
Predicted MQL:	7.035844		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00290	.003	.000	1.6969	.484	1
CalStd9=100	1000.0	1005.8	5.76	.576	414.45	1.95	1
CalStd8=100	100.00	96.879	-3.12	-3.12	41.468	.418	1
CalStd5=10	10.000	7.3586	-2.64	-26.4	4.7166	.360	1
CalStd10=10	10000.	8477.6	-1520.	-15.2	3480.4	6.20	0

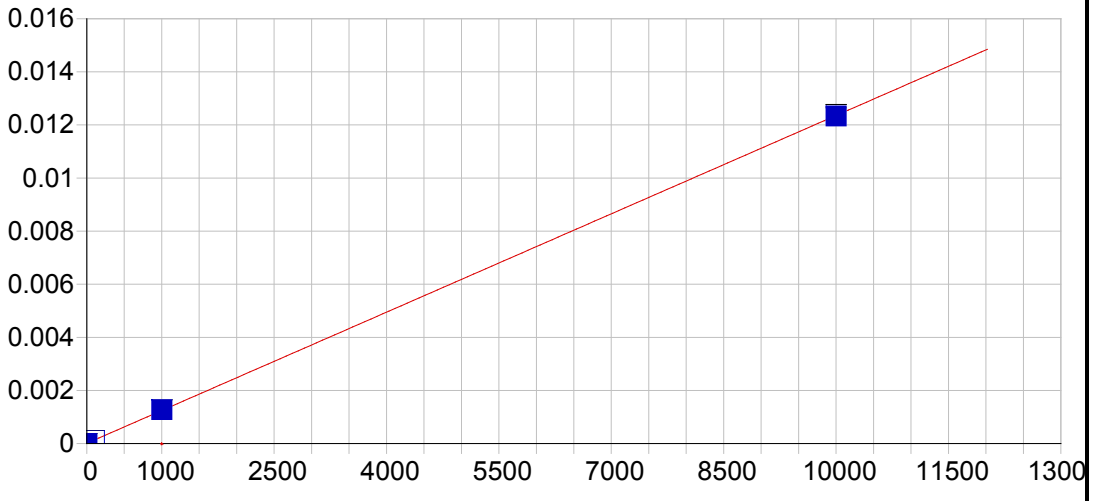


Tl 190.856 {477}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-1.189850	Re-Slope:	1.000000
A1 (Gain):	0.212057	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.501130		
Predicted MDL:	3.433623		
Predicted MQL:	11.445411		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	3.0790	3.08	.000	-.53692	.462	1
CalStd9=100	1000.0	1001.1	1.07	.107	211.19	.683	1
CalStd8=100	100.00	98.831	-1.17	-1.17	19.787	.222	1
CalStd5=10	10.000	11.749	1.75	17.5	1.3035	.502	1
CalStd10=10	10000.	8356.0	-1640.	-16.4	1771.7	6.52	0

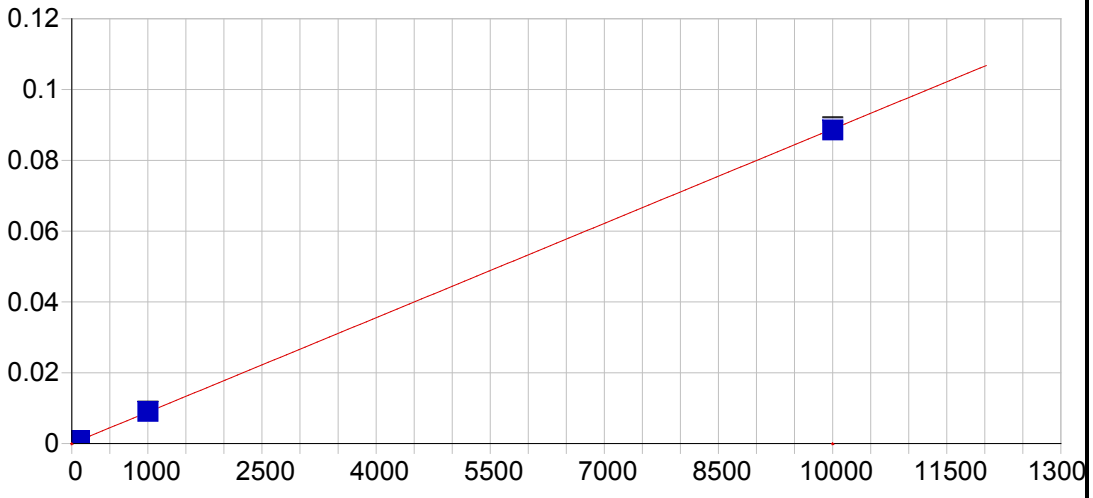


V 290.882 {116}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999978	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.486331		
Predicted MQL:	8.287771		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00178	-.002	.000	.00001	.000	1
CalStd9=100	1000.0	1021.3	21.3	2.13	.00127	.000	1
CalStd10=10	10000.	9978.8	-21.2	-.212	.01233	.000	1
CalStd8=100	100.00	99.859	-.141	-.141	.00013	.000	1

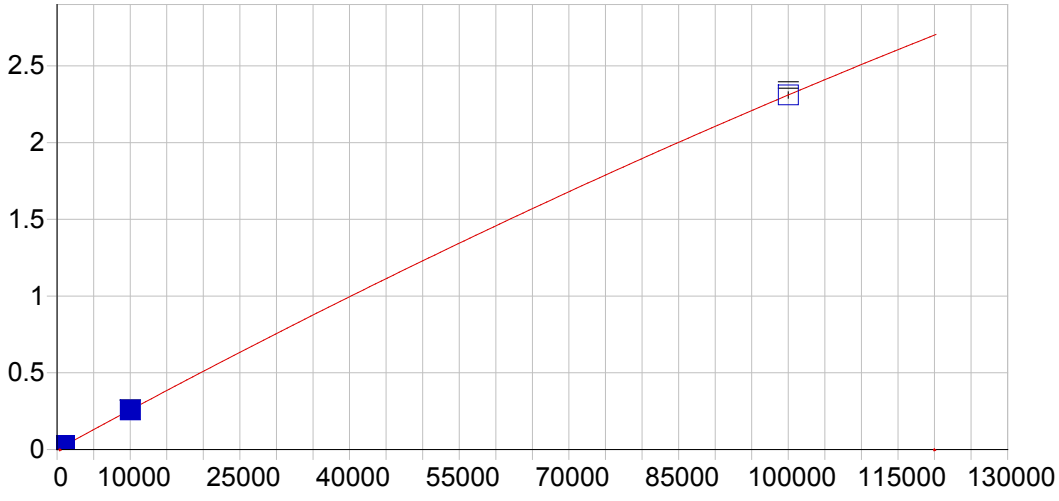


V 292.402 {115}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999558	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.415228		
Predicted MQL:	1.384092		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.36670	-.367	.000	.00000	.000	1
CalStd7=50	50.000	54.418	4.42	8.84	.00049	.000	1
CalStd9=100	1000.0	1017.9	17.9	1.79	.00905	.000	1
CalStd6=20	20.000	20.249	.249	1.24	.00018	.000	1
CalStd5=10	10.000	9.9749	-.025	-.251	.00009	.000	1
CalStd8=100	100.00	98.666	-1.33	-1.33	.00088	.000	1
CalStd10=10	10000.	9966.2	-33.8	-.338	.08886	.001	1

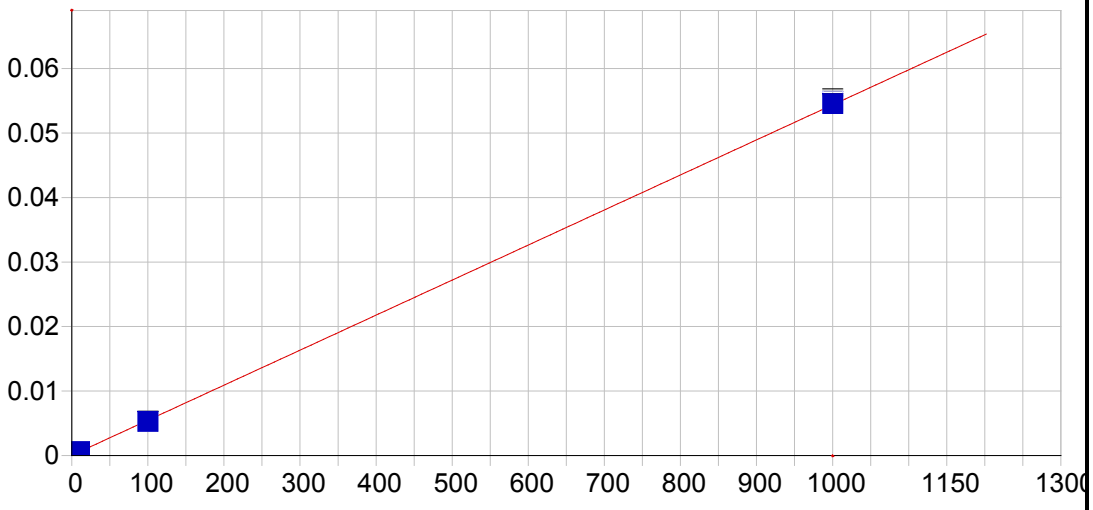


Zn 206.200 {463}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000026	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.193485		
Predicted MQL:	0.644949		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9970.3	-29.7	-.297	.25713	.001	1
Blank	.00000	-.00050	-.000	.000	.00001	.000	1
CalStd9=100	1000.0	1027.7	27.7	2.77	.02679	.000	1
CalStd12=10	100000.	100000.	3.41	.003	2.3104	.021	1
CalStd5=10	10.000	10.413	.413	4.13	.00028	.000	1
CalStd8=100	100.00	98.342	-1.66	-1.66	.00258	.000	1

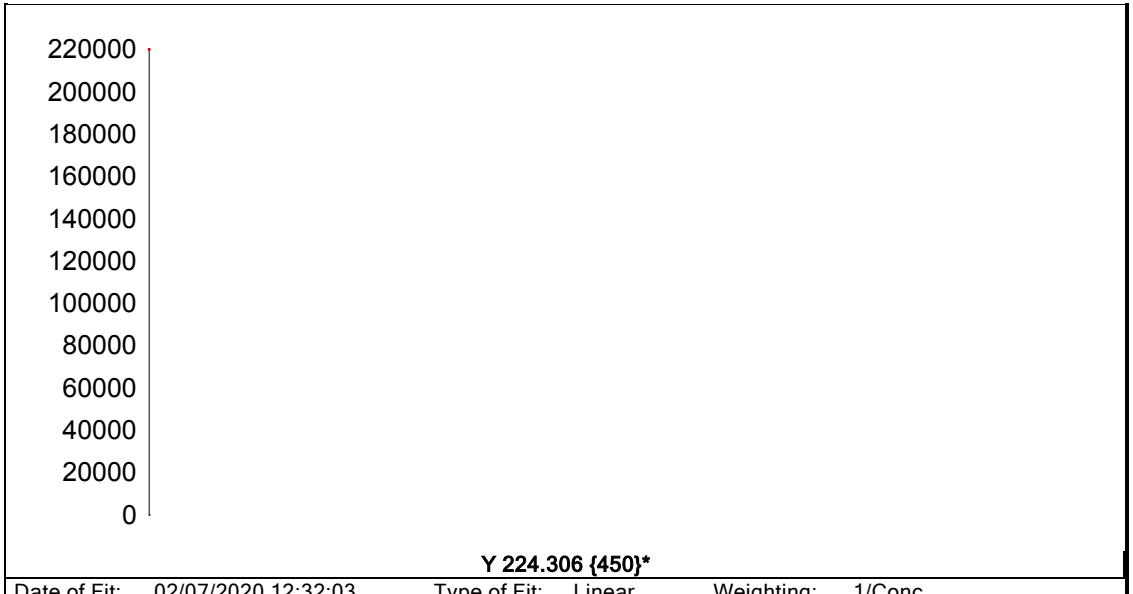


Zn 213.856 {457}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000054	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999925	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.099140		
Predicted MQL:	0.330468		

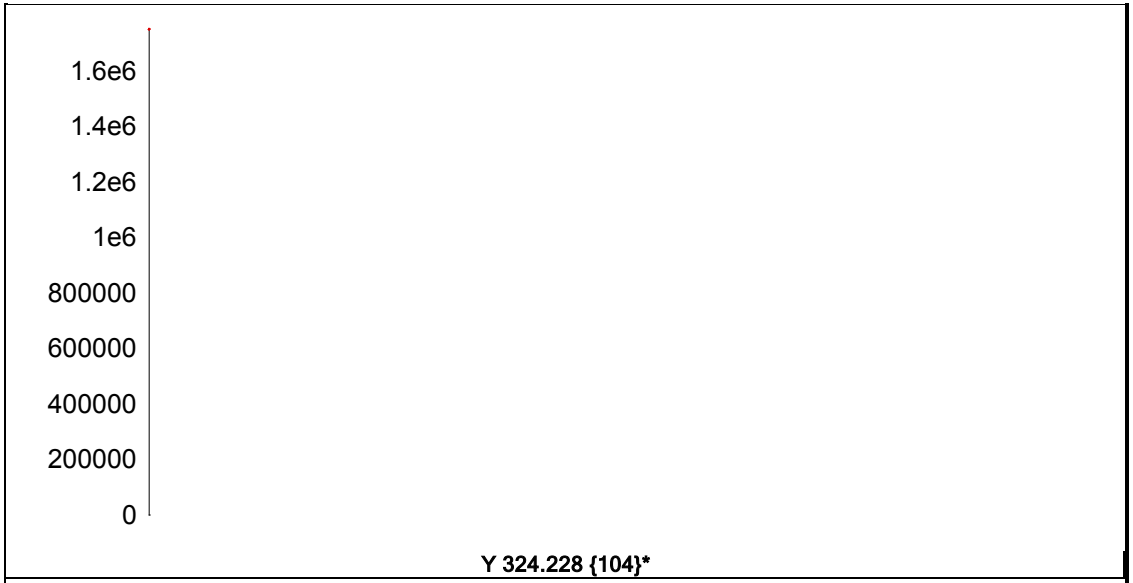
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00004	-.000	.000	.00004	.000	1
CalStd9=100	1000.0	1003.4	3.40	.340	.05492	.000	1
CalStd5=10	10.000	10.384	.384	3.84	.00060	.000	1
CalStd8=100	100.00	96.221	-3.78	-3.78	.00530	.000	1



Y 224.306 {450}*

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	202580.	1160.	1

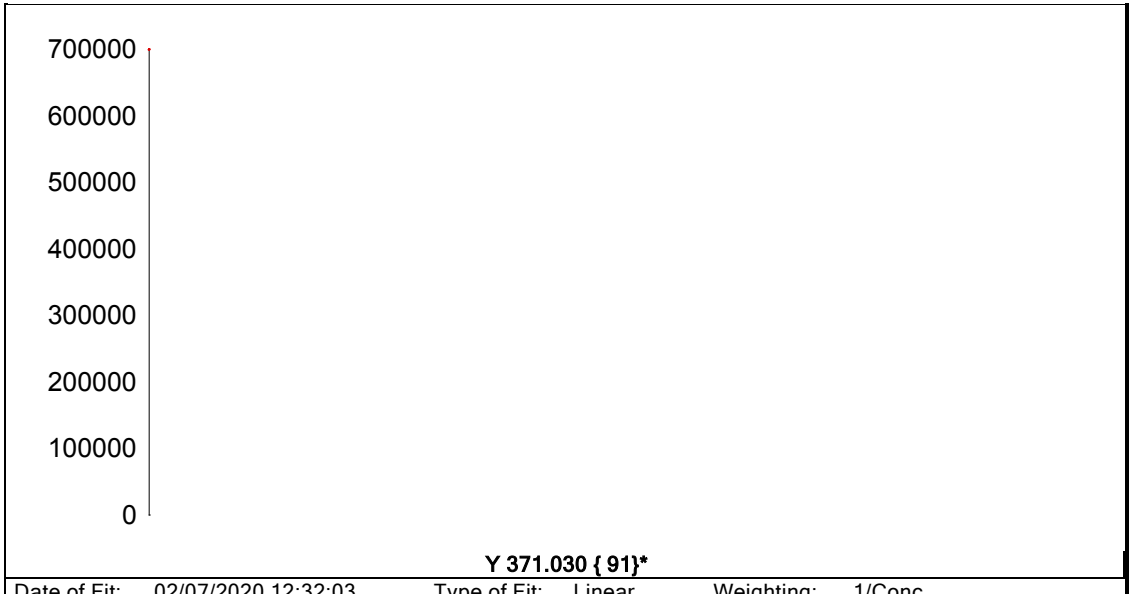


Y 324.228 {104}*

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

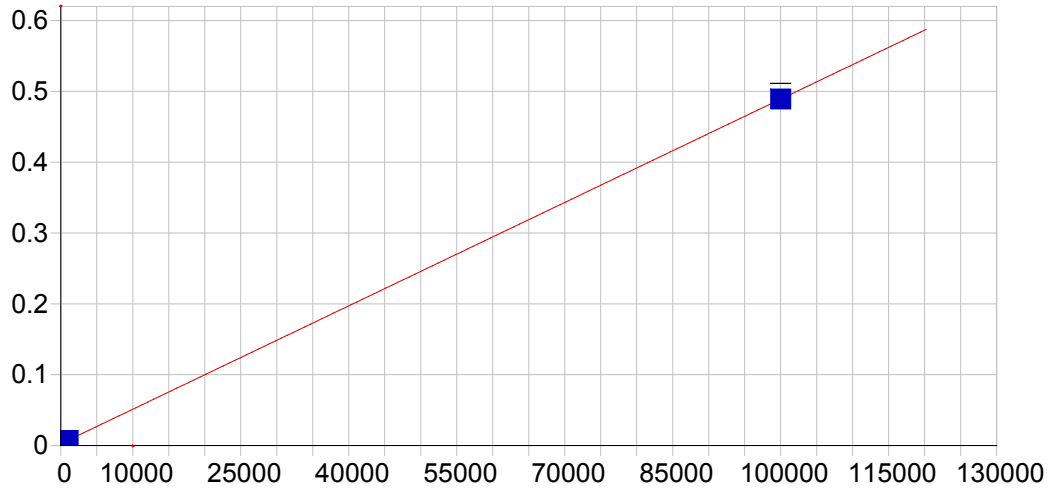
A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.000000	Status:	Warning Zero Gain
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1642500.	13500.	1



Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	636250.	5260.	1

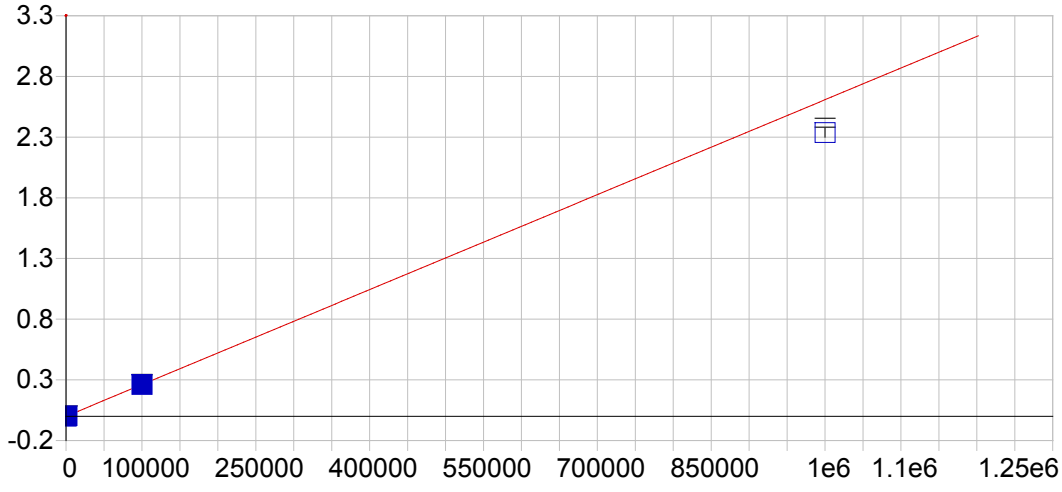


Na 588.995 { 57}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.002605	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000111		
Predicted MDL:	4.160063		
Predicted MQL:	13.866878		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-16.108	-16.1	.000	.00253	.000	1
CalStd9=100	1000.0	1016.3	16.3	1.63	.00755	.000	1
CalStd10=10	100000.	100000.	-.163	-.000	.48918	.008	1

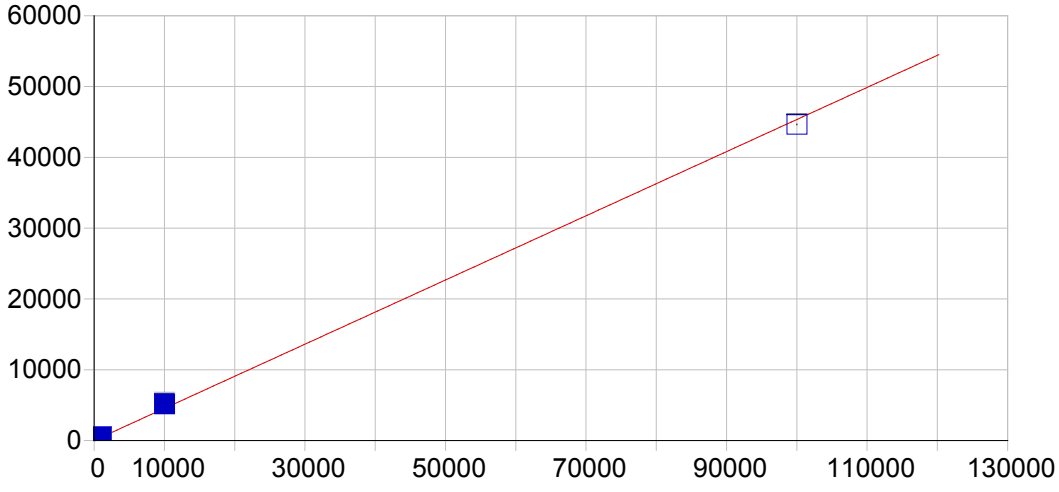


Na 589.592 { 57}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000061	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999189	Status:	OK.
Std Error of Est:	0.000128		
Predicted MDL:	4.725001		
Predicted MQL:	15.750004		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-18.192	-18.2	.000	.00001	.000	1
CalStd9=100	1000.0	1018.0	18.0	1.80	.00272	.000	1
CalStd10=10	100000.	99834.	-166.	-.166	.26043	.002	1
CalibStd15=	1000000.	895830.	-104000.	-10.4	2.3364	.037	1

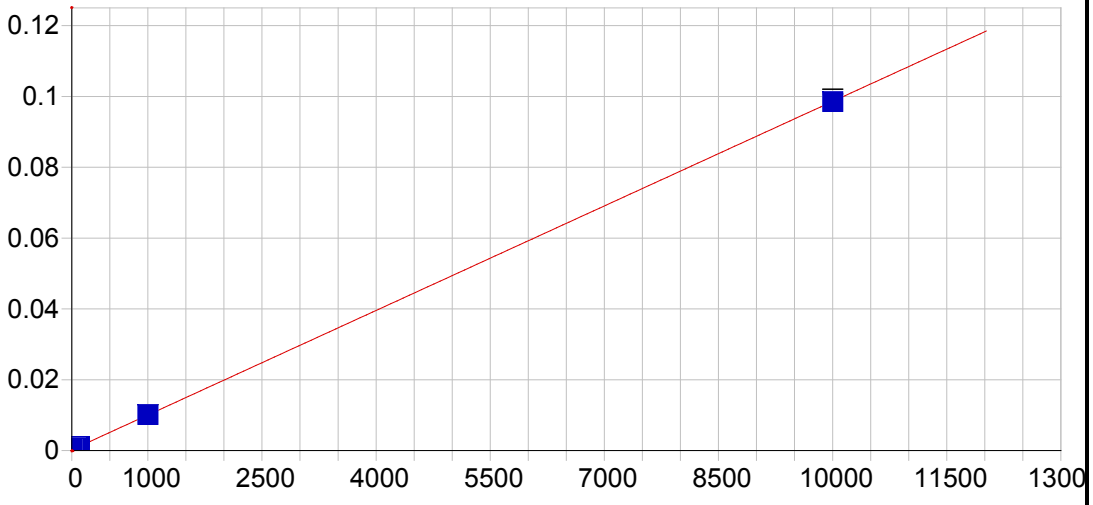


Si 251.611 {134}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	8.408626	Re-Slope:	1.000000
A1 (Gain):	0.453358	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999040	Status:	OK.
Std Error of Est:	9.412957		
Predicted MDL:	3.599133		
Predicted MQL:	11.997110		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.24139	-.241	.000	8.2992	.888	1
CalStd9=100	1000.0	1123.6	124.	12.4	553.64	2.26	1
CalStd10=10	10000.	11330.	1330.	13.3	5372.7	13.6	1
CalibStd15=	100000.	98469.	-1530.	-1.53	44650.	45.3	1

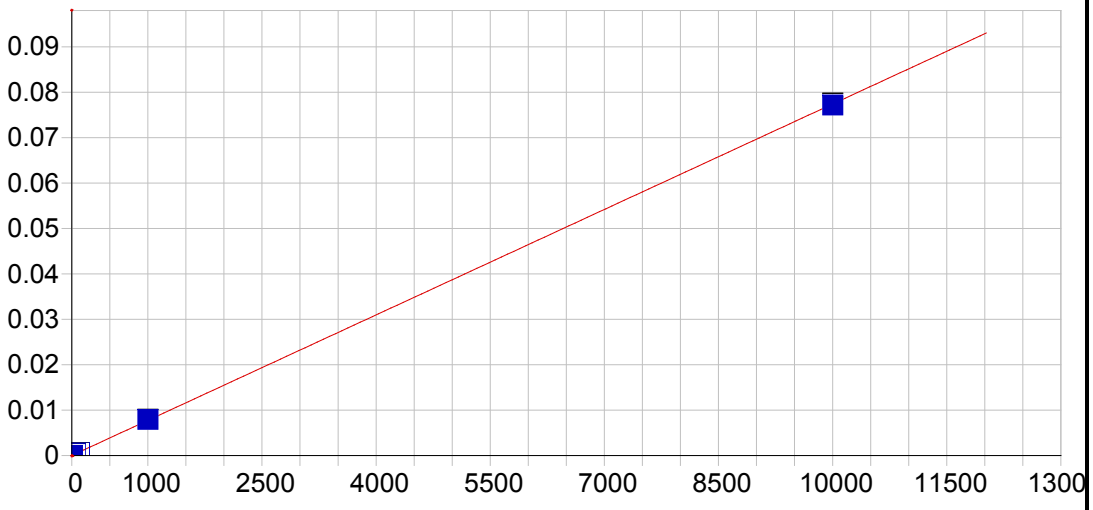


Ti 323.452 {104}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000204	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.537395		
Predicted MQL:	1.791316		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00024	-.000	.000	.00020	.000	1
CalStd5=10	10.000	9.3787	-.621	-6.21	.00030	.000	1
CalStd8=100	100.00	98.763	-1.24	-1.24	.00118	.000	1
CalStd9=100	1000.0	1007.6	7.60	.760	.01012	.000	1
CalStd10=10	10000.	9989.9	-10.1	-.101	.09859	.001	1
CalStd7=50	50.000	54.202	4.20	8.40	.00074	.000	1
CalStd4=5	5.0000	5.1636	.164	3.27	.00025	.000	1

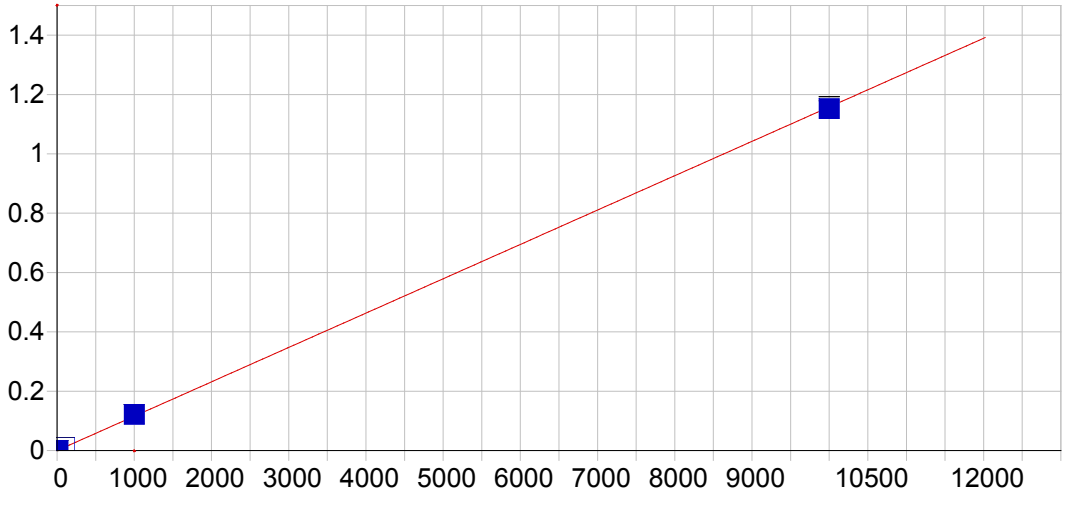


Ti 334.941 {101}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999932	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.477803		
Predicted MQL:	1.592677		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00204	-.002	.000	.00001	.000	1
CalStd5=10	10.000	10.521	.521	5.21	.00009	.000	1
CalStd8=100	100.00	100.13	.134	.134	.00078	.000	1
CalStd9=100	1000.0	1023.3	23.3	2.33	.00793	.000	1
CalStd10=10	10000.	9969.4	-30.6	-.306	.07718	.000	1
CalStd7=50	50.000	55.487	5.49	11.0	.00044	.000	1
CalStd4=5	5.0000	6.1250	1.13	22.5	.00005	.000	1

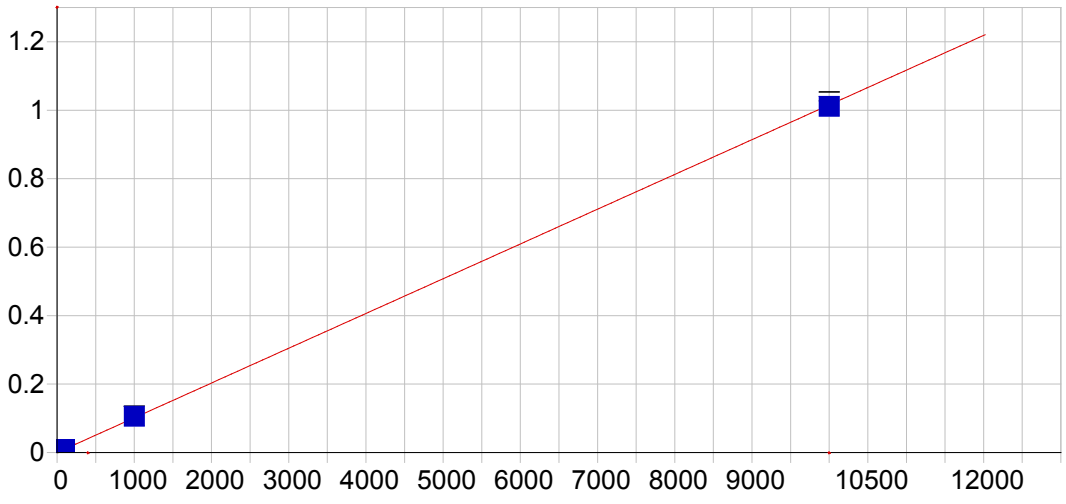


Sr 407.771 { 83}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000116	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999872	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.065187		
Predicted MQL:	0.217289		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00048	-.000	.000	.00001	.000	1
CalStd3=1	1.0000	1.1586	.159	15.9	.00015	.000	1
CalStd4=5	5.0000	5.9843	.984	19.7	.00071	.000	1
CalStd5=10	10.000	10.560	.560	5.60	.00124	.000	1
CalStd8=100	100.00	102.20	2.20	2.20	.01185	.000	1
CalStd9=100	1000.0	1047.8	47.8	4.78	.12135	.000	1
CalStd10=10	10000.	9948.3	-51.7	-.517	1.1520	.007	1

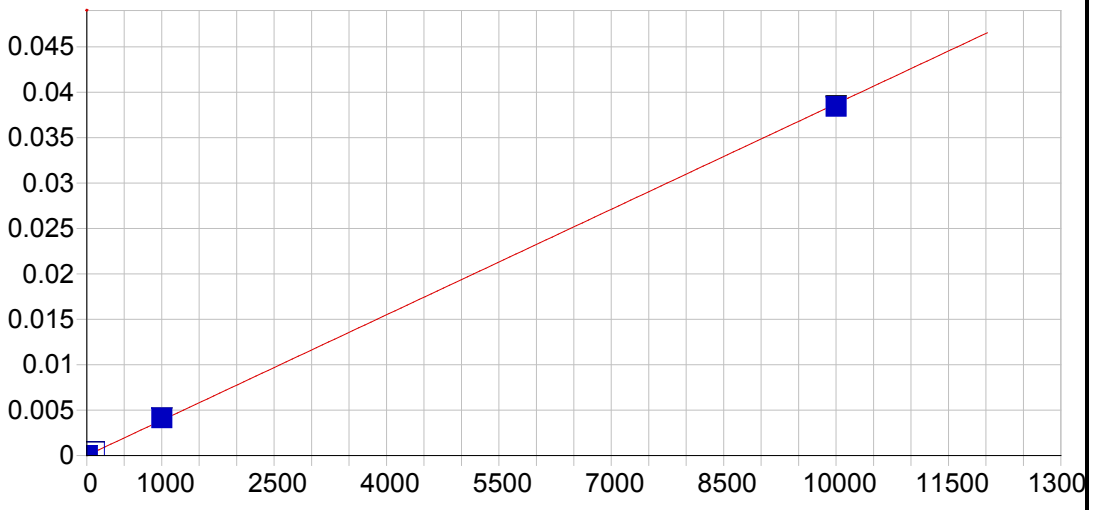


Sr 421.552 { 80}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000102	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999906	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.073125		
Predicted MQL:	0.243749		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00037	-.000	.000	.00002	.000	1
CalStd3=1	1.0000	1.0958	.096	9.58	.00013	.000	1
CalStd4=5	5.0000	5.8905	.890	17.8	.00062	.000	1
CalStd5=10	10.000	10.491	.491	4.91	.00109	.000	1
CalStd8=100	100.00	101.20	1.20	1.20	.01030	.000	1
CalStd9=100	1000.0	1041.1	41.1	4.11	.10574	.000	1
CalStd10=10	10000.	9956.3	-43.7	-.437	1.0111	.013	1

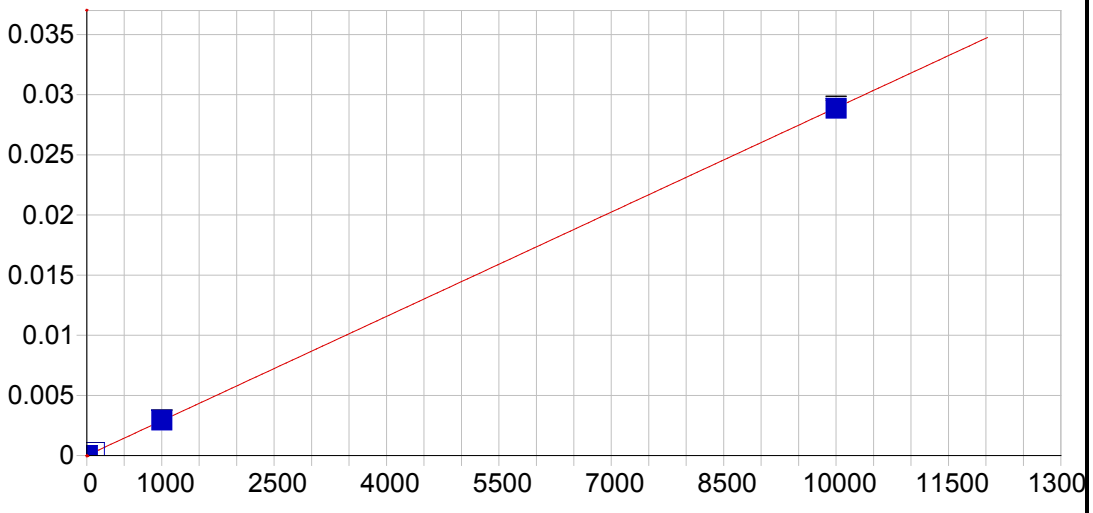


Sn 189.989 {477}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999744	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.897231		
Predicted MQL:	2.990770		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00262	-.003	.000	.00001	.000	1
CalStd10=10	10000.	9925.3	-74.7	-.747	.03844	.000	1
CalStd9=100	1000.0	1068.3	68.3	6.83	.00414	.000	1
CalStd8=100	100.00	104.92	4.92	4.92	.00041	.000	1
CalStd5=10	10.000	11.520	1.52	15.2	.00005	.000	1

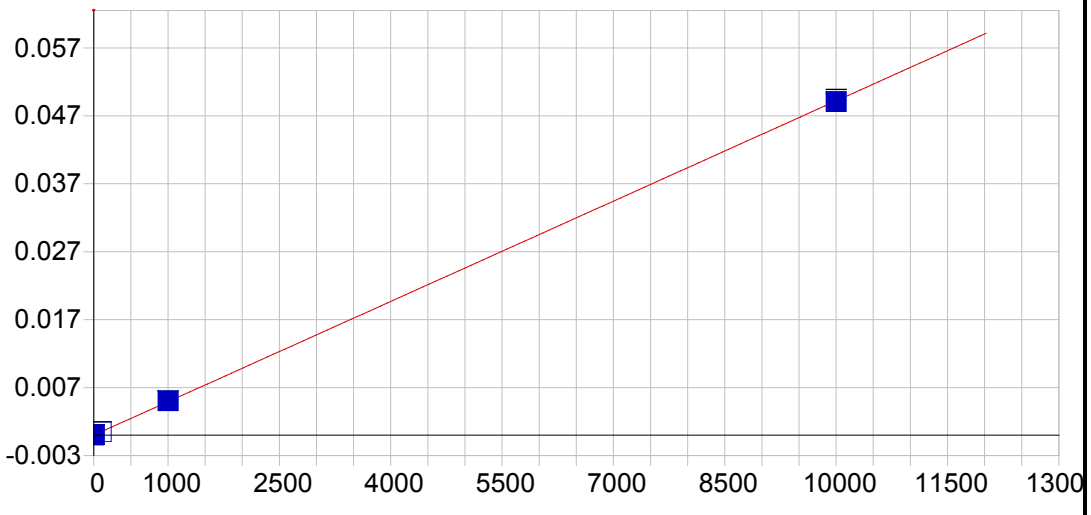


B 249.678 {135}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.704702		
Predicted MQL:	2.349006		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00038	-.000	.000	.00000	.000	1
CalStd8=100	100.00	95.820	-4.18	-4.18	.00028	.000	1
CalStd5=10	10.000	10.641	.641	6.41	.00003	.000	1
CalStd9=100	1000.0	1017.1	17.1	1.71	.00294	.000	1
CalStd10=10	10000.	9986.4	-13.6	-.136	.02887	.000	1

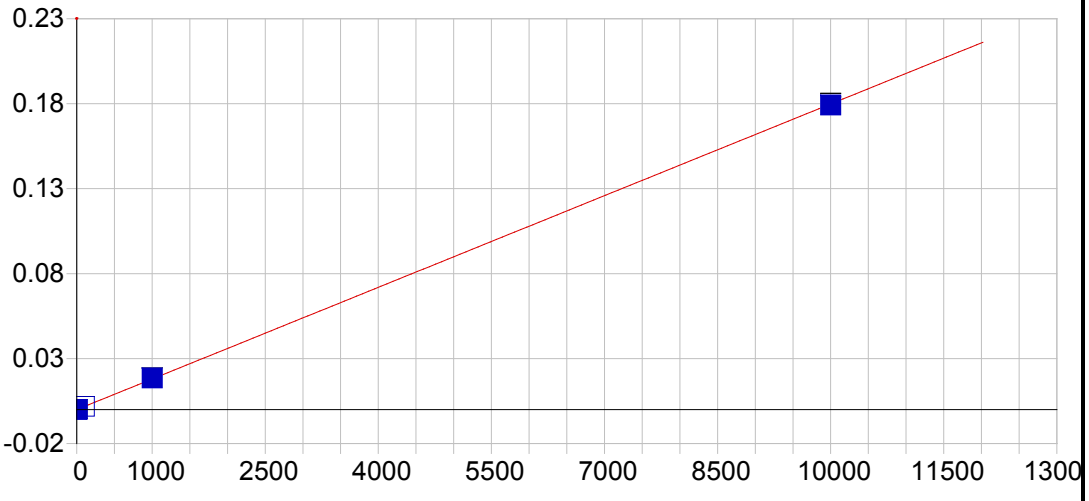


B 249.773 {135}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.403449		
Predicted MQL:	1.344832		

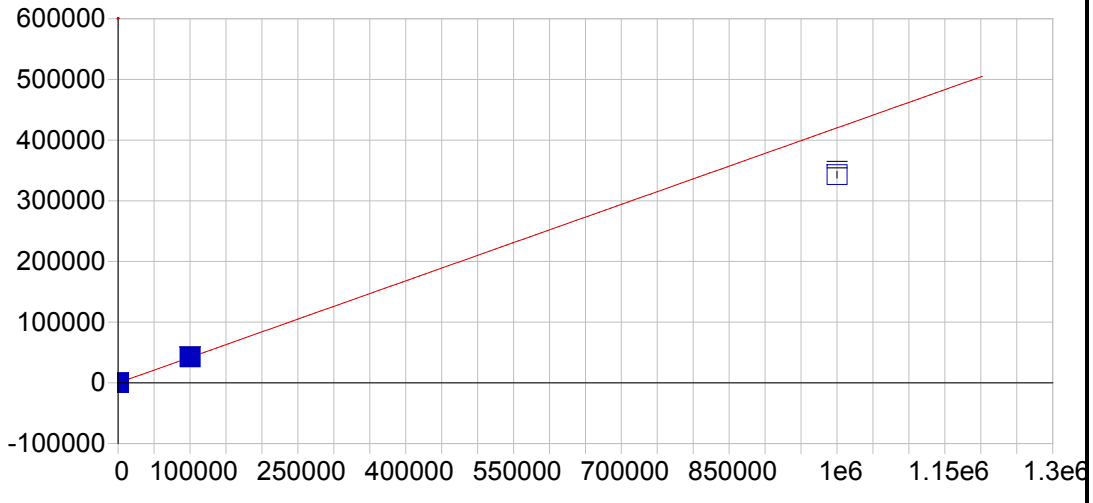
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00082	-.001	.000	-.00000	.000	1
CalStd8=100	100.00	97.800	-2.20	-2.20	.00048	.000	1
CalStd5=10	10.000	10.810	.810	8.10	.00005	.000	1
CalStd9=100	1000.0	1025.6	25.6	2.56	.00505	.000	1
CalStd10=10	10000.	9975.8	-24.2	-.242	.04914	.000	1



Li 670.784 { 50}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	-0.000018		Re-Slope:	1.000000	
A1 (Gain):	0.000018		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999935		Status:	OK.	
Std Error of Est:	0.000003				
Predicted MDL:	0.831283				
Predicted MQL:	2.770944				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00136	-.001	.000	-.00002	.000	1
CalStd5=10	10.000	10.810	.810	8.10	.00018	.000	1
CalStd8=100	100.00	102.40	2.40	2.40	.00182	.000	1
CalStd9=100	1000.0	1034.2	34.2	3.42	.01858	.000	1
CalStd10=10	10000.	9962.5	-37.5	-.375	.17917	.001	1

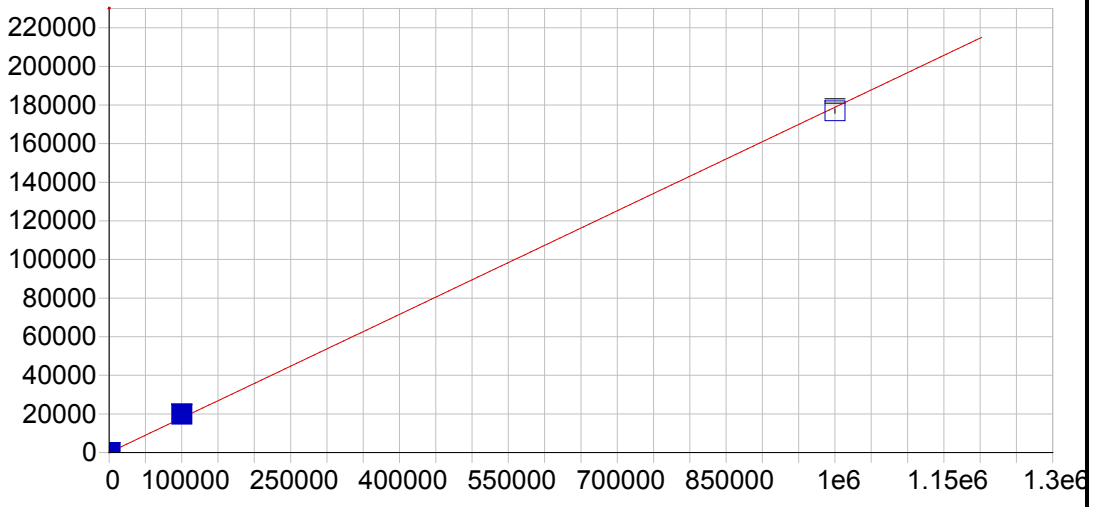


K 766.490 { 44}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-14.183496	Re-Slope:	1.000000
A1 (Gain):	0.420195	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998392	Status:	OK.
Std Error of Est:	135.258385		
Predicted MDL:	20.998116		
Predicted MQL:	69.993720		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-47.338	-47.3	.000	-34.075	10.8	1
CalStd9=100	1000.0	1021.2	21.2	2.12	414.83	7.75	1
CalStd10=10	100000.	101640.	1640.	1.64	42694.	164.	1
CalibStd15=	1000000.	816420.	-184000.	-18.4	343040.	5340.	1

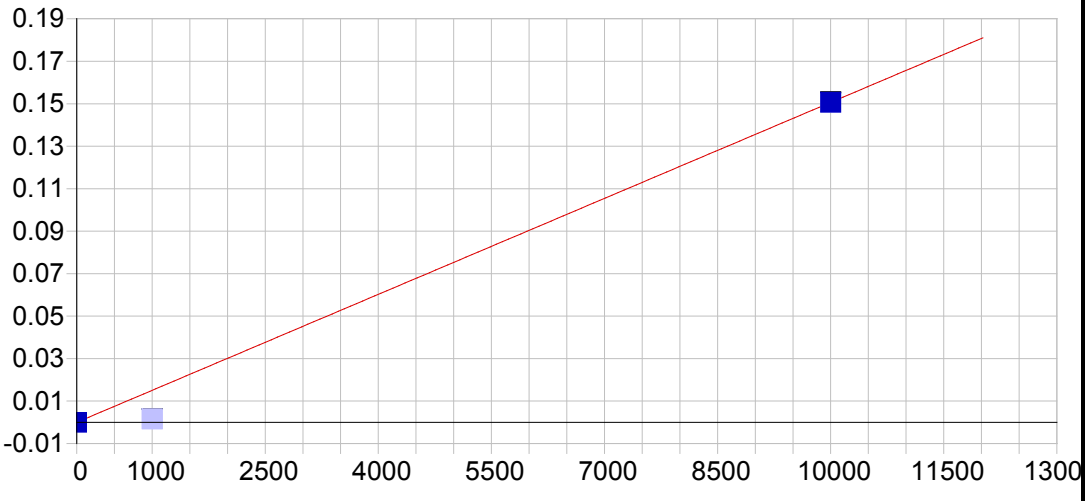


K 769.896 { 44}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	27.324766	Re-Slope:	1.000000
A1 (Gain):	0.178840	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999400	Status:	OK.
Std Error of Est:	9.194481		
Predicted MDL:	36.762720		
Predicted MQL:	122.542399		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.27774	-.278	.000	27.275	7.33	1
CalStd9=100	1000.0	1180.6	181.	18.1	238.50	8.21	1
CalStd10=10	100000.	110810.	10800.	10.8	19846.	80.8	1
CalibStd15=	1000000.	989010.	-11000.	-1.10	176900.	1100.	1

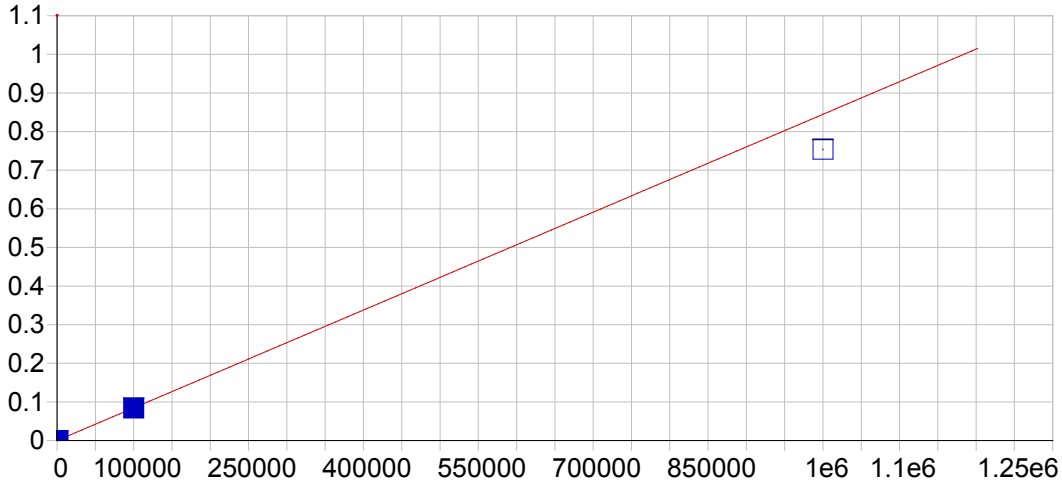


P 213.618 {457}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.334937		
Predicted MQL:	1.116458		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00001	.000	1
CalStd10=10	10000.	10000.	.000	.000	.15063	.000	1
CalStd9=100	1000.0	101.91	-898.	-89.8	.00152	.000	0

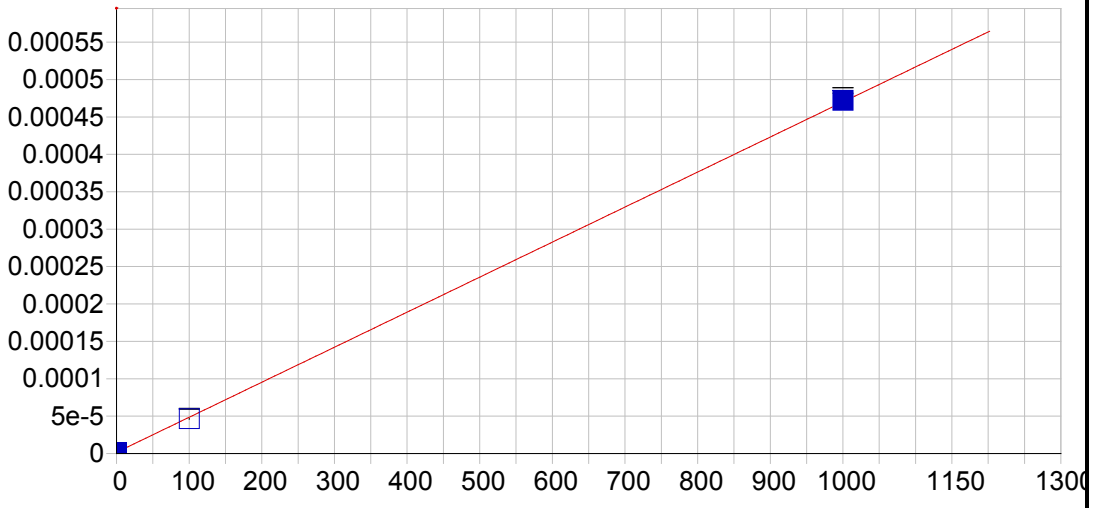


S 182.034 {485}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.774416		
Predicted MQL:	12.581387		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00574	-.006	.000	.00001	.000	1
CalStd9=100	1000.0	1005.7	5.70	.570	.00086	.000	1
CalStd10=10	100000.	98917.	-1080.	-1.08	.08359	.000	1
CalibStd15=	1000000.	892380.	-108000.	-10.8	.75386	.001	1

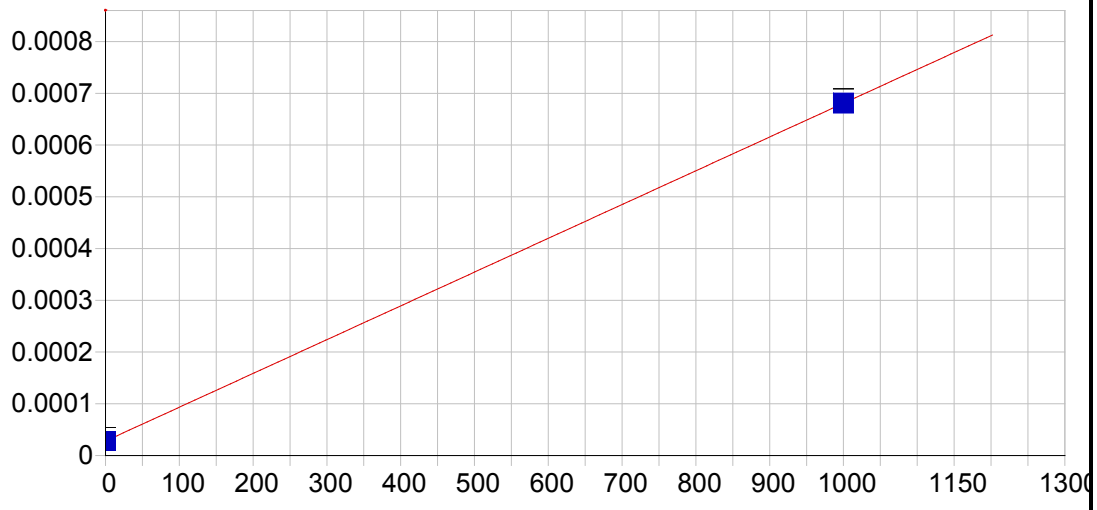


Hg 184.950 {482}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999909	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.873024		
Predicted MQL:	2.910080		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00384	.004	.000	.00000	.000	1
CalStd8=100	100.00	95.733	-4.27	-4.27	.00005	.000	1
CalStd9=100	1000.0	1004.3	4.27	.427	.00047	.000	1



Ce 404.076 { 83}

Date of Fit:	02/07/2020 12:32:03	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	10.236831		
Predicted MQL:	34.122770		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00003	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00068	.000	1

Sample Name: Blank Acquired: 02/06/2020 11:28:17 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4554	Ba4934	Be3130	Be2348	Ca3158
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**-.000**	**.000**	**-.000**	**.000**	**.000**	**-325.**	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	14.	.000	.000	.000
%RSD	29.8	22.8	10.4	9.62	19.9	66.8	177.	3.80	4.16	2.76	78.4	2.29

Elem	Ca3933	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu3273	Fe2395	Fe2599	Mg2790	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**.000**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.000**	**.000**	**-.000**	**456.**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	9.
%RSD	1.90	36.3	27.6	44.7	6.14	32.5	167.	25.2	90.0	1230.	49.6	2.02

Elem	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**-.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	336.	185.	1160.	595.	175.	37.9	45.6	42.1	84.3	318.	12.9	85.1

Elem	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Ti3234	Ti3349	Sr4215	Sn1899	B_2497
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.70**	**.000**	**.000**	**.000**	**.000**	**.003**	**8.30**	**.000**	**.000**	**.000**	**.000**	**-.000**
Stddev	.48	.000	.000	.000	.000	.000	.89	.000	.000	.000	.000	.000
%RSD	28.6	13.8	91.1	42.9	17.6	.328	10.7	1.98	68.2	28.5	18.1	53.2

Elem	Li6707	K_7664	S_1820
Units	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**-34.1**	**.000**
Stddev	.000	10.8	.000
%RSD	49.0	31.6	43.8

Sample Name: Blank Acquired: 02/06/2020 11:28:17 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**202580.**	**1642500.**	**636250.**
Stddev	1156.	13509.	5262.
%RSD	.57047	.82245	.82704

Sample Name: CalStd2=0.5 Acquired: 02/06/2020 11:34:41 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	2.48	46.4	14.9

Int. Std.	Y_2243	Y_3242
Units	Cts/S	Cts/S
Avg	**197990.**	**1587500.**
Stddev	362.	8259.
%RSD	.18268	.52023

Sample Name: CalStd3=1 Acquired: 02/06/2020 11:41:07 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Ni2316	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	24.3	5.55	1.99	9.50	32.3	7.36	13.8	9.91	52.8	3.43

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198020.**	**1608900.**	**644150.**
Stddev	264.	5016.	5039.
%RSD	.13334	.31174	.78228

Sample Name: CalStd4=5 Acquired: 02/06/2020 11:47:21 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu3273	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.82	1.12	1.02	2.59	1.92	2.79	2.42	4.09	7.06	1.03	1.43	9.15

Elem	Ni2316	Pb2203	Sb2175	Ti3234	Ti3349	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	1.36	11.7	40.9	1.36	4.52	1.05

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**197960.**	**1602400.**	**639850.**
Stddev	335.	4847.	1038.
%RSD	.16919	.30249	.16224

Sample Name: CalStd5=10 Acquired: 02/06/2020 11:53:35 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4554	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.000	.000	.000	.000	.000	.001	.001	.000	.001	.000	.000	.000
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.17	6.76	26.6	80.7	4.18	1.45	.241	2.08	1.09	.911	1.33	2.23

Elem	Cu3273	Mn2576	Mo2020	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	4.72	.000
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.36	.000
%RSD	4.65	.246	3.79	5.34	4.36	17.9	5.79	19.7	13.9	11.3	7.63	1.82

Elem	Zn2062	Zn2138	Ti3234	Ti3349	Sr4215	Sn1899	B_2497	Li6707
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	.000	.001	.000	.000	.001	.000	.000	.000
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.64	.556	1.95	2.72	1.19	3.50	5.08	4.99

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	198100.	1594400.	632150.
Stddev	263.	4639.	5837.
%RSD	.13283	.29097	.92331

Sample Name: CalStd6=20 Acquired: 02/06/2020 11:59:51 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Ba4554	Cu3273	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.23	.895	5.03	.553	2.67	2.99	14.0	1.31

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198400.**	**1589000.**	**635910.**
Stddev	236.	5693.	4031.
%RSD	.11871	.35828	.63385

Sample Name: CalStd7=50 Acquired: 02/06/2020 12:06:03 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	As1937	As1972	Ba4554	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu3273	Mn2576	Mo2020	Mo2045
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.003**	**.002**	**.003**	**.001**	**.001**	**.002**	**.000**	**.001**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	8.54	6.70	.464	.454	.235	.554	.903	.664	2.38	.863	.875	1.22

Elem	Ni2316	Sb2068	Se1960	V_2924	Ti3234	Ti3349
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000
%RSD	.461	1.79	8.26	.851	.329	.651

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198060.**	**1589700.**	**631850.**
Stddev	328.	8959.	1005.
%RSD	.16562	.56358	.15906

Sample Name: CalStd8=100 Acquired: 02/06/2020 12:12:13 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4554	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.006**	**2560.**	**.011**	**.001**	**.019**	**.003**	**.005**
Stddev	.000	.000	.000	.000	.000	.000	12.	.000	.000	.000	.000	.000
%RSD	.566	.527	3.84	4.04	.381	1.09	.474	.163	1.34	1.31	.133	.211

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu3273	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.003**	**.002**	**.003**	**.000**	**9020.**	**.002**	**.001**	**.001**	**.002**	**.002**	**.000**
Stddev	.000	.000	.000	.000	.000	31.	.000	.000	.000	.000	.000	.000
%RSD	.565	1.07	.368	.648	.752	.347	.223	.584	.679	.438	.473	3.13

Elem	Pb2203	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Ti3234	Ti3349	Sr4215
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**41.5**	**.000**	**.001**	**.003**	**.005**	**.001**	**.001**	**.010**
Stddev	.000	.000	.000	.000	.4	.000	.000	.000	.000	.000	.000	.000
%RSD	2.51	3.69	2.32	29.9	1.01	.890	.295	.416	.227	1.18	1.03	1.47

Elem	Sn1899	B_2497	Li6707
Units	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.002**
Stddev	.000	.000	.000
%RSD	.749	.978	1.75

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198690.**	**1591600.**	**632630.**
Stddev	356.	1030.	6125.
%RSD	.17905	.06469	.96820

Sample Name: CalStd9=1000 Acquired: 02/06/2020 12:18:19 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4554	Ba4934	Be3130	Be2348	Ca3158
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.001**	**.002**	**.001**	**.001**	**.001**	**.055**	**29800.**	**.114**	**.008**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	80.	.000	.000	.000
%RSD	.954	.966	.433	.764	1.18	.463	.588	.268	.184	.544	1.01

Elem	Ca3933	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu3273	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.187**	**.029**	**.053**	**.023**	**.034**	**.021**	**.032**	**.002**	**.002**	**.003**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.102	.663	.706	.625	.557	.642	.391	.541	.351	.144	.597

Elem	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**89100.**	**.018**	**.009**	**.012**	**.007**	**.021**	**.020**	**.002**	**.004**	**.003**	**.002**
Stddev	133.	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.149	.377	.375	.805	.596	.757	.765	.309	.676	.603	.746

Elem	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Ti3234	Ti3349
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**414.**	**.001**	**.009**	**.027**	**.055**	**.008**	**554.**	**.010**	**.008**
Stddev	.000	.000	2.	.000	.000	.000	.000	.000	2.	.000	.000
%RSD	.603	.469	.470	.475	.553	.745	.667	.555	.408	.334	.467

Elem	Sr4215	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.106**	**.004**	**.005**	**.019**	**415.**	**.001**
Stddev	.000	.000	.000	.000	8.	.000
%RSD	.186	.818	.809	.162	1.87	.688

Sample Name: CalStd9=1000 Acquired: 02/06/2020 12:18:19 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198330.**	**1587500.**	**639110.**
Stddev	852.	4798.	3409.
%RSD	.42973	.30222	.53347

Sample Name: CalStd10=10000 Acquired: 02/06/2020 12:23:46 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1972	Ba4554	Ba4934	Ca3158	Co2286	Co2388	Cr2055	Cr2677
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.005**	**.016**	**.008**	**.466**	**257000.**	**.006**	**.219**	**.316**	**.195**	**.306**
Stddev	.000	.000	.000	.005	2440.	.000	.000	.000	.000	.001
%RSD	.660	.526	.193	1.13	.951	.611	.082	.091	.190	.206

Elem	Cu3273	Fe2395	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.015**	**.025**	**.001**	**743000.**	**.169**	**.087**	**.072**	**.194**	**.191**
Stddev	.000	.000	.000	.000	2490.	.001	.001	.000	.000	.000
%RSD	.591	.784	.717	.813	.335	.583	.697	.107	.114	.141

Elem	Pb2169	Sb2068	Sb2175	Se2062	Tl1908	V_2908	V_2924	Zn2062	Na5889	Si2516
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.016**	**.025**	**.017**	**.003**	**3480.**	**.012**	**.089**	**.257**	**.489**	**5370.**
Stddev	.000	.000	.000	.000	6.	.000	.001	.001	.008	14.
%RSD	.361	.215	.455	.338	.178	.494	.676	.237	1.62	.253

Elem	Ti3234	Ti3349	Sr4215	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.099**	**.077**	**1.01**	**.038**	**.049**	**.179**	**42700.**	**.084**
Stddev	.001	.000	.01	.000	.000	.001	164.	.000
%RSD	.691	.514	1.29	.176	.610	.595	.385	.100

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**189060.**	**1517100.**	**633030.**
Stddev	217.	9228.	4047.
%RSD	.11464	.60824	.63924

Sample Name: CalStd12=100K Acquired: 02/06/2020 12:30:36 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.77**	**.901**	**.172**	**2.31**
Stddev	.01	.007	.000	.02
%RSD	.850	.791	.260	.913

Int. Std.	Y_2243	Y_3710
Units	Cts/S	Cts/S
Avg	**194400.**	**638820.**
Stddev	316.	3069.
%RSD	.16262	.48047

Sample Name: CalStd13=100000 Acquired: 02/06/2020 12:37:38 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.047**	**.159**	**.057**	**.146**	**.248**	**.010**
Stddev	.000	.001	.000	.001	.002	.000
%RSD	.613	.603	.644	.640	.742	.772

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1517900.**	**626890.**
Stddev	3499.	3078.
%RSD	.23050	.49098

Sample Name: CalStd14=500000 Acquired: 02/06/2020 12:43:54 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.802**	**.272**	**.656**	**1.10**	**.049**
Stddev	.009	.003	.003	.01	.001
%RSD	1.16	1.07	.488	1.11	1.12

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1391300.**	**603900.**
Stddev	16594.	5490.
%RSD	1.1926	.90916

Sample Name: CalibStd15=1000k Acquired: 02/06/2020 12:51:08 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2395	Mg2790	Si2516	K_7664	S_1820
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.61**	**.527**	**1.23**	**.096**	**44700.**	**343000.**	**.754**
Stddev	.01	.002	.01	.000	45.	5340.	.001
%RSD	.894	.471	.395	.510	.101	1.56	.130

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**151420.**	**1243500.**	**554640.**
Stddev	215.	3133.	2921.
%RSD	.14223	.25193	.52669

Sample Name: Ag Ba 1000, 50000 Acquired: 02/06/2020 12:59:00 Type: Cal
Method: DOD Calibration Updated 060614(v3727) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba4934
Units	Cts/S	Cts/S
Avg	**.004**	**1580000.**
Stddev	.000	24000.
%RSD	.458	1.52
Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1599400.**	**637490.**
Stddev	9066.	4345.
%RSD	.56680	.68156

Sample Name: icv Acquired: 02/06/2020 13:11:52 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Co2388
Avg	**52.0**	**12200.**	**11600.**	**2030.**	**2040.**	**2000.**	**2030.**	**50.6**	**10100.**	**49.7**	**525.**	**529.**
Stddev	.5	111.	110.	9.	9.	15.	4.	.3	76.	.3	1.	2.
%RSD	.949	.910	.942	.431	.465	.735	.211	.677	.755	.594	.262	.293
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Cr2055	Cr2677	Cu3273	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169
Avg	**209.**	**208.**	**256.**	**4950.**	**9930.**	**513.**	**499.**	**493.**	**513.**	**521.**	**520.**	**481.**
Stddev	.	1.	3.	44.	96.	3.	4.	1.	.	2.	2.	4.
%RSD	.161	.584	1.06	.878	.970	.555	.747	.240	.026	.296	.445	.777
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Ti3234
Avg	**497.**	**515.**	**515.**	**1980.**	**2100.**	**1950.**	**531.**	**519.**	**513.**	**5000.**	**562.**	**504.**
Stddev	2.	3.	3.	9.	26.	3.	4.	2.	2.	48.	3.	4.
%RSD	.449	.495	.638	.432	1.25	.164	.780	.367	.346	.959	.569	.758
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Sample Name: icv Acquired: 02/06/2020 13:11:52 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Sr4215	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**515.**	**527.**	**511.**	**521.**	**5320.**	**9720.**
Stddev	5.	2.	3.	4.	13.	34.
%RSD	.893	.413	.671	.838	.252	.352
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**196640.**	**1556300.**	**628160.**
Stddev	475.	7344.	5042.
%RSD	.24170	.47189	.80270

Sample Name: ICVLL Acquired: 02/06/2020 13:23:55 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	As1937	Ba2335	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu3273
Avg	F **26.0**	**1150.**	**1220.**	**57.7**	**29.8**	**12.4**	**1520.**	**1460.**	**15.3**	**30.6**	**30.7**	**33.4**
Stddev	.6	7.	22.	2.2	.6	.1	15.	7.	.1	.2	.8	.9
%RSD	2.34	.604	1.78	3.75	1.88	.958	.959	.463	.657	.718	2.47	2.83
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Na5889
Avg	**877.**	**1480.**	**30.8**	**30.3**	**31.0**	**30.5**	**64.7**	**65.1**	**56.9**	**31.5**	**31.2**	**2940.**
Stddev	6.	25.	.4	.6	.3	1.2	3.1	4.3	.7	.1	.1	21.
%RSD	.713	1.68	1.22	2.04	.860	3.79	4.77	6.59	1.27	.349	.243	.696
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Si2516	Ti3234	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**331.**	**29.3**	**159.**	**65.1**	**61.7**	**15300.**	**2960.**
Stddev	6.	.2	2.	.5	.7	32.	7.
%RSD	1.79	.610	.987	.715	1.12	.210	.225
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value							
Range							

Sample Name: ICVLL Acquired: 02/06/2020 13:23:55 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**196860.**	**1538900.**	**625630.**
Stddev	433.	30085.	5121.
%RSD	.22009	1.9549	.81854

Sample Name: icb Acquired: 02/06/2020 13:36:19 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu3273	Fe2599	Mg2802
Avg	**-.389**	**.275**	**-4.52**	**-.119**	**.012**	**-.252**	**.161**	**-.114**	**.511**	**.418**	**-4.61**	**-1.84**
Stddev	.332	.661	1.90	.014	.017	.101	.066	.291	.270	2.43	.65	.03
%RSD	85.4	240.	42.1	12.0	142.	40.2	41.0	255.	52.8	581.	14.2	1.78
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Na5889	Si2516	Ti3349
Avg	**-.480**	**.229**	**.094**	**1.17**	**2.13**	**1.62**	**1.54**	**-.289**	**-.278**	**-53.6**	**-.810**	**-.164**
Stddev	.081	.338	.271	1.47	2.49	2.85	2.33	.301	.115	4.2	2.11	.278
%RSD	16.8	147.	289.	126.	117.	176.	152.	104.	41.4	7.89	261.	169.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**.593**	**2.42**	**-.808**	**-2.40**	**3.51**
Stddev	.484	.46	.757	10.8	2.66
%RSD	81.7	19.2	93.8	449.	75.6
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: icb Acquired: 02/06/2020 13:36:19 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	200700.	1615200.	637080.
Stddev	934.	10618.	5360.
%RSD	.46516	.65738	.84131

Sample Name: MRL/LLOQ Acquired: 02/06/2020 13:42:33 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu3273	Fe2599	Mg2802
Avg	F **8.19**	**385.**	**16.7**	**9.49**	**4.06**	**481.**	**5.32**	**10.3**	**10.4**	**11.0**	**292.**	**492.**
Stddev	.52	1.	3.3	.16	.04	5.	.12	.2	.4	.8	3.	1.
%RSD	6.33	.317	19.5	1.69	.861	.961	2.30	1.66	3.46	7.54	.903	.183
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	20.0											
Range	-30.0%											

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Na5889	Si2516	Ti3234
Avg	**9.56**	**10.0**	**10.4**	**12.4**	**20.5**	**22.8**	**18.0**	**9.64**	**10.2**	**944.**	**110.**	**9.41**
Stddev	.14	.1	.3	.8	2.4	1.7	2.0	.25	.2	7.	3.	.21
%RSD	1.46	.963	3.34	6.24	11.7	7.44	11.2	2.60	1.91	.782	2.56	2.20
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**53.0**	**22.0**	**20.3**	**5080.**	**983.**
Stddev	.5	.6	.5	17.	10.
%RSD	.950	2.52	2.42	.333	1.04
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value					
Range					

Sample Name: MRL/LLOQ Acquired: 02/06/2020 13:42:33 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**196520.**	**1581700.**	**622370.**
Stddev	385.	8186.	4279.
%RSD	.19599	.51752	.68755

Sample Name: ICSA Acquired: 02/06/2020 13:48:43 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu3273	Fe2599
Avg	**-.335**	**495000.**	**11.5**	**.000**	**.497**	**481000.**	**.810**	**1.45**	**2.17**	**6.37**	**445000.**
Stddev	.857	3190.	8.1	.883	.057	4540.	.296	.22	.59	3.87	2930.
%RSD	256.	.645	70.6	527000.	11.4	.943	36.5	15.2	27.2	60.8	.659
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	Zn2138	Na5889
Avg	**521000.**	**2.04**	**.719**	**-1.45**	**1.91**	**6.57**	**-4.92**	**-.008**	**21700.**	**-1.81**	**32.0**
Stddev	4370.	.16	.870	.63	4.39	4.67	5.93	1.10	214.	.39	7.4
%RSD	.840	7.91	121.	43.7	230.	71.2	120.	13600.	.987	21.5	23.2
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Si2516	Ti3234	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**-22.6**	**2.50**	**-2.23**	**.416**	**1.25**	**33.1**	**26.1**
Stddev	5.3	.37	1.23	6.74	.96	10.9	11.0
%RSD	23.5	14.8	55.0	1620.	76.8	32.8	42.1
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit							
Low Limit							

Sample Name: ICSA Acquired: 02/06/2020 13:48:43 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**169240.**	**1400700.**	**587340.**
Stddev	219.	2333.	5425.
%RSD	.12940	.16654	.92365

Sample Name: ICSAB Acquired: 02/06/2020 13:55:54 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Ba4554	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2286
Avg	**522.**	**508000.**	**571.**	**471.**	**533.**	**491.**	**514.**	**498000.**	**473.**	**521.**	**489.**
Stddev	5.	6990.	17.	7.	3.	6.	4.	3640.	2.	1.	1.
%RSD	1.03	1.38	3.04	1.57	.612	1.13	.791	.731	.435	.179	.158
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Co2388	Cr2055	Cr2677	Cu3273	Fe2599	Mg2790	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216
Avg	**448.**	**524.**	**529.**	**535.**	**440000.**	**539000.**	**485.**	**401.**	**534.**	**527.**	**473.**
Stddev	3.	1.	3.	5.	1230.	3670.	6.	5.	1.	2.	1.
%RSD	.616	.213	.646	.848	.279	.681	1.20	1.13	.158	.424	.240
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Ni2316	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138	Si2516	Ti3349
Avg	**474.**	**437.**	**512.**	**514.**	**489.**	**527.**	**544.**	**451.**	**508.**	**2180.**	**529.**
Stddev	1.	5.	7.	12.	8.	2.	5.	1.	1.	10.	4.
%RSD	.233	1.03	1.31	2.35	1.70	.354	.908	.318	.169	.455	.747
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Sample Name: ICSAB Acquired: 02/06/2020 13:55:54 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Sr4215	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**518.**	**518.**	**507.**	**556.**	**21500.**	**20600.**
Stddev	4.	1.	11.	4.	90.	20.
%RSD	.810	.287	2.14	.733	.419	.095
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value						
Range						

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**168820.**	**1398300.**	**584810.**
Stddev	362.	15541.	3129.
%RSD	.21430	1.1114	.53510

Sample Name: ICVLL ag Acquired: 02/06/2020 14:14:26 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu3273	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9.28**	**3.76**	**-5.86**	**1.32**	**.112**	**6.99**	**.045**	**.775**	**1.01**	**-1.38**	**5.03**	**2.74**
Stddev	.54	1.00	1.83	.20	.016	.03	.132	.190	.21	2.78	1.93	.05
%RSD	5.79	26.5	31.2	14.8	14.7	.462	293.	24.5	20.8	202.	38.4	1.97

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Na5889	Si2516	Ti3349
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.916**	**.942**	**1.22**	**1.02**	**2.02**	**2.65**	**.207**	**.750**	**1.19**	**-39.3**	**-3.61**	**.387**
Stddev	.035	.491	.36	1.23	1.43	1.63	1.36	.715	.04	3.5	2.76	.458
%RSD	3.87	52.1	29.4	121.	70.6	61.5	656.	95.3	3.79	8.92	76.6	118.

Elem	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1.64**	**3.77**	**.845**	**14.1**	**9.47**
Stddev	.53	.19	1.07	10.1	2.35
%RSD	32.5	5.14	127.	71.3	24.9

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**196580.**	**1587000.**	**627730.**
Stddev	537.	2835.	1922.
%RSD	.27317	.17866	.30618

Sample Name: lcsw75378 Acquired: 02/06/2020 14:20:39 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu3273
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.0**	**772.**	**883.**	**803.**	**843.**	**20.9**	**198000.**	**20.3**	**214.**	**88.7**	**112.**
Stddev	.7	2.	4.	4.	6.	.2	1290.	.2	1.	.3	3.
%RSD	3.41	.213	.459	.502	.694	.814	.653	.975	.286	.383	2.94

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**414.**	**99000.**	**208.**	**2450.**	**215.**	**195.**	**219.**	**823.**	**678.**	**215.**	**216.**
Stddev	3.	654.	2.	3.	1.	2.	2.	6.	3.	2.	.
%RSD	.709	.660	.760	.131	.375	1.03	.902	.714	.406	.749	.231

Elem	Si2516	Ti3234	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-34.3**	**-.668**	**1.70**	**2.27**	**2.21**	**99600.**	**21.5**
Stddev	4.0	.452	.70	.48	.89	203.	8.7
%RSD	11.5	67.6	40.9	21.2	40.3	.204	40.5

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**178030.**	**1458400.**	**602410.**
Stddev	207.	10110.	3041.
%RSD	.11605	.69324	.50475

Sample Name: mbw75378 Acquired: 02/06/2020 14:27:05 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu3273	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.063**	**2.03**	**-6.47**	**-.156**	**.068**	**3.68**	**-.056**	**-.374**	**.499**	**.923**	**1.41**	**-1.52**
Stddev	.326	.41	2.08	.246	.009	.31	.053	.223	.238	.995	.34	.05
%RSD	513.	20.2	32.2	158.	13.0	8.48	93.6	59.6	47.6	108.	23.7	3.02

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	V_2924	Zn2138	Na5889	Si2516
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.438**	**.985**	**-.043**	**.928**	**.666**	**2.83**	**.350**	**-.874**	**.007**	**.472**	**7.41**	**14.7**
Stddev	.055	.037	.107	.670	2.42	1.33	1.28	1.83	.642	.119	4.32	4.8
%RSD	12.5	3.78	247.	72.1	363.	46.9	366.	209.	8960.	25.2	58.3	32.6

Elem	Ti3349	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.128**	**2.26**	**1.88**	**-.007**	**78.4**	**13.6**
Stddev	.407	.52	.37	.550	27.9	4.5
%RSD	318.	23.1	19.8	7350.	35.6	32.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195080.**	**1592700.**	**623500.**
Stddev	339.	387.	1930.
%RSD	.17399	.02427	.30954

Sample Name: 384619 Acquired: 02/06/2020 14:33:18 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu3273	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.129**	**5180.**	**-3.18**	**192.**	**205.**	**.355**	**77800.**	**-.304**	**3.70**	**11.9**	**16.4**	**6250.**
Stddev	.262	40.	2.04	1.	2.	.015	1020.	.058	.21	.4	1.2	76.
%RSD	203.	.763	64.2	.746	.732	4.23	1.31	19.1	5.73	3.12	7.13	1.21

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	V_2924	Zn2138	Si2516
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**40000.**	**240.**	**1.99**	**8.20**	**6.93**	**2.15**	**3.38**	**3.91**	**8.38**	**9.41**	**21.8**	**17400.**
Stddev	564.	2.	.31	.29	1.79	2.81	5.02	2.34	1.64	.25	.2	98.
%RSD	1.41	.632	15.4	3.50	25.8	131.	149.	60.0	19.5	2.64	1.08	.561

Elem	Ti3234	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**67.2**	**1.54**	**17.6**	**68.8**	**3500.**	**16300.**
Stddev	2.2	.58	.4	.5	26.	33.
%RSD	3.24	38.1	2.04	.793	.746	.204

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**184620.**	**1519300.**	**624830.**
Stddev	420.	8205.	8828.
%RSD	.22759	.54004	1.4129

Sample Name: I384619 Acquired: 02/06/2020 14:39:27 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu3273	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.202**	**1020.**	**1120.**	**-5.08**	**41.5**	**.156**	**17300.**	**-.089**	**.350**	**2.94**	**3.36**	**1390.**
Stddev	.634	5.	12.	1.67	.2	.025	198.	.071	.175	.42	3.45	18.
%RSD	313.	.485	1.09	32.9	.581	16.2	1.14	79.5	50.1	14.4	103.	1.27

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Na5889	Si2516
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**8850.**	**52.0**	**.905**	**1.57**	**.834**	**-.221**	**3.43**	**.786**	**1.61**	**5.13**	**2290.**	**3730.**
Stddev	124.	.2	.103	.20	1.35	1.03	1.89	2.27	.36	.06	24.	9.
%RSD	1.40	.477	11.3	13.1	162.	464.	55.1	289.	22.4	1.23	1.07	.233

Elem	Ti3234	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**15.4**	**1.51**	**4.70**	**14.4**	**741.**	**3390.**
Stddev	.7	.14	.27	.3	14.	10.
%RSD	4.78	9.43	5.78	1.93	1.89	.286

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**191770.**	**1570700.**	**611830.**
Stddev	378.	2794.	5693.
%RSD	.19735	.17787	.93041

Sample Name: dup384619 Acquired: 02/06/2020 14:46:00 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu3273	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.130**	**4970.**	**-3.33**	**179.**	**197.**	**.376**	**77600.**	**-.381**	**3.74**	**11.0**	**15.2**	**6040.**
Stddev	.426	75.	4.07	1.	2.	.009	1050.	.307	.36	.5	3.0	79.
%RSD	327.	1.51	122.	.346	1.07	2.36	1.35	80.6	9.56	4.24	19.7	1.31

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Si2516	Ti3234
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**40100.**	**234.**	**1.77**	**7.45**	**6.21**	**.721**	**3.72**	**3.01**	**8.62**	**21.4**	**16600.**	**58.2**
Stddev	573.	1.	.11	.25	.39	2.89	2.16	.50	.30	.1	20.	1.2
%RSD	1.43	.258	6.33	3.41	6.28	401.	58.0	16.6	3.45	.691	.122	1.98

Elem	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**2.59**	**15.6**	**66.9**	**3310.**	**15900.**
Stddev	1.17	.3	1.1	14.	79.
%RSD	45.1	2.16	1.66	.434	.497

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**185320.**	**1525200.**	**612550.**
Stddev	346.	4145.	8308.
%RSD	.18668	.27174	1.3563

Sample Name: msw384619 Acquired: 02/06/2020 14:52:09 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu3273
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**22.8**	**8130.**	**895.**	**955.**	**1070.**	**21.4**	**278000.**	**20.5**	**216.**	**102.**	**127.**
Stddev	.9	24.	3.	3.	3.	.1	336.	.4	1.	1.	1.
%RSD	3.76	.295	.357	.261	.297	.305	.121	1.93	.248	.704	.863

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**6930.**	**144000.**	**431.**	**2500.**	**219.**	**198.**	**216.**	**824.**	**663.**	**241.**	**241.**
Stddev	10.	362.	2.	5.	.	1.	3.	6.	3.	2.	.
%RSD	.143	.251	.461	.207	.167	.636	1.16	.716	.450	.687	.163

Elem	Si2516	Ti3234	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20400.**	**107.**	**2.58**	**20.3**	**73.3**	**106000.**	**16900.**
Stddev	23.	2.	.77	.5	.8	197.	49.
%RSD	.112	1.78	29.8	2.36	1.15	.186	.289

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173700.**	**1446700.**	**594480.**
Stddev	643.	6359.	1722.
%RSD	.37024	.43950	.28957

Sample Name: msdw384619 Acquired: 02/06/2020 14:58:25 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba2335	Ba4554	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu3273
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.9**	**8280.**	**887.**	**942.**	**1070.**	**21.2**	**278000.**	**20.5**	**215.**	**101.**	**126.**
Stddev	.4	89.	6.	7.	10.	.1	2450.	.4	.	.	3.
%RSD	1.90	1.08	.693	.708	.901	.559	.879	1.79	.149	.377	2.15

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**7010.**	**145000.**	**427.**	**2500.**	**218.**	**193.**	**214.**	**827.**	**660.**	**239.**	**240.**
Stddev	48.	1240.	4.	4.	1.	2.	5.	5.	2.	3.	1.
%RSD	.686	.859	.932	.163	.355	.851	2.40	.623	.312	1.08	.245

Elem	Si2516	Ti3234	Sn1899	B_2497	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20200.**	**105.**	**2.74**	**20.2**	**74.0**	**106000.**	**16800.**
Stddev	46.	2.	1.28	.9	.9	529.	34.
%RSD	.228	2.14	46.7	4.27	1.19	.500	.201

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173320.**	**1449900.**	**591440.**
Stddev	337.	9921.	5082.
%RSD	.19463	.68422	.85924

Sample Name: pdsw384619 Acquired: 02/06/2020 15:04:40 Type: Unk
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1972	Ba4554	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Co2388
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**101.**	**9190.**	**3970.**	**4250.**	**3980.**	**95.3**	**463000.**	**89.2**	**109.**	**924.**	**952.**
Stddev	1.	38.	396.	37.	26.	.6	1030.	9.9	12.	102.	47.
%RSD	.957	.410	9.96	.878	.660	.590	.222	11.1	10.9	11.0	4.92

Elem	Cr2055	Cr2677	Cu3273	Fe2599	Mg2790	Mn2593	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**385.**	**405.**	**526.**	**7680.**	**244000.**	**894.**	**108.**	**902.**	**903.**	**936.**	**835.**
Stddev	44.	19.	4.	35.	620.	6.	12.	103.	99.	95.	93.
%RSD	11.4	4.79	.782	.454	.254	.671	11.6	11.5	11.0	10.1	11.2

Elem	Sb2068	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138	Si2516	Ti3234	Sn1899	B_2497
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**1010.**	**3970.**	**2800.**	**1000.**	**1020.**	**901.**	**971.**	**16000.**	**65.0**	**2.94**	**15.1**
Stddev	103.	377.	154.	6.	5.	111.	109.	41.	.6	.99	.3
%RSD	10.3	9.50	5.50	.579	.453	12.4	11.2	.255	.915	33.6	2.11

Elem	Li6707	K_7664	S_1820
Units	ug/L	ug/L	ug/L
Avg	**68.9**	**3550.**	**15500.**
Stddev	.5	20.	1640.
%RSD	.731	.549	10.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**173390.**	**1410400.**	**582570.**
Stddev	9319.	6935.	2020.
%RSD	5.3748	.49172	.34671

Sample Name: ccv1 Acquired: 02/06/2020 15:11:07 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	As1972	Ba4554	Ba4934	Be3130	Be2348	Ca3158	Cd2265	Cd2288	Co2388	Cr2055	Cr2677
Avg	**5040.**	**5000.**	**5000.**	**4920.**	**483.**	**497.**	**5020.**	**502.**	**507.**	**4990.**	**4930.**	**5000.**
Stddev	84.	8.	94.	49.	3.	8.	71.	1.	.	5.	5.	8.
%RSD	1.67	.153	1.87	1.00	.648	1.64	1.40	.189	.042	.107	.109	.162
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cu3273	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	V_2924
Avg	**5030.**	**4970.**	**4940.**	**4970.**	**5020.**	**5030.**	**4790.**	**5060.**	**5160.**	**4530.**	**5020.**	**5020.**
Stddev	81.	85.	76.	82.	6.	3.	12.	8.	11.	9.	72.	31.
%RSD	1.62	1.71	1.53	1.65	.124	.057	.249	.150	.210	.189	1.44	.609
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Si2516	Ti3234	Sr4215	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**5020.**	**5380.**	**5050.**	**4970.**	**5070.**	**4860.**	**5050.**	**49800.**	**49900.**
Stddev	9.	12.	83.	55.	4.	27.	76.	264.	52.
%RSD	.173	.217	1.64	1.12	.084	.561	1.50	.530	.104
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Sample Name: ccv1 Acquired: 02/06/2020 15:11:07 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**190040.**	**1552700.**	**603530.**
Stddev	289.	8964.	9234.
%RSD	.15229	.57730	1.5300

Sample Name: ccv2 Acquired: 02/06/2020 15:17:24 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Ba4554	Be3130	Ca3933	Cd2265	Co2286	Co2388	Cr2055	Cr2677
Avg	**50.0**	**490.**	**505.**	**477.**	**515.**	**48.6**	**488.**	**50.6**	**520.**	**522.**	**508.**	**516.**
Stddev	.6	1.	4.	2.	5.	.2	4.	.3	2.	2.	2.	1.
%RSD	1.11	.168	.888	.481	.905	.332	.876	.648	.373	.405	.377	.155
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Cu3273	Fe2599	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Avg	**515.**	**506.**	**501.**	**492.**	**510.**	**496.**	**512.**	**526.**	**526.**	**506.**	**487.**	**515.**
Stddev	2.	3.	1.	2.	3.	2.	2.	1.	1.	3.	2.	2.
%RSD	.400	.589	.271	.355	.664	.397	.340	.194	.193	.585	.480	.405
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138	Na5889	Si2516	Ti3234	Sr4215	Sn1899	B_2497
Avg	**497.**	**500.**	**504.**	**507.**	**513.**	**509.**	**4950.**	**543.**	**510.**	**507.**	**530.**	**504.**
Stddev	1.	2.	5.	1.	1.	1.	36.	2.	4.	5.	2.	3.
%RSD	.177	.394	.987	.222	.288	.280	.734	.412	.696	.967	.298	.520
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Sample Name: ccv2 Acquired: 02/06/2020 15:17:24 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Li6707	K_7664	S_1820
Avg	**517.**	**5330.**	**4860.**
Stddev	5.	37.	16.
%RSD	1.02	.698	.318
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**195560.**	**1602400.**	**614570.**
Stddev	300.	5752.	1922.
%RSD	.15361	.35895	.31281

Sample Name: ccb Acquired: 02/06/2020 15:23:01 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu3273	Fe2599	Mg2802
Avg	**.277**	**-.091**	**-6.37**	**-.082**	**.079**	**-.030**	**.257**	**-.254**	**.224**	**2.49**	**-4.67**	**-1.88**
Stddev	.517	.386	2.25	.235	.015	.021	.099	.189	.598	1.73	.87	.04
%RSD	187.	426.	35.3	288.	19.3	69.0	38.7	74.7	267.	69.3	18.6	1.94
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

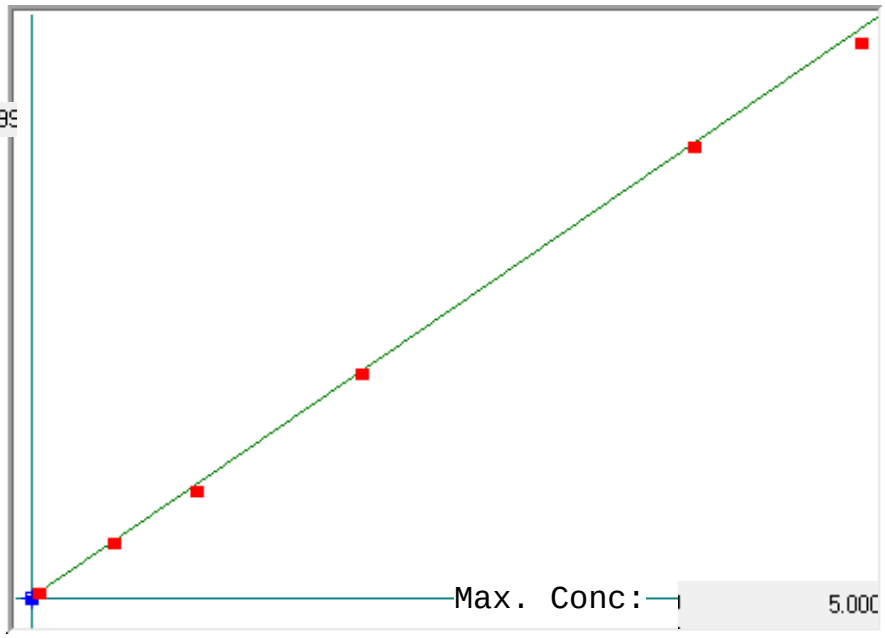
Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138	Na5889	Si2516	Ti3349
Avg	**-.486**	**.433**	**.111**	**1.33**	**.022**	**.840**	**.349**	**.014**	**-.062**	**-46.8**	**-3.48**	**-.177**
Stddev	.099	.277	.311	1.05	2.45	1.17	1.23	.130	.076	7.6	2.56	.254
%RSD	20.4	63.9	279.	78.8	11000.	139.	353.	934.	123.	16.3	73.6	144.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Sn1899	B_2497	Li6707	K_7664	S_1820
Avg	**-.221**	**6.09**	**-.714**	**4.27**	**9.62**
Stddev	.926	.56	1.11	5.80	4.51
%RSD	420.	9.24	155.	136.	46.8
Check ?	None	None	None	None	None
Value					
Range					

Sample Name: ccb Acquired: 02/06/2020 15:23:01 Type: QC
Method: DOD Calibration Updated 060614(v3727) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**198290.**	**1627100.**	**629510.**
Stddev	227.	3947.	6037.
%RSD	.11454	.24255	.95898

Hg Waters



A= 0.0000e+000

B= 1.6500e-004

C= -2.9362e-003

Rho= 0.9991241

Accept= Accepted

Accepted Date=

02/06/20 09:24

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
CALIBRATION BLANK	0.000	-0.001	-0.001	12	3.700	11	8	18	14	
0.05	0.050	0.054	0.004	342	2.2 %	332	341	345	353	
0.5	0.500	0.496	-0.004	3024	3.1 %	2902	2978	3069	3148	
1.0	1.000	0.956	-0.044	5814	2.8 %	5590	5747	5888	6031	0
2.0	2.000	1.985	-0.015	12048	2.3 %	11633	11965	12212	12384	
4.0	4.000	3.974	-0.026	24099	2.8 %	23151	23831	24418	24996	
5.0	5.000	4.881	-0.119	29598	3.1 %	28343	29199	30075	30777	

020620w

Method: Hg Waters Operator: Admin Date of Analysis: 06 Feb 2020 09:00:15

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
CALIBRATION BLANK	06 Feb 2020 09:10:19	Hg			12.750
0.05	06 Feb 2020 09:12:19	Hg			342.750
0.5	06 Feb 2020 09:14:20	Hg			3024.250
1.0	06 Feb 2020 09:16:21	Hg			5814.000
2.0	06 Feb 2020 09:18:22	Hg			12048.500
4.0	06 Feb 2020 09:20:24	Hg			24099.000
5.0	06 Feb 2020 09:22:27	Hg		See next page	29598.500
ICV	06 Feb 2020 09:24:38	Hg			2.270
ICB	06 Feb 2020 09:30:36	Hg			0.010
lcsw	06 Feb 2020 09:34:35	Hg			1.967
mbw	06 Feb 2020 09:38:38	Hg			0.006
384619	06 Feb 2020 09:40:38	Hg			-0.003
384962dup 384619	06 Feb 2020 09:42:37	Hg			0.009
384963msw 384619	06 Feb 2020 09:46:36	Hg			2.032
384964msdw 384619	06 Feb 2020 09:48:39	Hg			2.013
CCV	06 Feb 2020 09:54:44	Hg			2.872
CCB	06 Feb 2020 09:58:48	Hg			-0.033
383549	06 Feb 2020 10:00:48	Hg			0.001
383551	06 Feb 2020 10:02:49	Hg			0.013
383553	06 Feb 2020 10:04:50	Hg			0.036
383555	06 Feb 2020 10:06:49	Hg			0.043
383557	06 Feb 2020 10:08:49	Hg			0.019
384082	06 Feb 2020 10:10:49	Hg			0.066
384086	06 Feb 2020 10:12:49	Hg			0.375
383548	06 Feb 2020 10:14:49	Hg			-0.032
383550	06 Feb 2020 10:16:48	Hg			0.005
383552	06 Feb 2020 10:18:47	Hg			0.012
CCV	06 Feb 2020 10:22:47	Hg			3.002
CCB	06 Feb 2020 10:26:52	Hg			0.006
383554	06 Feb 2020 10:28:52	Hg			0.006
383556	06 Feb 2020 10:30:52	Hg			0.009
383741	06 Feb 2020 10:32:53	Hg			0.228
383743	06 Feb 2020 10:34:55	Hg			0.004
383724	06 Feb 2020 10:36:55	Hg			0.004
384048	06 Feb 2020 10:38:55	Hg			0.003
384952msw 383549	06 Feb 2020 10:42:54	Hg			1.955
384953msdw 383549	06 Feb 2020 10:44:56	Hg			1.991
384956msw 384086	06 Feb 2020 10:46:58	Hg			2.310
CCV	06 Feb 2020 10:51:02	Hg			3.044
CCB	06 Feb 2020 10:55:07	Hg			-0.003
384957msdw 384086	06 Feb 2020 10:59:07	Hg			2.524
385192msw 383548	06 Feb 2020 11:01:10	Hg			1.865
385193msdw 383548	06 Feb 2020 11:03:13	Hg			1.980
385622msw 383724	06 Feb 2020 11:05:16	Hg			1.882
CCV	06 Feb 2020 11:09:21	Hg			3.013
CCB	06 Feb 2020 11:13:25	Hg			0.002

020620w ICV

Method: Hg Waters Operator: Admin Date of Analysis: 06 Feb 2020 09:00:15

Sample ID	Date	Element	Units	Extended ID	Conc.	µ Abs.
ICV - 1	06 Feb 2020 09:24:38	Hg			(L)90.4% 2.712	16456
ICV - 2	06 Feb 2020 09:24:38	Hg			(L)93.4% 2.801	16996
ICV - 3	06 Feb 2020 09:24:38	Hg			96.1% 2.884	17494
ICV - 4	06 Feb 2020 09:24:38	Hg			98.5% 2.954	17923
ICV - 1	06 Feb 2020 09:26:51	Hg			(L)-0.1% -0.003	0

Software was stopped during the rerun of the ICV because it was unnecessary. The software averaged the ICV result with the zero result.

020620w detailed

Method: Hg Waters Operator: Admin Date of Analysis: 06 Feb 2020 09:00:15

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
CALIBRATION BLANK - 1	06 Feb 2020 09:10:19	Hg			11	-
CALIBRATION BLANK - 2	06 Feb 2020 09:10:19	Hg			8	-
CALIBRATION BLANK - 3	06 Feb 2020 09:10:19	Hg			18	-
CALIBRATION BLANK - 4	06 Feb 2020 09:10:19	Hg			14	-
0.05 - 1	06 Feb 2020 09:12:19	Hg			332	-
0.05 - 2	06 Feb 2020 09:12:19	Hg			341	-
0.05 - 3	06 Feb 2020 09:12:19	Hg			345	-
0.05 - 4	06 Feb 2020 09:12:19	Hg			353	-
0.5 - 1	06 Feb 2020 09:14:20	Hg			2902	-
0.5 - 2	06 Feb 2020 09:14:20	Hg			2978	-
0.5 - 3	06 Feb 2020 09:14:20	Hg			3069	-
0.5 - 4	06 Feb 2020 09:14:20	Hg			3148	-
1.0 - 1	06 Feb 2020 09:16:21	Hg			5590	-
1.0 - 2	06 Feb 2020 09:16:21	Hg			5747	-
1.0 - 3	06 Feb 2020 09:16:21	Hg			5888	-
1.0 - 4	06 Feb 2020 09:16:21	Hg			6031	-
2.0 - 1	06 Feb 2020 09:18:22	Hg			11633	-
2.0 - 2	06 Feb 2020 09:18:22	Hg			11965	-
2.0 - 3	06 Feb 2020 09:18:22	Hg			12212	-
2.0 - 4	06 Feb 2020 09:18:22	Hg			12384	-
4.0 - 1	06 Feb 2020 09:20:24	Hg			23151	-
4.0 - 2	06 Feb 2020 09:20:24	Hg			23831	-
4.0 - 3	06 Feb 2020 09:20:24	Hg			24418	-
4.0 - 4	06 Feb 2020 09:20:24	Hg			24996	-
5.0 - 1	06 Feb 2020 09:22:27	Hg			28343	-
5.0 - 2	06 Feb 2020 09:22:27	Hg			29199	-
5.0 - 3	06 Feb 2020 09:22:27	Hg			30075	-
5.0 - 4	06 Feb 2020 09:22:27	Hg			30777	-
ICV - 1	06 Feb 2020 09:24:38	Hg			16456	(L)90.4% 2.712
ICV - 2	06 Feb 2020 09:24:38	Hg			16996	(L)93.4% 2.801
ICV - 3	06 Feb 2020 09:24:38	Hg			17494	96.1% 2.884
ICV - 4	06 Feb 2020 09:24:38	Hg			17923	98.5% 2.954
ICB - 1	06 Feb 2020 09:30:36	Hg			73	0.009
ICB - 2	06 Feb 2020 09:30:36	Hg			78	0.010
ICB - 3	06 Feb 2020 09:30:36	Hg			77	0.010
ICB - 4	06 Feb 2020 09:30:36	Hg			76	0.010
lcsw - 1	06 Feb 2020 09:34:35	Hg			11631	1.916
lcsw - 2	06 Feb 2020 09:34:35	Hg			11829	1.949
lcsw - 3	06 Feb 2020 09:34:35	Hg			12001	1.977
lcsw - 4	06 Feb 2020 09:34:35	Hg			12295	2.026
mbw - 1	06 Feb 2020 09:38:38	Hg			57	0.006
mbw - 2	06 Feb 2020 09:38:38	Hg			58	0.007
mbw - 3	06 Feb 2020 09:38:38	Hg			53	0.006
mbw - 4	06 Feb 2020 09:38:38	Hg			55	0.006
384619 - 1	06 Feb 2020 09:40:38	Hg			0	-0.003 [ ]
384619 - 2	06 Feb 2020 09:40:38	Hg			5	-0.002 [ ]
384619 - 3	06 Feb 2020 09:40:38	Hg			3	-0.002 [ ]
384619 - 4	06 Feb 2020 09:40:38	Hg			0	-0.003 [ ]
384962dup 384619 - 1	06 Feb 2020 09:42:37	Hg			81	0.010
384962dup 384619 - 2	06 Feb 2020 09:42:37	Hg			68	0.008
384962dup 384619 - 3	06 Feb 2020 09:42:37	Hg			66	0.008
384962dup 384619 - 4	06 Feb 2020 09:42:37	Hg			70	0.009
384963msw 384619 - 1	06 Feb 2020 09:46:36	Hg			11890	1.959
384963msw 384619 - 2	06 Feb 2020 09:46:36	Hg			12195	2.009
384963msw 384619 - 3	06 Feb 2020 09:46:36	Hg			12497	2.059
384963msw 384619 - 4	06 Feb 2020 09:46:36	Hg			12747	2.100
384964msdw 384619 - 1	06 Feb 2020 09:48:39	Hg			11698	1.927
384964msdw 384619 - 2	06 Feb 2020 09:48:39	Hg			12056	1.986
384964msdw 384619 - 3	06 Feb 2020 09:48:39	Hg			12427	2.048
384964msdw 384619 - 4	06 Feb 2020 09:48:39	Hg			12688	2.091
CCV - 1	06 Feb 2020 09:54:44	Hg			16924	93.0% 2.790
CCV - 2	06 Feb 2020 09:54:44	Hg			17247	94.8% 2.843
CCV - 3	06 Feb 2020 09:54:44	Hg			17613	96.8% 2.903
CCV - 4	06 Feb 2020 09:54:44	Hg			17907	98.4% 2.952
CCB - 1	06 Feb 2020 09:58:48	Hg			-181	-0.033
CCB - 2	06 Feb 2020 09:58:48	Hg			-183	-0.033
CCB - 3	06 Feb 2020 09:58:48	Hg			-179	-0.032
CCB - 4	06 Feb 2020 09:58:48	Hg			-185	-0.033
383549 - 1	06 Feb 2020 10:00:48	Hg			18	0.000
383549 - 2	06 Feb 2020 10:00:48	Hg			20	0.000
383549 - 3	06 Feb 2020 10:00:48	Hg			29	0.002
383549 - 4	06 Feb 2020 10:00:48	Hg			30	0.002
383551 - 1	06 Feb 2020 10:02:49	Hg			95	0.013
383551 - 2	06 Feb 2020 10:02:49	Hg			94	0.013
383551 - 3	06 Feb 2020 10:02:49	Hg			101	0.014
383551 - 4	06 Feb 2020 10:02:49	Hg			105	0.014
383553 - 1	06 Feb 2020 10:04:50	Hg			222	0.034
383553 - 2	06 Feb 2020 10:04:50	Hg			234	0.036
383553 - 3	06 Feb 2020 10:04:50	Hg			233	0.036

020620w detailed

Method: Hg Waters Operator: Admin Date of Analysis: 06 Feb 2020 09:00:15

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
383553 - 4	06 Feb 2020 10:04:50	Hg			247	0.038
383555 - 1	06 Feb 2020 10:06:49	Hg			263	0.040
383555 - 2	06 Feb 2020 10:06:49	Hg			271	0.042
383555 - 3	06 Feb 2020 10:06:49	Hg			282	0.044
383555 - 4	06 Feb 2020 10:06:49	Hg			290	0.045
383557 - 1	06 Feb 2020 10:08:49	Hg			133	0.019
383557 - 2	06 Feb 2020 10:08:49	Hg			134	0.019
383557 - 3	06 Feb 2020 10:08:49	Hg			138	0.020
383557 - 4	06 Feb 2020 10:08:49	Hg			138	0.020
384082 - 1	06 Feb 2020 10:10:49	Hg			399	0.063
384082 - 2	06 Feb 2020 10:10:49	Hg			415	0.066
384082 - 3	06 Feb 2020 10:10:49	Hg			425	0.067
384082 - 4	06 Feb 2020 10:10:49	Hg			439	0.070
384086 - 1	06 Feb 2020 10:12:49	Hg			2205	0.361
384086 - 2	06 Feb 2020 10:12:49	Hg			2258	0.370
384086 - 3	06 Feb 2020 10:12:49	Hg			2322	0.380
384086 - 4	06 Feb 2020 10:12:49	Hg			2377	0.389
383548 - 1	06 Feb 2020 10:14:49	Hg			-180	-0.033 [ ]
383548 - 2	06 Feb 2020 10:14:49	Hg			-176	-0.032 [ ]
383548 - 3	06 Feb 2020 10:14:49	Hg			-178	-0.032 [ ]
383548 - 4	06 Feb 2020 10:14:49	Hg			-174	-0.032 [ ]
383550 - 1	06 Feb 2020 10:16:48	Hg			47	0.005
383550 - 2	06 Feb 2020 10:16:48	Hg			44	0.004
383550 - 3	06 Feb 2020 10:16:48	Hg			51	0.005
383550 - 4	06 Feb 2020 10:16:48	Hg			60	0.007
383552 - 1	06 Feb 2020 10:18:47	Hg			81	0.010
383552 - 2	06 Feb 2020 10:18:47	Hg			85	0.011
383552 - 3	06 Feb 2020 10:18:47	Hg			93	0.012
383552 - 4	06 Feb 2020 10:18:47	Hg			96	0.013
CCV - 1	06 Feb 2020 10:22:47	Hg			17665	97.1% 2.912
CCV - 2	06 Feb 2020 10:22:47	Hg			18044	99.1% 2.974
CCV - 3	06 Feb 2020 10:22:47	Hg			18417	101.2% 3.036
CCV - 4	06 Feb 2020 10:22:47	Hg			18723	102.9% 3.086
CCB - 1	06 Feb 2020 10:26:52	Hg			42	0.004
CCB - 2	06 Feb 2020 10:26:52	Hg			53	0.006
CCB - 3	06 Feb 2020 10:26:52	Hg			56	0.006
CCB - 4	06 Feb 2020 10:26:52	Hg			60	0.007
383554 - 1	06 Feb 2020 10:28:52	Hg			55	0.006
383554 - 2	06 Feb 2020 10:28:52	Hg			57	0.006
383554 - 3	06 Feb 2020 10:28:52	Hg			57	0.006
383554 - 4	06 Feb 2020 10:28:52	Hg			59	0.007
383556 - 1	06 Feb 2020 10:30:52	Hg			71	0.009
383556 - 2	06 Feb 2020 10:30:52	Hg			74	0.009
383556 - 3	06 Feb 2020 10:30:52	Hg			69	0.008
383556 - 4	06 Feb 2020 10:30:52	Hg			73	0.009
383741 - 1	06 Feb 2020 10:32:53	Hg			1364	0.222
383741 - 2	06 Feb 2020 10:32:53	Hg			1381	0.225
383741 - 3	06 Feb 2020 10:32:53	Hg			1413	0.230
383741 - 4	06 Feb 2020 10:32:53	Hg			1436	0.234
383743 - 1	06 Feb 2020 10:34:55	Hg			34	0.003
383743 - 2	06 Feb 2020 10:34:55	Hg			41	0.004
383743 - 3	06 Feb 2020 10:34:55	Hg			44	0.004
383743 - 4	06 Feb 2020 10:34:55	Hg			55	0.006
383724 - 1	06 Feb 2020 10:36:55	Hg			44	0.004
383724 - 2	06 Feb 2020 10:36:55	Hg			44	0.004
383724 - 3	06 Feb 2020 10:36:55	Hg			40	0.004
383724 - 4	06 Feb 2020 10:36:55	Hg			34	0.003
384048 - 1	06 Feb 2020 10:38:55	Hg			31	0.002
384048 - 2	06 Feb 2020 10:38:55	Hg			31	0.002
384048 - 3	06 Feb 2020 10:38:55	Hg			33	0.003
384048 - 4	06 Feb 2020 10:38:55	Hg			37	0.003
384952msw 383549 - 1	06 Feb 2020 10:42:54	Hg			11450	1.886
384952msw 383549 - 2	06 Feb 2020 10:42:54	Hg			11730	1.933
384952msw 383549 - 3	06 Feb 2020 10:42:54	Hg			12023	1.981
384952msw 383549 - 4	06 Feb 2020 10:42:54	Hg			12251	2.019
384953msdw 383549 - 1	06 Feb 2020 10:44:56	Hg			11769	1.939
384953msdw 383549 - 2	06 Feb 2020 10:44:56	Hg			11978	1.973
384953msdw 383549 - 3	06 Feb 2020 10:44:56	Hg			12161	2.004
384953msdw 383549 - 4	06 Feb 2020 10:44:56	Hg			12428	2.048
384956msw 384086 - 1	06 Feb 2020 10:46:58	Hg			13498	2.224
384956msw 384086 - 2	06 Feb 2020 10:46:58	Hg			13836	2.280
384956msw 384086 - 3	06 Feb 2020 10:46:58	Hg			14195	2.339
384956msw 384086 - 4	06 Feb 2020 10:46:58	Hg			14552	2.398
CCV - 1	06 Feb 2020 10:51:02	Hg			17857	98.1% 2.944
CCV - 2	06 Feb 2020 10:51:02	Hg			18352	100.8% 3.025
CCV - 3	06 Feb 2020 10:51:02	Hg			18726	102.9% 3.087
CCV - 4	06 Feb 2020 10:51:02	Hg			18938	104.1% 3.122
CCB - 1	06 Feb 2020 10:55:07	Hg			0	-0.003
CCB - 2	06 Feb 2020 10:55:07	Hg			3	-0.002

020620w detailed

Method: Hg Waters Operator: Admin Date of Analysis: 06 Feb 2020 09:00:15

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
CCB - 3	06 Feb 2020 10:55:07	Hg			4	-0.002
CCB - 4	06 Feb 2020 10:55:07	Hg			0	-0.003
384957msdw 384086 - 1	06 Feb 2020 10:59:07	Hg			14822	2.443
384957msdw 384086 - 2	06 Feb 2020 10:59:07	Hg			15144	2.496
384957msdw 384086 - 3	06 Feb 2020 10:59:07	Hg			15468	2.549
384957msdw 384086 - 4	06 Feb 2020 10:59:07	Hg			15832	2.609
385192msw 383548 - 1	06 Feb 2020 11:01:10	Hg			10896	1.795
385192msw 383548 - 2	06 Feb 2020 11:01:10	Hg			11248	1.853
385192msw 383548 - 3	06 Feb 2020 11:01:10	Hg			11477	1.891
385192msw 383548 - 4	06 Feb 2020 11:01:10	Hg			11669	1.922
385193msdw 383548 - 1	06 Feb 2020 11:03:13	Hg			11586	1.909
385193msdw 383548 - 2	06 Feb 2020 11:03:13	Hg			11892	1.959
385193msdw 383548 - 3	06 Feb 2020 11:03:13	Hg			12193	2.009
385193msdw 383548 - 4	06 Feb 2020 11:03:13	Hg			12405	2.044
385622msw 383724 - 1	06 Feb 2020 11:05:16	Hg			11023	1.816
385622msw 383724 - 2	06 Feb 2020 11:05:16	Hg			11339	1.868
385622msw 383724 - 3	06 Feb 2020 11:05:16	Hg			11560	1.905
385622msw 383724 - 4	06 Feb 2020 11:05:16	Hg			11771	1.939
CCV - 1	06 Feb 2020 11:09:21	Hg			17884	98.3% 2.948
CCV - 2	06 Feb 2020 11:09:21	Hg			18154	99.8% 2.993
CCV - 3	06 Feb 2020 11:09:21	Hg			18361	100.9% 3.027
CCV - 4	06 Feb 2020 11:09:21	Hg			18713	102.8% 3.085
CCB - 1	06 Feb 2020 11:13:25	Hg			39	0.003
CCB - 2	06 Feb 2020 11:13:25	Hg			28	0.002
CCB - 3	06 Feb 2020 11:13:25	Hg			23	0.001
CCB - 4	06 Feb 2020 11:13:25	Hg			24	0.001

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
168589 on 02/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	386570								MICP WATER QSM				
					ICV					0			
	386571								MICP WATER QSM				
					ICVLL					0			
	386572								MICP WATER QSM				
					ICB					0			
	386573								MICP WATER QSM				
					ICSA					0			
	386574								MICP WATER QSM				
					ICSAB					0			
	386576								MICP WATER QSM				
					ICVLL					0			
	384966								ICP TOTAL QSM 5.0				
					LCSW					75378			
	384965								ICP TOTAL QSM 5.0				
					MBW					75378			
151102	384619		01/30/2020	1640			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ICP TOTAL QSM 5.0		GW	**4**	
		49IDW								75378			
	386577								ICP TOTAL QSM 5.0				
					L	384619				0			
	384967		01/30/2020	1640					ICP TOTAL QSM 5.0				
		49IDW			DUP	384619				75378			
	384968		01/30/2020	1640					ICP TOTAL QSM 5.0				
		49IDW			MSW	384619				75378			
	384969		01/30/2020	1640					ICP TOTAL QSM 5.0				
		49IDW			MSDW	384968				75378			
	386578								ICP TOTAL QSM 5.0				
					PDSW	384619				0			
	386579								MICP WATER QSM				
					CCV1					0			
	386580								MICP WATER QSM				
					CCV2					0			
	386581								MICP WATER QSM				
					CCB					0			

17 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
168590 on 02/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	386533								MICP WATER QSM K&Na				
					ICV					0			
	386534								MICP WATER QSM K&Na				
					ICVLL					0			
	386535								MICP WATER QSM K&Na				
					ICB					0			
	386536								MICP WATER QSM K&Na				
					MRL					0			
	386537								MICP WATER QSM K&Na				
					ICSA					0			
	386538								MICP WATER QSM K&Na				
					ICSAB					0			
	384966								ICP K TOTAL QSM 5.0				
					LCSW					75378			
	384966								ICP NA TOTAL QSM 5.0				
					LCSW					75378			
	384965								ICP K TOTAL QSM 5.0				
					MBW					75378			
	384965								ICP NA TOTAL QSM 5.0				
					MBW					75378			
151102	384619		01/30/2020	1640			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ICP K TOTAL QSM 5.0		GW	**4**	
		49IDW								75378			
151102	384619		01/30/2020	1640			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ICP NA TOTAL QSM 5.0		GW	**4**	
		49IDW								75378			
	386539								ICP K TOTAL QSM 5.0				
					L	384619				0			
	386539								ICP NA TOTAL QSM 5.0				
					L	384619				0			
	384967		01/30/2020	1640					ICP K TOTAL QSM 5.0				
		49IDW			DUP	384619				75378			
	384967		01/30/2020	1640					ICP NA TOTAL QSM 5.0				
		49IDW			DUP	384619				75378			
	384968		01/30/2020	1640					ICP K TOTAL QSM 5.0				
		49IDW			MSW	384619				75378			
	384968		01/30/2020	1640					ICP NA TOTAL QSM 5.0				
		49IDW			MSW	384619				75378			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
168590 on 02/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	384969		01/30/2020 1640					ICP K TOTAL QSM 5.0				
		49IDW		MSDW	384968				75378			
	384969		01/30/2020 1640					ICP NA TOTAL QSM 5.0				
		49IDW		MSDW	384968				75378			
	386540							ICP K TOTAL QSM 5.0				
				PDSW	384619				0			
	386540							ICP NA TOTAL QSM 5.0				
				PDSW	384619				0			
	386541							MICP WATER QSM K&Na				
				CCV					0			
	386542							MICP WATER QSM K&Na				
				CCB					0			

24 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
168650 on 02/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	386178								MERCURY QSM 5.0				
					ICV					0			
	386179								MERCURY QSM 5.0				
					ICB					0			
	384961								MERCURY TOTAL QSM 5.0				
					LCSW					75377			
	384960								MERCURY TOTAL QSM 5.0				
					MBW					75377			
151102	384619		01/30/2020	1640			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	MERCURY TOTAL QSM 5.0		GW	**4**	
		49IDW								75377			
	384962		01/30/2020	1640					MERCURY TOTAL QSM 5.0				
		49IDW			DUP	384619				75377			
	384963		01/30/2020	1640					MERCURY TOTAL QSM 5.0				
		49IDW			MSW	384619				75377			
	384964		01/30/2020	1640					MERCURY TOTAL QSM 5.0				
		49IDW			MSDW	384963				75377			
	386180								MERCURY QSM 5.0				
					CCV					0			
	386181								MERCURY QSM 5.0				
					CCB					0			

10 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 02/14/2020

Prep Batch **75,378** Date Prepped: 02/03/2020 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	384965	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	384965	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	384965	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	384966	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	384966	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	384966	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
151102	384619			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	384619			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	384619			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	384967	DUP	384619	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	384967	DUP	384619	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	384967	DUP	384619	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	384968	MSW	384619	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	384968	MSW	384619	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	384968	MSW	384619	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	384969	MSDW	384968	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	384969	MSDW	384968	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 02/14/2020

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	384969	MSDW	384968	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 02/14/2020

Prep Batch **75,377** Date Prepped: 02/05/2020 Prepped By BMM

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	384960	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	384961	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
151102	384619			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	384962	DUP	384619	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	384963	MSW	384619	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	384964	MSDW	384963	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

Program: QSM
*Matrix: GW

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	75378
Prep Method:	200.2
Analyst:	NAH
Date:	02/04/2020
Start Time:	08:07

Prep Analyst: BMM
Balance ID:

End Date: 02/04/2020
End Time: 16:51

Reagent:	Ref. #
Nitric Acid:	AB.686
Hydrochloric Acid:	AB.685
Hydrogen Peroxide:	

Digestion Tube Lot #: MP 3375
Block Used: D2
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 94
Final-Digestion Temp (ºC): 93

	Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	384965	(MB)			50.0	50
	384966	(LCS)			50.0	50
	384619				50.0	50
		Comments:				50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
						50
	384967	(DUP)			50.0	50
	384968	(MS)	Parent Sample		50.0	50
	384969	(MSD)	384619		50.0	50
		(DUP)				50
		(MS)	Parent Sample			50
		(MSD)				50
Leave >>		(DUP) if applicable				50
blank		(MS)	Parent Sample			50
if N/A		(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M14055
0.5	M14109
0.5	M13961
0.1	M13860

LCS Spike Amount (ml)	Spike Ref. #
0.2	M14055
0.5	M14109
0.5	M13961
0.1	M13860

Reviewed By/Date:

02/14/202009:06

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M14140
ICV/LCSW ID: M14141

*Matrix: GW
Balance ID:

Prep Batch #:	75377
Prep Method:	7470A
Analyst:	BMM
Date:	02/05/2020
Start Time:	11:45

7470A= Hg Liquids
7471A= Hg Solids

End Date: 02/05/2020
End Time: 13:45
Digestion Tube Lot #: 4919103
Block Used: A
Cell Position for Temp. Check: F6
Initial-DigestionTemp (ºC): 91.8
Final-Digestion Temp (ºC): 91.8
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M14139

Reagent:	Ref. #
HNO3:	AB.681
H2SO4:	AB.674
NaCl/Hydrox.SO4:	M13875
KMnO4:	M13873
K2S2O8:	M14020
Aqua-Regia:	

	Sample			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	384960	(MB)			25.0	25
	384961	(LCS)			25.0	25
	384619				25.0	25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
	384962	(DUP)			25.0	25
	384963	(MS)	Parent Sample		25.0	25
	384964	(MSD)	384619		25.0	25
Leave >>		(DUP)				25
blank		(MS)	Parent Sample			25
		(MSD)				25
		(DUP)				25
		(MS)	Parent Sample			25
if N/A		(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M14141

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 2/6/2020	Data File: 000ms-lt3	Date of review: 2/12/2020
Cal Std ID: M3585 LIMS # : 168589	Analyst: [illegible]	Reviewer: mos	Approved? (Yes) No
Is Audit Trail turned on or Manual Manipulations addressed? (Yes) No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / OSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: (90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / (80-120%)	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL/LLOQ: (70-130%) / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					
Preparation Batch Parameters	**YES**	**NO**	**YES**	**NO**	
Prep Batch ID#: 75378 Dig. Meth. 2002	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Se >LOD < ½ RL "B"
Spiked samples in batch:					
a) 384619 matrix = DW	✓	✓	✓	✓	MS, MSD V, Al, Fe, Tl
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: a	✓	✓	✓	✓	Tl, Fe "M"
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#:_____					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 2/7/2020	Data File: NAK020720v1229	Date of review: 2/10/2020
Cal Std ID: M13933 LIMS #: 168590	Analyst: MB	Reviewer: MH	Approved? Yes / No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r > 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 75378 Dig. Meth. 200.2	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 384619 matrix = WW	✓		✓		
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					
Prep Batch ID#: _____ Dig. Meth. _____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) _____ matrix = _____					
b) _____ matrix = _____					
c) _____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#: _____					

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		~~CETAC~~ Hg ANALYZER			
Analysis Date: 2/6/2020	Data File: 020620W	Date Review: 2-7-2020	Analyte: Hg			
Cal Std ID: M14139	LIMS # : 168650	Analyst: MOS	Reviewer:	Approved? Yes	No	

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration ~~linearity~~ - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		Software averaged ICV result w/ an unnecessary rerun that was stopped by the analyst.
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL <LOD / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#: 75377 Dig. Meth. 7470a	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 384619 matrix = GW	✓	✓	✓	✓	Dup invalid
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. Std.	Alt. Source	Pressure (kPa) Comments	Analysis Tube Lot #	ICSA/ ICSAB
11/4/19	1249 / 1429	MDS	Li	165390	Li110419	M14033	M14036 M14035		289548	M14023 M14034
11/6/19	0844 / 1656	MDS	NaK	166247, 166295, 166221, 166232, 166017, 166016, 166227, 166228	NaK110619 v1195	M13933	M13935 M13936	350	289548	M14023 M13937
11/12/19	0934 / 1313	MDS	NaK	166474 166338, 166341, 166343, 166491, 166470	NaK111219 v1198 v1197	M13933	M13935 M13936	350	289548	M14023 M13937
11/15/19	0855 / 1525	MDS	NaK	166462, 166645, 166490, 166498, 166461, 166221, 166472, 166480, 166484, 166486	NaK111519 v1194	M13933	M13935 M13936	350	283178	M14023 M13937
11/21/19	1043 / 1303	MDS	NaK	166494, 166472, 166728, 166725	NaK112119 v1203	M13933	M13935 M13936	350	283178	M13937 M14023
11/21/19	1336 / 1919	MDS	NaK	166659, 166651, 166734, 166729 166725, 166727, 166648, 166656,	NaK112119b v1204	M13933	M13935 M13936	350	283178	M13937 M14023
11/23/19	0949 / 1636	MDS	NaK	166825, 166822, 166729 166859, 166851, 166768, 166829, 166827	NaK112319 v1207	M13933	M13935 M13936	350	283178	M13937 M14023
12/3/19	1222 / 1516	MDS	NaK	167118, 167120, 166937, 166928, 166931	NaK120319 v1209 v1208	M13933	M13935 M13936	350	283178	M13937 M14023
12/11/19	1224 / 1708	MDS	NaK	167362, 167262, 167260, 167254	NaK121119 v1210	M13933	M13935 M13936	350	283178	M13937 M14023
12/12/19	1254 / 1723	MDS	NaK	167221, 167220, 167225 167250 167240, 167255, 167256,	NaK121219 v1211	M13933	M13935 M13936	350	289548	M13937 M14023
12/13/19	0949 / 1547	MDS	NaK	167479, 167472, 167225 167496, 167498, 166988, 167455, 167459,	NaK121319 v1212	M13933	M13935 M13936	350	289548	M13937 M14023
12/16/19	0833 / 1240	MDS	DOD	167448, 167446, 167447, 167444, 167445 167434, 167435, 167436, 167437, 167438	DOD121619			350	289548	
12/19/19	1101 / 1459	MDS	NaK	167622, 167534 167474, 167618, 167531, 167624, 167530,	NaK121919 v1213	M13933	M13935 M13936	350	289548	M13937 M14023
12/24/19	1012 / 1404	MDS	NaK	167764, 167677 167530, 167474, 167622, 167682,	NaK122419	M13933	M13935 M13936	350	289548	M13937 M14023
1/8/2020	1302 / 1514	MDS	NaK	167436, 167990, 167999, 167994	NaK010820	M13933	M13935 M13936	350	289548	M13937 M14023
1/10/2020	0928 / 1310	MDS	DOD	167434, 167435, 167436, 167437 167448, 167446, 167447, 167444	DOD011020			350	289548	
1/15/2020	1217 / 1726	MDS	NaK	168099, 168100 168104, 168107, 168087, 168035, 168037	NaK011520 v1217	M13933	M13935 M13936	350	289548	M13937 M14023
1/27/2020	0946 / 1235	MDS	NaK	168370, 168405, 168391, 168362	NaK012720 v1226	M13933	M13935 M13936	350	290937	M13937 M14023
1/31/2020	0919 / 1203	MDS	NaK	168519 168516, 168521, 168526, 168524,	NaK013120 v1227	M13933	M13935 M13936	350	290937	M13937 M14023
2/7/2020	0933 / 1222	MDS	NaK	168590, 168655, 168656	NaK020720 v1228	M13933	M13935 M13936	350	290937	M13937 M14023
	/									
	/									
	/									
	/									
	/									
	/									

Checked by: _____ Verified by: _____

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version V3722	Comments
1/29/2020	1314 / 1710	[signature]	01292020	DODCal u	168593 168451	260	M13883 1 M13666	V3719 V3717	M14024 M13834 M14013 M13892 M13951
2/5/2020 1/30/2020 ~~2/4/2020~~	1259 / 0110	[signature]	02042020	DODCal u	168495 168525 168520 168494 168522 168517 168523 168515 168518	260	M13883 1 M13666	V3723	M14024 M13834 M14013 M13892 M13951
2/6/2020	1128 / 0024	[signature]	02062020	DODCal u	168589 168654 168657 168629 168597 168658 168660	260	M13883 1 M13666 1	V3729 V3728 V3727 V3730	M14024 M13834 M14013 M13892 M13951 M13892
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								
	/								

Comments: _____

_____

Checked By / Date: _____

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: Cetac M-6000A

Analysis Date	Start Time	End Time	Analyst	LIMS Run #(s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
1/30/2020	1238	1412	MDS	168533, 168534	013020S	M14132	9.981	290937	$SnCl_2$: M14135
2/6/2020	0910	1113	MDS	168650, 168651, 168652, 168653	020620W	M14139	9.794	290937	$SnCl_2$: M14144
2/6/2020	1340	1443	MDS	168676	020620S	M14139	9.897	290937	$SnCl_2$; M14144
2/13/2020	0946	1145	MDS	168779, 168780, 168778	021320W	M14145	10.033	290937	$SnCl_2$:

Reviewed By/Date:_____

Type	Date/Time	Message	User name	Application	Sequence Name
	01/31/2020 10:16:45	Running 383235 (6)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:19:33	Running l383235 (7)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:22:22	Running dup383235 (8)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:25:11	Running msw383235 (9)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:27:58	Running msdw383235 (10)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:30:44	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:33:31	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:36:22	Running pdsw383235 (11)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:39:09	Running lcsw75362 (12)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:41:55	Running mbw75362 (13)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:44:46	Running 384031 (14)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:47:44	Running pdsw384031 (15)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:50:40	Running lcss75365 (16)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:53:24	Running mbs75365 (17)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:56:14	Running 383725 (18)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 10:58:56	Running 383733 (19)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:01:50	Running mss383733 (20)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:04:44	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:07:30	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:10:21	Running msds383733 (21)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:13:15	Running pdss383733 (22)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:16:10	Running lcss75354 (23)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:18:55	Running mbs75354 (24)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:21:46	Running 383269 (25)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:24:29	Running 383270 (26)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:27:13	Running mss383270 (27)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:29:57	Running msds383270 (28)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:32:40	Running pdss383270 (29)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:35:24	Running lcsw75349 (30)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:38:10	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:40:57	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:43:47	Running mbw75349 (31)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:46:38	Running 383191 (32)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:49:24	Running msw383191 (33)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:52:10	Running msdw383191 (34)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:54:57	Running pdsw383191 (35)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 11:57:42	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 12:00:32	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 12:03:19	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	01/31/2020 12:06:05	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	01/31/2020 12:12:21	Plasma extinguished successfully	MDS	Analyst	
	01/31/2020 12:12:21	Plasma off	MDS	iTEVA Control Center	
	02/07/2020 09:13:27	iTEVA loaded	MDS	iTEVA Control Center	
	02/07/2020 09:13:45	Connected to instrument 20070314	MDS	iTEVA Control Center	
	02/07/2020 09:14:49	Plasma On	MDS	iTEVA Control Center	
	02/07/2020 09:14:55	Plasma ignition successful	MDS	Analyst	
	02/07/2020 09:15:34	D33534 - Debug:Wavelength check : x = -0.510, y =-0.300	MDS	Analyst	
	02/07/2020 09:33:38	Autosampler Run Started	MDS	Analyst	
	02/07/2020 09:33:38	Sequence Started	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:33:59	Running Blank (1)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:37:15	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:40:14	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	02/07/2020 09:43:04	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:45:51	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:48:39	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:51:27	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:54:14	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 09:57:00	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:00:14	Running icv (10)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:03:01	Running ICVLL (17)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:05:49	Running icb (11)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:08:39	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:11:29	Running icsa (12)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:14:40	Running icsab (13)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:17:45	Running lcsw75378 (1)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:20:29	Running mbw75378 (2)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:23:19	Running 384619 (3)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:26:03	Running l384619 (4)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:28:52	Running dup384619 (5)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:31:36	Running msw384619 (6)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:34:19	Running msdw384619 (7)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:37:03	Running pdsw384619 (8)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:39:48	Running lcsw75408 (9)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:42:34	Running mbw75408 (10)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:45:25	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:48:12	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:51:04	Running 385647 (11)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:53:50	Running l385647 (12)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:56:40	Running dup385647 (13)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 10:59:25	Running msw385647 (14)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:02:11	Running msdw385647 (15)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:04:57	Running pdsw385647 (16)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:07:42	Running 385651 (17)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:10:27	Running lcsw75404 (18)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:13:13	Running mbw75404 (19)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:16:04	Running 385274 (20)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:18:50	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:21:37	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:24:27	Running msw385274 (21)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:27:13	Running msdw385274 (22)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:30:00	Running pdsw385274 (23)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:32:47	Running 385275 (24)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:35:31	Running 385281 (25)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:38:13	Running 385645 (26)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:40:58	Running 385650 (27)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:43:44	Running 385652 (28)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:46:41	Running blank (29)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:49:31	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:52:21	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:55:08	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	02/07/2020 11:57:54	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	02/07/2020 12:32:14	Plasma extinguished successfully	MDS	Analyst	
	02/07/2020 12:32:14	Plasma off	MDS	iTEVA Control Center	

Type	Date/Time	Message	User name	Application	Sequence Name
	02/05/2020 10:17:17	Plasma On	NAH	iTEVA Control Center	
	02/05/2020 10:17:23	Plasma ignition successful	NAH	Analyst	
	02/05/2020 10:18:03	D33534 - Debug:Wavelength check : x = 0.790, y =-0.763	NAH	Analyst	
	02/05/2020 14:27:22	Plasma extinguished successfully	NAH	Analyst	
	02/05/2020 14:27:22	Plasma off	NAH	iTEVA Control Center	
	02/06/2020 08:05:59	Plasma On	NAH	iTEVA Control Center	
	02/06/2020 08:06:05	Plasma ignition successful	NAH	Analyst	
	02/06/2020 08:06:51	D33534 - Debug:Wavelength check : x = 0.985, y =-0.648	NAH	Analyst	
	02/06/2020 11:27:56	Autosampler Run Started	NAH	Analyst	
	02/06/2020 11:27:56	Sequence Started	NAH	Analyst	S_DOD Calibration
	02/06/2020 11:28:17	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	02/06/2020 11:34:41	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	02/06/2020 11:41:07	Running CalStd3=1 (3)	NAH	Analyst	S_DOD Calibration
	02/06/2020 11:47:21	Running CalStd4=5 (4)	NAH	Analyst	S_DOD Calibration
	02/06/2020 11:53:35	Running CalStd5=10 (5)	NAH	Analyst	S_DOD Calibration
	02/06/2020 11:59:51	Running CalStd6=20 (6)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:06:03	Running CalStd7=50 (7)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:12:13	Running CalStd8=100 (8)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:18:19	Running CalStd9=1000 (9)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:23:46	Running CalStd10=10000 (10)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:30:36	Running CalStd12=100K (11)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:37:38	Running CalStd13=100000 (12)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:43:54	Running CalStd14=500000 (13)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:51:08	Running CalibStd15=1000k (14)	NAH	Analyst	S_DOD Calibration
	02/06/2020 12:59:00	Running Ag Ba 1000, 50000 (15)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:05:42	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:11:52	Running icv (16)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:17:53	Running icv (16)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:23:55	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:30:05	Running icb (17)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:36:19	Running icb (17)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:42:33	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:48:43	Running ICSA (20)	NAH	Analyst	S_DOD Calibration
	02/06/2020 13:55:54	Running ICSAB (21)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:02:24	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:08:34	Running ICVHL (1)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:14:26	Running ICVLL ag (2)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:20:39	Running lcsw75378 (3)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:27:05	Running mbw75378 (4)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:33:18	Running 384619 (5)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:39:27	Running l384619 (6)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:46:00	Running dup384619 (7)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:52:09	Running msw384619 (8)	NAH	Analyst	S_DOD Calibration
	02/06/2020 14:58:25	Running msdw384619 (9)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:04:40	Running pdsw384619 (10)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:11:07	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:17:24	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:23:01	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:29:15	Running lcsw75408 (11)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:35:42	Running mbw75408 (12)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:41:56	Running 385647 (13)	NAH	Analyst	S_DOD Calibration
	02/06/2020 15:48:20	Running l385647 (14)	NAH	Analyst	S_DOD Calibration

		Instrument:	HydraII
Standard Log #:	M14145	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14146	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14147	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/11/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14144	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/06/2020	Expiration Date:	03/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14142	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	07/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14143	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	02/06/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14139	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14140	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14141	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14137	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	53-196CR
Expiration Date (if any):	01/30/2021	Catalog #:	XCTIWI-1-500

Standard ID#:	M14138	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	XSPIKE-1-250
Expiration Date (if any):	01/30/2021	Catalog #:	53-197CR

		Instrument:	CETAC
Standard Log #:	M14136	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/30/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14132	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14133	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14134	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/29/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14135	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/29/2020	Expiration Date:	01/30/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

Standard ID#:	M14125	Vendor:	CPI International
Analyst:	MDS	Chemical:	Mercury 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1009904-41
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000331

Standard ID#:	M14126	Vendor:	CPI International
Analyst:	MDS	Chemical:	Potassium 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	980507-31
Expiration Date (if any):	07/20/2021	Catalog #:	4400-10M411

Standard ID#:	M14127	Vendor:	CPI International
Analyst:	MDS	Chemical:	Lithium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1017511-7
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000291

Standard ID#:	M14128	Vendor:	CPI International
Analyst:	MDS	Chemical:	Phosphorus 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	979480-24
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-10M391

Standard ID#:	M14129	Vendor:	CPI International
Analyst:	MDS	Chemical:	Molybdenum 1000 µg/mL
Date Received:	01/24/2020	Lot #:	987189-55
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000343

Standard ID#:	M14130	Vendor:	CPI International
Analyst:	MDS	Chemical:	Barium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	994634-53
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100041

Standard ID#:	M14131	Vendor:	CPI International
Analyst:	MDS	Chemical:	Boron 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1024903-6
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100074

		Instrument:	HydraII
Standard Log #:	M14122	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14123	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14124	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/23/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14119	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Hg 1000 ug/mL
Date Received:	01/21/2020	Lot #:	CL11-96HGY
Expiration Date (if any):	01/30/2021	Catalog #:	CLHG4-2Y

Standard ID#:	M14120	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	01/21/2020	Lot #:	2-96JX
Expiration Date (if any):	01/30/2021	Catalog #:	INT-A1

Standard ID#:	M14121	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	01/21/2020	Lot #:	1-008DMP
Expiration Date (if any):	01/21/2021	Catalog #:	XCTWI-5-500

		Instrument:	CETAC
Standard Log #:	M14117	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/17/2020	Expiration Date:	02/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14118	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/17/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13951	1000	0.01
As	2	M13863	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13950	1000	0.1
Se	2	M13948	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	HydraII
Standard Log #:	M14114	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14115	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14116	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/16/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14111	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14112	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14113	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M14106	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	01/13/2020	Lot #:	175213-60
Expiration Date (if any):	07/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14107	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 ug/mL
Date Received:	01/13/2020	Lot #:	855297-68
Expiration Date (if any):	07/2021	Catalog #:	4400-10M91

Standard ID#:	M14108	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 ug/mL
Date Received:	01/13/2020	Lot #:	1013353-36
Expiration Date (if any):	07/2021	Catalog #:	4400-10M311

Standard ID#:	M14109	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000ug/mL
Date Received:	01/13/2020	Lot #:	980507-79
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard Log #:	M14110	Reagent:	TCLP EXTRACTION FLUID #2
Analyst:	BMM	pH:	2.88 ± 0.05
Prep Date:	01/14/2020	Expiration Date:	01/14/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 . Dilute to 20 L and mix.		

Standard ID#:	M14100	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	01/10/2020	Lot #:	1905324-500
Expiration Date (if any):	07/31/2021	Catalog #:	HP10M67-1-500

Standard ID#:	M14101	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 ug/mL
Date Received:	01/13/2020	Lot #:	998527-45
Expiration Date (if any):	07/2021	Catalog #:	4400-10M261

Standard ID#:	M14102	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/13/2020	Lot #:	9987745-28
Expiration Date (if any):	07/2021	Catalog #:	4400-10M544

Standard ID#:	M14103	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	752887-79
Expiration Date (if any):	01/2021	Catalog #:	4400-40M521

Standard ID#:	M14104	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	980507-31
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard ID#:	M14105	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 ug/mL
Date Received:	01/13/2020	Lot #:	992536-34
Expiration Date (if any):	07/2021	Catalog #:	4400-10M11

Standard Log #:	M14099revised below	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14099	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13862	**10000**	2.5
K	500	M14003	**10000**	2.5
B	20	M13947	1000	1
Si	100	M13981	1000	5
S	200	M13696	**10000**	1
Li	20	M13577	1000	1
Sr	20	M14007	1000	1
Sn	20	M14008	1000	1
Ti	20	M14009	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14097	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/09/2020	Expiration Date:	02/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14098	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	01/09/2020	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13696	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14096	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/08/2020	Expiration Date:	01/09/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14093	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14094	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14095	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/08/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14092	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/26/2019	Expiration Date:	01/26/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14088	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/20/2019	Expiration Date:	01/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14089	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14090	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14091	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14086	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/19/2019	Expiration Date:	12/20/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14087	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/24/2019	Expiration Date:	12/25/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14083	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14084	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14085	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14082	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Acid Washed TCLP Filters
Date Received:	12/11/2019	Lot #:	400168-9329-CM
Expiration Date (if any):		Catalog #:	FG77150MM

Standard ID#:	M14079	Vendor:	Thermofisher Scientific
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	12/12/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard ID#:	M14080	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14081	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M14078A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	02/21

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13947	1000	0.8
Si	200	M13810	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14078b Combined with	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	03/201

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13604	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14077	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	12/11/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13851	1000	0.2
Al	36	M13982	**10000**	0.18
As	24	M13863	1000	1.2
Ba	1.8	M13949	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13841	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13983	**10000**	0.5
Mg	40	M13752	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13860	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13950	1000	0.6
Se	13	M13948	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14076	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	12/10/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13951	1000	0.2
Al	9.6	M13982	**10000**	0.048
As	32	M13863	1000	1.6
Ba	2	M13949	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13841	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13983	**10000**	0.36
Mg	32	M13752	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13860	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13950	1000	1.6
Se	16	M13948	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14074	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	12/10/2019	Expiration Date:	02/2021
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13951 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M14075	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/10/2019	Expiration Date:	12/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	GFAA
Standard Log #:	M14072	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13950 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13948 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M14073	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13950 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13948 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M14071	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	12/10/2019	Expiration Date:	02/2020

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13948	10,000
Sb	1	1000	M13950	10,000
Ag	0.1	1000	M13951	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

		Instrument:	HydraII
Standard Log #:	M14068	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14069	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	12/10/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M14070	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/10/2019	Expiration Date:	01/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14065	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/05/2019	Expiration Date:	01/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14066	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/06/2019	Expiration Date:	01/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14067	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M14063	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14064	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/04/2019	Expiration Date:	12/05/2019
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14061	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/02/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14062	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	12/02/2019	Lot #:	400168-9305-CM
Expiration Date (if any):		Catalog #:	

		Instrument:	CETAC
Standard Log #:	M14058	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/20/2019	Expiration Date:	12/20/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14059	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14060	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M14056	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard Log #:	M14057	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard ID#:	M14054	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-042CR
Expiration Date (if any):	11/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M14055	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-041CR
Expiration Date (if any):	11/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M14051	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14052	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14053	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M14048	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14049	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/19/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14050	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/19/2019	Expiration Date:	11/20/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14045	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/11/2019	Expiration Date:	05/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14046	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/13/19	Expiration Date:	05/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14047	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

Standard Log #:	M14044	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/13/2019	Expiration Date:	11/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M14041	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/09/2019	Expiration Date:	11/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14042	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	11/13/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14043	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	04/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14038	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14039	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14040	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14035	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M14008 Sr (1000 µg/mL) M14007 Ti (1000 µg/mL) M14009 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M14036	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/04/2019	Expiration Date:	02/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXX	1000	5	XX/XXXX
Ti	10/30	M14009	1000	0.5	04/2021
Sr	10/30	M14007	1000	0.5	04/2021
Sn	20/60	M14008	1000	1	04/2021

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M14037	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/04/2019	Expiration Date:	05/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M14033	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/04/2019	Expiration Date:	05/30/2020
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M14034	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/28/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M14008, **0.1 mL** of Sr (1000 µg/mL) M14007, **0.1 mL** of Ti (1000 µg/mL) M14009, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	CETAC
Standard Log #:	M14032	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/31/2019	Expiration Date:	10/31/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M14028	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	10/2020
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13947 and Si (1000 mg/L) M13810 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14029	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/30/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13947, **0.05 mL** of Si (1000 µg/mL) M13810 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M14030	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13839 and **1.0 mL** Si (1000 mg/L) M13981 and brought up to volume using milli-Q H_2O.		

Standard ID#:	M14031	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Acid Washed TCLP filters
Date Received:	10/31/2019	Lot #:	400165
Expiration Date (if any):		Catalog #:	FG77150MM

		Instrument:	HydraII
Standard Log #:	M14024	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14025	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14026	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/29/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14027	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/30/2019	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

MRL BASE STD M14024 Analyst NAH

Prep Date 10/30/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M13690	10000	2	06/2020
Ba	10	M13949	1000	0.5	02/2021
Be	4	M13579	1000	0.2	02/2020
Cd	5	M13570	1000	0.25	01/2020
Co	10	M13575	1000	0.5	01/2020
Cr	10	M13617	10000	0.05	03/2020
Cu	10	M13618	10000	0.05	03/2020
Mg	500	M13752	10000	2.5	09/2020
Mn	10	M13616	10000	0.05	03/2020
Mo	10	M13860	1000	0.5	12/2020
Ni	10	M13569	1000	0.5	01/2020
Pb	10	M13615	10000	0.05	03/2020
Sb	20	M13950	1000	1	02/2021
V	10	M13578	1000	0.5	02/2020
Zn	10	M13610	10000	0.05	03/2020
K	1000	M14003	10000	5	04/2021
Na	1000	M13862	10000	5	12/2020
As	20	M13763	1000	1	12/2020
Ca	500	M13985	10000	2.5	04/2021
Fe	300	M13751	10000	1.5	09/2020
Se	20	M13948	1000	1	02/2021
Tl	20	M13583	1000	1	02/2020
Si	100	M13810	1000	5	10/2020
B	20	M13947	1000	1	02/2021
Li	20	M13577	1000	1	02/2020
W	50	Mxxxxxx	1000	2.5	xxxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	03/2020
Sn	50	M14008	1000	2.5	04/2021
S	300	M13604	10000	1.5	03/2020

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14022	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14023	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	10/30/2019	Expiration Date:	02/2020
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13738 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

Standard Log #:	M14020	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14021	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

Standard ID#:	M14016	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14017	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14018	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	10/24/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14019	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14012	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14013	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14014	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/21/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14015	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/22/2019	Expiration Date:	09/30/2020
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13954 and **10 mL** Mg (10,000 mg/L) M13752 and brought up to volume.		

Standard Log #:	M14010	Reagent:	SPLP ACID MIX
Analyst:	BMM		60/40 H_2SO_4 - HNO_3
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 200 mL volumetric flask, partially filled with DI H_2O, add **12 g** H_2SO_4 AB.674 and **8 g** HNO_3 AB.677 and bring up to volume using DI H_2O.		

Standard Log #:	M14011	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 HNO_3 - H_2SO_4 M14010.		

Standard ID#:	M14005	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/17/2019	Lot #:	168189-30
Expiration Date (if any):	04/2021	Catalog #:	4400-110M671

Standard ID#:	M14006	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	10/17/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14007	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	10/17/2019	Lot #:	168227-95
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000531

Standard ID#:	M14008	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	10/17/2019	Lot #:	977645-2
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000613

Standard ID#:	M14009	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	10/17/2019	Lot #:	987438-36
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000623

		Instrument:	CETAC
Standard Log #:	M14000	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/16/2019	Expiration Date:	04/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M14001	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	10/17/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard Log #:	M14002	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	10/17/2019	Expiration Date:	10/17/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W47366 and brought up to volume.		

Standard ID#:	M14003	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/17/2019	Lot #:	980507-31
Expiration Date (if any):	04/2021	Catalog #:	4400-10M411

Standard ID#:	M14004	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/17/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13997	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13998	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13999	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M13993	Vendor:	Thermo fisher Scientific
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	10/15/2019	Lot #:	193463
Expiration Date (if any):	06/2024	Catalog #:	S271-500

Standard ID#:	M13994	Vendor:	Thermo Fisher Scientific
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	10/15/2019	Lot #:	189407
Expiration Date (if any):	05/2024	Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13995	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/15/2019	Expiration Date:	10/16/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13996	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/16/2019	Expiration Date:	10/16/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13992	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/15/2019	Expiration Date:	01/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M13989	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	06/2020
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13696 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13990	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13991	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/14/2019	Expiration Date:	12/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13861 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	HydraII
Standard Log #:	M13986	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13987	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13988	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13982	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10000 mg/L
Date Received:	10/09/2019	Lot #:	992536-16
Expiration Date (if any):	04/2021	Catalog #:	4400-10M11

Standard ID#:	M13983	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/09/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

Standard ID#:	M13984	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	10/09/2019	Lot #:	1013353-4
Expiration Date (if any):	04/2021	Catalog #:	4400-10M311

Standard ID#:	M13985	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/09/2019	Lot #:	855297-68
Expiration Date (if any):	04/2021	Catalog #:	4400-10M91

		Instrument:	CETAC
Standard Log #:	M13978	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/08/2019	Expiration Date:	04/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13979	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/09/2019	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M13980	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	10/08/2019	Lot #:	52-248CR
Expiration Date (if any):	10/30/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13981	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/l
Date Received:	10/09/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

		Instrument:	HydraII
Standard Log #:	M13976	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13975 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13977	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/07/2019	Expiration Date:	10/07/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13973	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13974	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13975	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13970	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13971	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13972	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13969	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	10/02/2019	Expiration Date:	10/02/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13967	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13966 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13968	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/01/2019	Expiration Date:	10/01/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13964	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13965	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13966	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13963	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/30/2019	Expiration Date:	09/30/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13961	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	09/24/2019	Lot #:	7-093AB
Expiration Date (if any):	09/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M13962	Reagent:	Stannous Chloride Solution
Analyst:	NAH		
Prep Date:	09/25/2019	Expiration Date:	09/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13960	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/19/2019	Expiration Date:	03/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.678 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M13958	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M13959	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13958 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13955	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/17/2019	Expiration Date:	09/17/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13956	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13957	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M13952	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13953	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13954	Vendor:	Environmental Expresss
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/13/2019	Lot #:	1925215
Expiration Date (if any):	09/30/2020	Catalog #:	HP1900-100

		Instrument:	CETAC
Standard Log #:	M13946	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/10/2019	Expiration Date:	03/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13947	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 mg/lL
Date Received:	09/10/2019	Lot #:	982524-80
Expiration Date (if any):	02/2021	Catalog #:	S4400-100074

Standard ID#:	M13948	Vendor:	CPI
Analyst:	NAH	Chemical:	Selenium 1000 mg/L
Date Received:	09/10/2019	Lot #:	982461-61
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000491

Standard ID#:	M13949	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	09/10/2019	Lot #:	994634-28
Expiration Date (if any):	02/2021	Catalog #:	S4400-100041

Standard ID#:	M13950	Vendor:	CPI
Analyst:	NAH	Chemical:	Antimony 1000 mg/L
Date Received:	09/10/2019	Lot #:	1013797-3
Expiration Date (if any):	02/2019	Catalog #:	S4400-100023

Standard ID#:	M13951	Vendor:	CPI
Analyst:	NAH	Chemical:	Silver 1000 mg/L
Date Received:	09/10/2019	Lot #:	975475-71
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000511

		Instrument:	HydraII
Standard Log #:	M13944	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13943 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13945	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/09/2019	Expiration Date:	09/09/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13941	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13942	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13943	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13938	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13939	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13940	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13937	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **2.5 mL** of K (10,000 mg/L) M13755, **2.5 mL** of Na (10,000 mg/L) M13691 and **7.5 mL** of Fe (10,000 mg/L) M13695 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13933	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13934	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13935	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13755 and Na (10,000 mg/L) M13691 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13936	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13691 and **0.15 mL** K (10,000 µg/mL) M13755 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M13929	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13928 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13930	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/03/2019	Expiration Date:	10/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard Log #:	M13931	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13932	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M13926	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13927	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13928	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13924	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	08/29/2019	Lot #:	1833905
Expiration Date (if any):	02/28/2021	Catalog #:	HP10M67-1

		Instrument:	HydraII
Standard Log #:	M13920	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13919 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13921	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/28/2019	Expiration Date:	09/28/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13922	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13923	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	HydraII
Standard Log #:	M13917	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13918	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13919	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13916	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13914	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13915	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M13913 (A)	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	12/19/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13861	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13913 combined with A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	06/20/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13696	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13911	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13912	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/21/2019	Expiration Date:	08/21/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13909	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13908 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13910	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/20/2019	Expiration Date:	08/20/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13906	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13907	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13908	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13904	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13905	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13902	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/15/2019	Expiration Date:	02/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13903	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/15/2019	Lot #:	52-161Cr
Expiration Date (if any):	8/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13898	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/13/2019	Expiration Date:	08/13/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13899	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13900	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13901	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/13/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13897	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	08/12/2019	Expiration Date:	10/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

Standard Log #:	M13896	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	08/09/2019	Expiration Date:	08/09/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13895	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/06/2019	Expiration Date:	02/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13894	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13893 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13891	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13892	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13893	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13890	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/29/2019	Expiration Date:	01/29/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13888	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13889	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M13884	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	07/22/2019	Expiration Date:	
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13885	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13886	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13887	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13883	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13879	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13880	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13881	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13882	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13881 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13876	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13877	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard Log #:	M13878	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M45383. Dilute to 20 L and mix.		

Standard Log #:	M13873	Reagent:	Potassium Permanganate Solution
Analyst:	NAH		
Prep Date:	07/17/2019	Expiration Date:	07/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13874	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	07/17/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard Log #:	M13875	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	NAH		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13872	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/12/2019	Expiration Date:	07/12/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13871	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/11/2019	Expiration Date:	07/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13870	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/10/2019	Expiration Date:	07/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13869	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/08/2019	Expiration Date:	07/08/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13868	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13864	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	07/02/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13865	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard Log #:	M13866	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13867	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13858	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/26/2019	Expiration Date:	06/26/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13859	Vendor:	CPI
Analyst:	NAH	Chemical:	Ce 1000 mg/L
Date Received:	06-26-2019	Lot #:	171633-12
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000101

Standard ID#:	M13860	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06-26-2019	Lot #:	987189-17
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000343

Standard ID#:	M13861	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06-26-2019	Lot #:	175213-60
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13862	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	06-26-2019	Lot #:	752887-32
Expiration Date (if any):	12/2020	Catalog #:	4400-10M521

Standard ID#:	M13863	Vendor:	CPI
Analyst:	NAH	Chemical:	As 1000 mg/L
Date Received:	06-26-2019	Lot #:	175385-105
Expiration Date (if any):	12/2020	Catalog #:	S4400-100031

Standard Log #:	M13856	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13857	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13855	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/19/2019	Expiration Date:	06/19/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13851	Vendor:	CPI
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06-19-2019	Lot #:	52-082CR
Expiration Date (if any):	06/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M13852	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13853	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13854	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	CETAC
Standard Log #:	M13850	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/14/2019	Expiration Date:	06/14/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13849	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	06/13/2019	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13458	1000	0.01
As	2	M13392	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13459	1000	0.1
Se	2	M13460	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13848	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13611	**10000**	0.18
As	24	M13753	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13692	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13697	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13609	**10000**	0.5
Mg	40	M13694	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13697	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13847	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13611	**10000**	0.048
As	32	M13753	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13692	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13697	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13609	**10000**	0.36
Mg	32	M13694	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13697	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13845	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M13811	10000	2.5
Na	600	M13691	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13846	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M13811	10000	13.2
Na	960	M13691	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13839	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	52-038CR
Expiration Date (if any):	05/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13840	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	5-244AB
Expiration Date (if any):	06/30/2020	Catalog #:	XCTWWI-1-500

Standard ID#:	M13841	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/11/2019	Lot #:	855297-41
Expiration Date (if any):	11/2020	Catalog #:	4400-10M91

Standard ID#:	M13842	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/11/2019	Lot #:	169484-36
Expiration Date (if any):	11/2020	Catalog #:	4400-10M11

Standard ID#:	M13843	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/11/2019	Lot #:	168189-30
Expiration Date (if any):	11/20	Catalog #:	4400-10M671

Standard ID#:	M13844	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06/11/2019	Lot #:	175213-60
Expiration Date (if any):	11/2020	Catalog #:	S4400-1000504F

		Instrument:	GFAA
Standard Log #:	M13838	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	06/07/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13836	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13837	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13835	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/06/2019	Expiration Date:	06/06/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13832	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13833	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13834	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13738, **15 mL** Fe (10,000 mg/L) M13751, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13830	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/03/2019	Expiration Date:	12/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13831	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M13810 and 1 mL M13703 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13811. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13610, **10 mL** of Zn (10,000 mg/L) M13615 and **10 mL** of Na (10,000 mg/L) M13691. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13752, **10 mL** of Fe (10,000 mg/L) M13751, **10 mL** of Ca (10,000 mg/L) M13690 and **10 mL** Al (10,000 mg/L) M13693. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	CETAC
Standard Log #:	M13829	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/31/2019	Expiration Date:	05/31/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13828	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/30/2019	Expiration Date:	05/30/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13827	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-29-2019	Lot #:	XCTWI-4-500
Expiration Date (if any):	5/30/2020	Catalog #:	5-116AB

		Instrument:	CETAC
Standard Log #:	M13823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13824	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13825	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13826	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13818	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	05/22/2019	Expiration Date:	05/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.676 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13819	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/22/2019	Expiration Date:	05/22/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13817	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/16/2019	Expiration Date:	05/16/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13813	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	05/14/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13694 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13814	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13815	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13816	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13812	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/13/2019	Expiration Date:	11/13/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13808	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	158237-121
Expiration Date (if any):	10/20	Catalog #:	4400-1000521-500

Standard ID#:	M13809	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	832313-110
Expiration Date (if any):	10/20	Catalog #:	4400-1000411-500

Standard ID#:	M13810	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	05-09-2019	Lot #:	175213-60
Expiration Date (if any):	10/20	Catalog #:	S400-1000504F

Standard ID#:	M13811	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	980507-14
Expiration Date (if any):	10/20	Catalog #:	4400-10M411-500

		Instrument:	CETAC
Standard Log #:	M13805	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/07/2019	Expiration Date:	05/07/2019
Prep:	Carefully mixed **3** parts HCl AB.677 with **1** part HNO_3 AB.676 in a hood.		

Standard Log #:	M13806	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13807	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

MRL BASE STD M13804

Analyst NAH

Prep Date 05/07/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/19
Al	400	M13611	10000	2	3/20
Ba	10	M13457	1000	0.5	10/19
Be	4	M13579	1000	0.2	2/20
Cd	5	M13570	1000	0.25	1/20
Co	10	M13575	1000	0.5	1/20
Cr	10	M13617	10000	0.05	3/20
Cu	10	M13618	10000	0.05	3/20
Mg	500	M13694	10000	2.5	6/20
Mn	10	M13616	10000	0.05	3/20
Mo	10	M13697	1000	0.5	6/20
Ni	10	M13569	1000	0.5	1/20
Pb	10	M13615	10000	0.05	3/20
Sb	20	M13579	1000	1	10/19
V	10	M13578	1000	0.5	2/20
Zn	10	M13610	10000	0.05	3/20
K	1000	M13755	10000	5	9/20
Na	1000	M13691	10000	5	6/20
As	20	M13753	1000	1	10000 std 0.1, 9/20
Ca	500	M13692	10000	2.5	6/20
Fe	300	M13695	10000	1.5	6/20
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	2/20
Si	100	M13754	1000	5	9/20
B	20	M13531	1000	1	12/19
Li	20	M13577	1000	1	2/20
W	50	xxxx	1000	2.5	xxxx
Ti	10	M13573	1000	0.5	1/20
Sr	10	M13580	1000	0.5	2/20
Sn	50	M13572	1000	2.5	1/20
S	300	M13604	10000	1.5	3/20

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/19

		Instrument:	CETAC
Standard Log #:	M13800	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/06/2019	Expiration Date:	11/06/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13801	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	12/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13531 and Si (1000 mg/L) M13731 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13802	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **1.0 mL** Si (1000 mg/L) M13754 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13803	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	05/06/2019	Expiration Date:	09/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13731 and **3 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13798	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M13799	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	05/03/2019	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXXX	1000	5	XX/XXXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M13795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/03/2019	Expiration Date:	05/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP
Standard Log #:	M13796	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	05/03/2019	Expiration Date:	02/28/2020
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13797	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	09/30/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard Log #:	M13793	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13793 and brought up to volume.		

Standard Log #:	M13794	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard ID#:	M13790	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	04/29/2019	Lot #:	1833905
Expiration Date (if any):	10/31/2020	Catalog #:	HP10M67-1

Standard ID#:	M13791	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	04/29/2019	Lot #:	51-239CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13792	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/29/2019	Expiration Date:	04/29/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13785	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678822
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-SPK-1

Standard ID#:	M13786	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678821
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-GFCAL-1

		Instrument:	GFAA
Standard Log #:	M13787	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13788	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13789	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

Standard Log #:	M13782	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/18/2019	Expiration Date:	04/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard ID#:	M13783	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	GFAA 1% Nickel Nitrate Matrix Mod.
Date Received:	04/18/2019	Lot #:	9166009
Expiration Date (if any):	09/30/2020	Catalog #:	39043

Standard Log #:	M13784	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/18/2019	Expiration Date:	10/18/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13780	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	10/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13781	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	04/17/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13779	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/12/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13778	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	04/11/2019	Expiration Date:	04/11/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13777	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/09/2019	Expiration Date:	04/09/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

Standard Log #:	M13775	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/02/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13776	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/03/2019	Expiration Date:	04/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13771	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13772	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13773	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13774	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	03/26/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13770	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/25/2019	Expiration Date:	03/25/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13768	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	03/21/2019	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13769	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	03/21/2019	Expiration Date:	09/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13765	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/21/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13766	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13767	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13763	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13764	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13761	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	03/19/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13762	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	09/19/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13758	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	03/13/2019	Expiration Date:	01/2020
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13759	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	03/13/2019	Expiration Date:	10/2019
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13760	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	03/13/2019	Expiration Date:	09/2019
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13756	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	03/13/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13757	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	03/13/2019	Expiration Date:	01/20
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q H_2O.		

Standard ID#:	M13751	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	03/12/2019	Lot #:	998527-19
Expiration Date (if any):	09/2020	Catalog #:	4400-10M261

Standard ID#:	M13752	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	03/12/2019	Lot #:	982185-12
Expiration Date (if any):	09/2020	Catalog #:	4400-10M311

Standard ID#:	M13753	Vendor:	CPI
Analyst:	NAH	Chemical:	As 10000 mg/L
Date Received:	03/12/2019	Lot #:	166531-32
Expiration Date (if any):	09/2020	Catalog #:	S4400--10M31

Standard ID#:	M13754	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	03/12/2019	Lot #:	175213-60
Expiration Date (if any):	09/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13755	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	03/12/2019	Lot #:	172053-77
Expiration Date (if any):	09/2020	Catalog #:	4400-10M411

		Instrument:	CETAC
Standard Log #:	M13749	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/08/2019	Expiration Date:	03/08/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13750	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	03/08/2019	Expiration Date:	03/08/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard ID#:	M13748	Vendor:	Potters Ind. LLC (Gainger)
Analyst:	NAH	Chemical:	Glass beads Extra Fine
Date Received:	03/07/2019	Lot #:	
Expiration Date (if any):	XXXXXX	Catalog #:	6ZC13

		Instrument:	ICP
Standard Log #:	M13746	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Standard Conc. (ug/L)	Pipette the following:
1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*
10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*
100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*
1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*
10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13747	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q H_2O.
(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M13743	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	02/26/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13458	1000	0.25
Al	10	M13611	**10000**	0.05
As	20	M13392	1000	1
Ba	2	M13457	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13692	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13609	**10000**	0.2
Mg	25	M13694	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13697	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13459	1000	1
Se	20	M13460	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13605	**10000**	2.5
K	500	M13733	**10000**	2.5
B	20	M13531	1000	1
Si	100	M13731	1000	5
S	200	M13604	**10000**	1
Li	20	M13537	1000	1
Sr	20	M13572	1000	1
Sn	20	M13580	1000	1
Ti	20	M13573	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	ICP 6000
Standard Log #:	M13740	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/26/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13741	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02-26-2019	Lot #:	3-153AB
Expiration Date (if any):	02/28/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13742	Vendor:	IKOHE Blasting Media
Analyst:	NAH	Chemical:	Glass Neads X-fine-20u
Date Received:	02/26/2019	Lot #:	52-144
Expiration Date (if any):	*********	Catalog #:	UL-49/52-1544

		Instrument:	CETAC
Standard Log #:	M13739	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/22/2019	Expiration Date:	02/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13734	Vendor:	SPEX CERTIPREP
Analyst:	LJF	Chemical:	HG 1000 ug/mL
Date Received:	02/21/2019	Lot #:	CL10-136HGY
Expiration Date (if any):	02/28/2020	Catalog #:	CLHG4-2Y

Standard Log #:	M13735	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13737	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	51-117CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13738	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	2-230SGX
Expiration Date (if any):	02/28/2020	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13730	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/14/2019	Expiration Date:	02/14/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13731	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	02/14/2019	Lot #:	175213-60
Expiration Date (if any):	08/20	Catalog #:	S4400-1000504F

Standard ID#:	M13732	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	139448-54
Expiration Date (if any):	08/20	Catalog #:	4400-10M671

Standard ID#:	M13733	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	172053-36
Expiration Date (if any):	08/20	Catalog #:	4400-10M411

Standard ID#:	M13727	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	02/08/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13728	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	02/08/2019	Lot #:	186819
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M13729	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/11/2019	Expiration Date:	08/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13724	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13725	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/07/2019	Expiration Date:	08/07/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13721	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	02/05/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13722	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13723	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13720	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/31/2019	Expiration Date:	01/31/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13716	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13717	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13718	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13719	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	01/30/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13713	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	01/29/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard ID#:	M13714	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	01/29/2019	Lot #:	A0391673
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13715	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	1/29/2019	Lot #:	51-013CR
Expiration Date (if any):	01/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	GFAA
Standard Log #:	M13711	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13712	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13710	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/22/2019	Expiration Date:	01/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13709	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13705	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13706	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13707	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13708	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13703	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13704	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13701	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	12/13/2018	Expiration Date:	06/13/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

Standard ID#:	M13696	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	12/11/2018	Lot #:	167967-42
Expiration Date (if any):	06/20	Catalog #:	4400-10M544

Standard ID#:	M13697	Vendor:	CPI
Analyst:	NAH	Chemical:	Moybdenum 1000 mg/L
Date Received:	12/11/2018	Lot #:	169424-59
Expiration Date (if any):	06/20	Catalog #:	4400-1000343

Standard ID#:	M13698	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/L
Date Received:	12/11/2018	Lot #:	175213-60
Expiration Date (if any):	06/20	Catalog #:	S4400-10005044F

Standard ID#:	M13699	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/11/2018	Lot #:	50-120CR
Expiration Date (if any):	12/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13700	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/12/2018	Expiration Date:	12/12/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13689	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13690	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13691	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	752887-32
Expiration Date (if any):	06/20	Catalog #:	4400-10M521

Standard ID#:	M13692	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	855297-1
Expiration Date (if any):	06/20	Catalog #:	4400-10M91

Standard ID#:	M13693	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

Standard ID#:	M13694	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	148250-72
Expiration Date (if any):	06/20	Catalog #:	4400-10M311

Standard ID#:	M13695	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13686	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13687	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13688	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13684	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/04/2018	Expiration Date:	06/04/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13683	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	10000 mg/L
Date Received:	11/30/2018	Lot #:	1805105
Expiration Date (if any):	5/31/2020	Catalog #:	HP10M67-1

Standard Log #:	M13681	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13531	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13682	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/29/2018	Expiration Date:	11/29/2018

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.

Standard Log #:	M13679	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M13517	1000	0.72
Sn	20	M13572	1000	1
Sr	3.2	M13586	1000	0.16
Ti	9.6	M13573	1000	0.48
W	24	xxxxxxxx	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13680	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13394	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13677	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13562	**10000**	0.048
As	32	M13392	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13324	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13463	**10000**	0.36
Mg	32	M13319	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13608	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13610	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13676	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13462	**10000**	0.18
As	24	M13392	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13324	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13463	**10000**	0.5
Mg	40	M13319	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13608	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13610	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13675	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/26/2018	Expiration Date:	11/26/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13671	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	11/21/2018	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13672	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13673	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13674	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13668	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/21/2018	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13669	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13670	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP
Standard Log #:	M13666	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	11/19/2018	Expiration Date:	07/2019
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13667	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/19/2018	Expiration Date:	11/19/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard Log #:	M13664	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13665	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13659	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/01/2018	Expiration Date:	11/01/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13660	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2018	Expiration Date:	09/19
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13661	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/06/2018	Expiration Date:	10/19
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M13657	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) XXX		

		Instrument:	ICP 6000
Standard Log #:	M13658	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/2/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13655	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13656	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	GFAA
Standard Log #:	M13651	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13652	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13653	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance std
Date Received:	10/29/2018	Lot #:	2-036AB
Expiration Date (if any):	10/30/2019	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M13648	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13649	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/30/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13650	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/27/2018	Expiration Date:	02/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13645	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/24/2018	Expiration Date:	10/24/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13646	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	10/25/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

Standard ID#:	M13647	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/24/2018	Lot #:	H226-02
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M13643	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M13639	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13640	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13641	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	10/23/2018	Expiration Date:	07/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13634	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,0000 mg/L
Date Received:	10/18/2018	Lot #:	139448-54
Expiration Date (if any):	04/20	Catalog #:	4400-10m671

Standard ID#:	M13635	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	10/18/2018	Lot #:	2-230sgx
Expiration Date (if any):	09/30/2019	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13636	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/18/2018	Expiration Date:	10/18/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13637	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance standard
Date Received:	10/18/2018	Lot #:	50-0007CR
Expiration Date (if any):	10/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13633	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/2018	Expiration Date:	10/16/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13632	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/16/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13627	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13628	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

MRL BASE STD M13626

Analyst NAH

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/2019
Al	400	M13462	10000	2	10/2019
Ba	10	M13457	1000	0.5	10/2019
Be	4	M13579	1000	0.2	02/20
Cd	5	M13570	1000	0.25	01/20
Co	10	M13575	1000	0.5	01/20
Cr	10	M13617	10000	0.05	03/20
Cu	10	M13618	10000	0.05	03/20
Mg	500	M13319	10000	2.5	04/19
Mn	10	M13616	10000	0.05	03/20
Mo	10	M13608	1000	0.5	03/20
Ni	10	M13569	1000	0.5	03/20
Pb	10	M13610	10000	0.05	03/20
Sb	20	M13459	1000	1	03/20
V	10	M13578	1000	0.5	02/20
Zn	10	M13610	10000	0.05	02/20
K	1000	M13341	10000	5	05/19
Na	1000	M13402	10000	5	08/19
As	20	M13392	1000	1	07/19
Ca	500	M13324	10000	2.5	04/19
Fe	300	M13463	10000	1.5	10/19
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	02/20
Si	100	M13394	1000	5	07/19
B	20	M13531	1000	1	07/19
Li	20	M13517	1000	1	02/20
W	50	xxxxxxx	1000	2.5	xxxxxxx
Ti	10	M13573	1000	0.5	02/20
Sr	10	M13586	1000	0.5	02/20
Sn	50	M13572	1000	2.5	02/20
S	300	M13391	10000	1.5	07/19

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M13625	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/03/2018	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume.		

Standard ID#:	M13618	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	09/20/2018	Lot #:	148796-39
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M141

		Instrument:	CETAC
Standard Log #:	M13619	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/19/2018	Expiration Date:	09/19/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13620	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/04/2018	Lot #:	177409
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13611	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	09/20/2018	Lot #:	169484-18
Expiration Date (if any):	03/2020	Catalog #:	4400-10M11

Standard ID#:	M13612	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	09/20/2018	Lot #:	172053-36
Expiration Date (if any):	03/2020	Catalog #:	440010M411

Standard ID#:	M13613	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	09/20/2018	Lot #:	855297-1
Expiration Date (if any):	03/2020	Catalog #:	4400-10M91

Standard ID#:	M13614	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	09/20/2018	Lot #:	148250-72
Expiration Date (if any):	03/2020	Catalog #:	4400-10M311

Standard ID#:	M13615	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000 mg/L
Date Received:	09/20/2018	Lot #:	168223-17
Expiration Date (if any):	03/2020	Catalog #:	4400-10M281

Standard ID#:	M13616	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	09/20/2018	Lot #:	167540-6
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M321

Standard ID#:	M13617	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	09/20/2018	Lot #:	158236-7
Expiration Date (if any):	03/2020	Catalog #:	s4400-10M121

Standard ID#:	M13604	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 mg/L
Date Received:	09/20/2018	Lot #:	167967-37
Expiration Date (if any):	03/2020	Catalog #:	4400-10M544

Standard ID#:	M13605	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 mg/L
Date Received:	09/20/2018	Lot #:	752887-3
Expiration Date (if any):	03/2020	Catalog #:	4400-10M521

Standard ID#:	M13606	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	09/20/2018	Lot #:	144467-179
Expiration Date (if any):	03/2020	Catalog #:	4400-1000411-500

Standard ID#:	M13607	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	09/20/2018	Lot #:	158237-113
Expiration Date (if any):	03/2020	Catalog #:	4400-1000521-500

Standard ID#:	M13608	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	09/20/2018	Lot #:	169424-37
Expiration Date (if any):	03/2020	Catalog #:	S4400-1000343

Standard ID#:	M13609	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	09/20/2018	Lot #:	156651-53
Expiration Date (if any):	03/2020	Catalog #:	4400-10M261

Standard ID#:	M13610	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	09/20/2018	Lot #:	979871-2
Expiration Date (if any):	03/2020	Catalog #:	4400-10M681

Standard Log #:	M13601	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/12/2018	Expiration Date:	09/12/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13602	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09-12-2018	Lot #:	1-124AB
Expiration Date (if any):	09-30-2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13600	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/11/2018	Lot #:	1808015
Expiration Date (if any):	09/30/2019	Catalog #:	HP1900-100

Standard Log #:	M13599	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/08/2018	Expiration Date:	09/08/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13595	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	08/29/2018	Lot #:	49-151CR
Expiration Date (if any):	08/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13596	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/30/2018	Expiration Date:	08/30/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13597	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13598	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13588	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13589	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13590	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity std 2.0 ntu
Date Received:	08/21/2018	Lot #:	18272791
Expiration Date (if any):	08/2019	Catalog #:	8008

		Instrument:	ICP 6000
Standard Log #:	M13586	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXX		

		Instrument:	ICP 6000
Standard Log #:	M13587	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	08/20/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13584	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	08/20/2018	Expiration Date:	07/30/2019
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M13585	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M13577	Vendor:	CPI
Analyst:	NAH	Chemical:	Li 1000 mg/L
Date Received:	08/17/2018	Lot #:	751942-25
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000291

Standard ID#:	M13578	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	08/17/2018	Lot #:	152207-68
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000651

Standard ID#:	M13579	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	08/17/2018	Lot #:	660981-5
Expiration Date (if any):	02/2020	Catalog #:	S4400-100051

Standard ID#:	M13580	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	08/17/2018	Lot #:	168227-29
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000531

Standard ID#:	M13581	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	08/17/2018	Lot #:	172053-36
Expiration Date (if any):	02/2020	Catalog #:	4400-10411

Standard ID#:	M13582	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	08/17/2018	Lot #:	1805105
Expiration Date (if any):	02/2020	Catalog #:	HP10M67-1

Standard ID#:	M13583	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	08/17/2018	Lot #:	148983-70
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000581

Standard ID#:	M13576	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/04/2018	Lot #:	49-045CR
Expiration Date (if any):	07/30/2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13569	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	07/27/2018	Lot #:	166665-86
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000361

Standard ID#:	M13570	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	07/27/2018	Lot #:	160499-32
Expiration Date (if any):	01/2020	Catalog #:	s4400-100081

Standard ID#:	M13571	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	07/27/2018	Lot #:	175213-28
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000504F

Standard ID#:	M13572	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	07/27/2018	Lot #:	144466-74
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000613

Standard ID#:	M13573	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	07/27/2018	Lot #:	152616-55
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000623

Standard ID#:	M13574	Vendor:	CPI
Analyst:	NAH	Chemical:	Hg 1000 mg/L
Date Received:	07/27/2018	Lot #:	175191-22
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000331

Standard ID#:	M13575	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	07/27/2018	Lot #:	161693-10
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000131

Standard Log #:	M13563	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/19/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13466	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13557	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	07/17/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

		Instrument:	ICP 6000
Standard Log #:	M13558	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/17/2018	Expiration Date:	05/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q H_2O.		

Standard Log #:	M13559	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/17/2018	Expiration Date:	01/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13559 and brought up to volume.		

Standard Log #:	M13554	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	05/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13390	1000	0.8
Si	200	M13338	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13555	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13466	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M13553	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	07/12/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13547	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	07/09/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13548	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/10/2018	Expiration Date:	01/10/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13549	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/10/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

Standard Log #:	M13534	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	07/02/2018	Expiration Date:	09/16/2018

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13169	10,000
Tl	1	1000	M13124	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13535	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/02/2018	Lot #:	48-179CR
Expiration Date (if any):	06/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13526	Vendor:	CPI
Analyst:	NAH	Chemical:	YTTRIUM 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	138448-54
Expiration Date (if any):	12/2019	Catalog #:	4400-10M671

Standard ID#:	M13527	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10,000
Date Received:	06/22/2018	Lot #:	172053-32
Expiration Date (if any):	12/2019	Catalog #:	4400-104411

Standard ID#:	M13528	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	06/22/2018	Lot #:	142610-115
Expiration Date (if any):	12/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13529	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	156651-42
Expiration Date (if any):	12/2019	Catalog #:	4400-10M261

Standard ID#:	M13530	Vendor:	CPI
Analyst:	NAH	Chemical:	SULFUR 10,000ug/mL
Date Received:	06/22/2018	Lot #:	129880-46
Expiration Date (if any):	12/2019	Catalog #:	4400-10M544

Standard ID#:	M13531	Vendor:	CPI
Analyst:	NAH	Chemical:	BORON 1000 ug/mL
Date Received:	06/22/2018	Lot #:	158372-91
Expiration Date (if any):	12/2019	Catalog #:	S4400-100074

Standard ID#:	M13532	Vendor:	CPI
Analyst:	NAH	Chemical:	CUSTOM ASSURANCE STANDARD
Date Received:	06/22/2018	Lot #:	48-146CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-1-500

Standard ID#:	M13520	Vendor:	FRISCOLYT
Analyst:	NAH	Chemical:	Electrolyte Solution
Date Received:	06/13/2018	Lot #:	1DO71H
Expiration Date (if any):	12/03/2021	Catalog #:	51 340 053

		Instrument:	ICP
Standard Log #:	M13521	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	06/13/2018	Expiration Date:	10/20/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard ID#:	M13518	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2018	Lot #:	48-060CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6500
Standard Log #:	M13519	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/11/2018	Expiration Date:	06/30/2019

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M13166, **10 mL** of Mn (10,000 mg/L) M13167, **10 mL** of Cr (10,000 mg/L) M13165, **10 mL** Pb (10,000 mg/L) M13169, **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M13319, **10 mL** of Fe (10,000 mg/L) M13463, **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

		Instrument:	CETAC
Standard Log #:	M13510	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/01/2018	Expiration Date:	06/01/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13511	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/04/2018	Lot #:	176877
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13506	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-042CR
Expiration Date (if any):	05/30/2019	Catalog #:	XCTWI-4-500

Standard ID#:	M13507	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-041CR
Expiration Date (if any):	05/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13508	Vendor:	RESTEK
Analyst:	NAH	Chemical:	Diatomaceous earth (Celite 566)
Date Received:	05/22/2018	Lot #:	811030-BG
Expiration Date (if any):	N/A	Catalog #:	26033

Standard ID#:	M13495	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/15/2018	Lot #:	H052-17
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M13485	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13486	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13487	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13488	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13484	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	05/03/2018	Lot #:	1805105
Expiration Date (if any):	10/31/2019	Catalog #:	HP10M67-1

		Instrument:	ICP 6000
Standard Log #:	M13471	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13472	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/02/2018
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13473	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	04/26/2018	Expiration Date:	10/30/2018
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13467	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	04/20/2018	Lot #:	147497-47
Expiration Date (if any):	10/2019	Catalog #:	4400-10M91

Standard ID#:	M13468	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/24/2018	Lot #:	174236
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13469	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/24/2018	Expiration Date:	04/24/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13462	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	04/20/2018	Lot #:	158058-23
Expiration Date (if any):	10/2019	Catalog #:	4400-10M11

Standard ID#:	M13463	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	04/20/2018	Lot #:	156651-18
Expiration Date (if any):	10/2019	Catalog #:	4400-10M261

Standard ID#:	M13464	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	04/20/2018	Lot #:	148250-67
Expiration Date (if any):	10/2019	Catalog #:	4400-10M311

Standard ID#:	M13465	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	04/20/2018	Lot #:	172053-2
Expiration Date (if any):	10/2019	Catalog #:	4400-10M411

Standard ID#:	M13466	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	04/20/2018	Lot #:	129880-37
Expiration Date (if any):	10/2019	Catalog #:	4400-10M544

Standard ID#:	M13457	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	04/20/2018	Lot #:	158364-3
Expiration Date (if any):	10/2019	Catalog #:	S4400-100041

Standard ID#:	M13458	Vendor:	CPI
Analyst:	NAH	Chemical:	Ag 1000 mg/L
Date Received:	04/20/2018	Lot #:	162712-9
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000511

Standard ID#:	M13459	Vendor:	CPI
Analyst:	NAH	Chemical:	Sb 1000 mg/L
Date Received:	04/20/2018	Lot #:	153992-1
Expiration Date (if any):	10/2019	Catalog #:	S4400-100023

Standard ID#:	M13460	Vendor:	CPI
Analyst:	NAH	Chemical:	Se 1000 mg/L
Date Received:	04/20/2018	Lot #:	154366-16
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000491

Standard ID#:	M13461	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	04/20/2018	Lot #:	107139-108
Expiration Date (if any):	10/2019	Catalog #:	4400-10M521

Standard Log #:	M13445	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/19/2018	Expiration Date:	10/19/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12652 and brought up to volume.		

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M13446	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	04/19/2018	Expiration Date:	12/2019
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20.		

LPMT1-04
Metals Reagents and Standards
Prep Logbook
Created: 12/19/17

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

		Instrument:	ICP 6000
Standard Log #:	M13438	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	07/2019
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13439	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	01/19/2019
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M13437	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/10/2018	Expiration Date:	07/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13390	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

Standard ID#:	M13436a	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal 200 NTU
Date Received:	04/10/2018	Lot #:	A7354
Expiration Date (if any):	12/2019	Catalog #:	2660449

Standard ID#:	M13400	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	106958-116
Expiration Date (if any):	08/2019	Catalog #:	4400-10M411

Standard ID#:	M13401	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	139448-54
Expiration Date (if any):	08/2019	Catalog #:	4400-10M671

Standard ID#:	M13402	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	107139-126
Expiration Date (if any):	08/2019	Catalog #:	4400-10M521

Standard Log #:	M13388	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard Log #:	M13389	Reagent:	SPLP EXTRACTION FLUID WEST #
Analyst:	BMM	pH:	5.00 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard ID#:	M13390	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 ug/mL
Date Received:	01/23/2018	Lot #:	158372-29
Expiration Date (if any):	07/2019	Catalog #:	S4400-100074

Standard ID#:	M13391	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/23/2018	Lot #:	129880-28
Expiration Date (if any):	07/2019	Catalog #:	4400-10M544

Standard ID#:	M13392	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 ug/mL
Date Received:	01/23/2018	Lot #:	143356-61
Expiration Date (if any):	07/2019	Catalog #:	S4400-100031

Standard ID#:	M13393	Vendor:	CPI
Analyst:	NAH	Chemical:	Molybdenum 1000 ug/mL
Date Received:	01/23/2018	Lot #:	134169R-102
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000343

Standard ID#:	M13394	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	01/23/2018	Lot #:	142610-58
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13350	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	12/12/2017	Lot #:	1729606
Expiration Date (if any):	06//2019	Catalog #:	10M67-1

Standard ID#:	M13226	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	07/21/2017	Lot #:	170229
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13199	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana I soil
Date Received:	05/15/2017	Lot #:	2710a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13200	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana II soil
Date Received:	05/15/2017	Lot #:	2711a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13186	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	05/22/2017	Lot #:	166161
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13187	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	05/22/2017	Lot #:	1705408
Expiration Date (if any):	11/16/2018	Catalog #:	HP10M67-1

Standard ID#:	M13080	Vendor:	FISHER
Analyst:	LJF	Chemical:	POTASSIUM PERMANGANATE
Date Received:	01/30/2017	Lot #:	164080
Expiration Date (if any):		Catalog #:	P279-212

Standard ID#:	M13059	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	12/19/2016	Lot #:	A0375670
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

INORGANIC
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384096
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 15:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384096
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 18:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.65		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	54	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383699
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/30/2020 09:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	110		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383699
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383699
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 14:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.7		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.9		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383698
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:38
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383698
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 14:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.78		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	29		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383697
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:24
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW5

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383697
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 14:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.60		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	52		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383700
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/30/2020 09:21
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	110		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383700
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 14:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383700
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 15:19
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.9		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384094
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/31/2020 08:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	76		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384094
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 14:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.88	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384094
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 18:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.1		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383696
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 13:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383696
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 13:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.2	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.1		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384610
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 12:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.8		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	56		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384610
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384615
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 13:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.9	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.75		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	4.0		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384615
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 18:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384616
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 14:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	6.1		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	28		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384616
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 18:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384617
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 14:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	6.2		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	28		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384617
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 19:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384098
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384098
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 20:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.5	U	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	U	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 410.4	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168727	Analysis Date/Time	02/11/2020 10:26
Analytical Prep Batch #:	75455	Prep. Date/Time:	02/10/2020 08:16
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	130	M	15	35	75	75

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384619
Analytical Method:	EPA 9040C	Date Received:	01/31/2020
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168555	Analysis Date/Time	01/31/2020 14:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.48	Y				

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384613
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 13:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.4		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.37	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	0.88	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384613
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384099
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 17:23
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384099
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 20:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.29	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	17		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384097
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 16:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW03

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384097
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 20:00
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.0		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.0		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	2.6	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383701
Analytical Method:	EPA 9060A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 14:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	383701
Analytical Method:	EPA 9056A	Date Received:	01/29/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168488	Analysis Date/Time	01/29/2020 15:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.0		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.46		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	55		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384095
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/31/2020 09:03
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	92		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384095
Analytical Method:	EPA 9060A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 15:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW05

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384095
Analytical Method:	EPA 9056A	Date Received:	01/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168532	Analysis Date/Time	01/30/2020 18:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.9		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.29	J	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384614
Analytical Method:	EPA 9056A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168553	Analysis Date/Time	01/31/2020 13:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.0		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	68		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix (soil/water):	GROUND WATER	SDG No.:	151051
% Solids:		Lab Sample ID:	384614
Analytical Method:	EPA 9060A	Date Received:	01/31/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	168628	Analysis Date/Time	02/05/2020 18:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL0373 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488

Lab Sample ID: 387268

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	11/20/19	01:11	15.00	13.63	91	90	110
Nitrate Nitrogen	11/20/19	01:11	3.500	3.282	94	90	110
Sulfate	11/20/19	01:11	25.00	23.31	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168727

Lab Sample ID: 389177

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	12/18/19 14:02	400.0	407.9	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628 Lab Sample ID: 387273

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	1/31/20	17:24	50.00	49.63	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488

Lab Sample ID: 384121

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/29/20	12:59	15.00	14.48	97	90	110
Nitrate Nitrogen	1/29/20	12:59	3.500	3.689	105	90	110
Sulfate	1/29/20	12:59	25.00	24.79	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488

Lab Sample ID: 384123

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	1/30/20	09:41	25.00	25.02	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488

Lab Sample ID: 384125

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	1/30/20	08:20	25.00	25.03	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488

Lab Sample ID: 384127

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/29/20	19:00	15.00	14.49	97	90	110
Nitrate Nitrogen	1/29/20	19:00	3.500	3.690	105	90	110
Sulfate	1/29/20	19:00	25.00	24.79	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488

Lab Sample ID: 384130

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/29/20	16:59	15.00	14.52	97	90	110
Nitrate Nitrogen	1/29/20	16:59	3.500	3.698	106	90	110
Sulfate	1/29/20	16:59	25.00	24.85	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168553

Lab Sample ID: 384980

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/31/20	11:50	15.00	14.50	97	90	110
Nitrate Nitrogen	1/31/20	11:50	3.500	3.684	105	90	110
Sulfate	1/31/20	11:50	25.00	24.68	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168553

Lab Sample ID: 384982

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/31/20	15:50	15.00	14.54	97	90	110
Nitrate Nitrogen	1/31/20	15:50	3.500	3.693	106	90	110
Sulfate	1/31/20	15:50	25.00	24.71	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532

Lab Sample ID: 384993

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	1/31/20	09:23	25.00	25.05	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532

Lab Sample ID: 384995

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Sulfate	1/31/20	08:03	25.00	24.98	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532

Lab Sample ID: 384997

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/30/20	21:00	15.00	14.48	97	90	110
Nitrate Nitrogen	1/30/20	21:00	3.500	3.695	106	90	110
Sulfate	1/30/20	21:00	25.00	24.87	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532

Lab Sample ID: 385001

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/30/20	17:20	15.00	14.49	97	90	110
Nitrate Nitrogen	1/30/20	17:20	3.500	3.683	105	90	110
Sulfate	1/30/20	17:20	25.00	24.78	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532

Lab Sample ID: 385004

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	1/30/20	12:59	15.00	14.54	97	90	110
Nitrate Nitrogen	1/30/20	12:59	3.500	3.704	106	90	110
Sulfate	1/30/20	12:59	25.00	24.92	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 385805

ICAL Calibration #: ICAL0373 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	2/5/20	12:19	50.00	50.18	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 385809

ICAL Calibration #: ICAL0373 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	2/5/20	15:47	50.00	49.81	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 385813

ICAL Calibration #: ICAL0373 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	2/5/20	18:54	50.00	50.56	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 385815

ICAL Calibration #: ICAL0373 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	2/5/20	19:40	50.00	51.10	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168727

Lab Sample ID: 388195

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	2/11/20	10:26	400.0	407.9	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168727

Lab Sample ID: 388378

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	2/11/20	10:26	400.0	405.5	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 387274

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	01/31/2020 17:38	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168727

Lab Sample ID: 389178

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	12/18/2019 14:02	1.400			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488 Lab Sample ID: 387269

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	11/20/2019 01:31	0.4853	U	1.0	1.5
Nitrate Nitrogen	11/20/2019 01:31	0.06860	U	0.12	0.20
Sulfate	11/20/2019 01:31	0.6402	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488 Lab Sample ID: 384122

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	01/30/2020 10:01	0.6506	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488 Lab Sample ID: 384124

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	01/30/2020 08:41	0.6552	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488 Lab Sample ID: 384126

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/29/2020 19:20	0.4820	U	1.0	1.5
Nitrate Nitrogen	01/29/2020 19:20	0.06950	U	0.12	0.20
Sulfate	01/29/2020 19:20	0.6485	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488 Lab Sample ID: 384129

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/29/2020 17:20	0.4863	U	1.0	1.5
Nitrate Nitrogen	01/29/2020 17:20	0.07100	U	0.12	0.20
Sulfate	01/29/2020 17:20	0.6537	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168553 Lab Sample ID: 384981

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/31/2020 16:10	0.4884	U	1.0	1.5
Nitrate Nitrogen	01/31/2020 16:10	0.07220	U	0.12	0.20
Sulfate	01/31/2020 16:10	0.6589	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532 Lab Sample ID: 384992

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	01/31/2020 09:43	0.6458	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532

Lab Sample ID: 384994

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Sulfate	01/31/2020 08:23	0.6447	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532 Lab Sample ID: 384996

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/30/2020 21:20	0.4895	U	1.0	1.5
Nitrate Nitrogen	01/30/2020 21:20	0.07150	U	0.12	0.20
Sulfate	01/30/2020 21:20	0.6569	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532

Lab Sample ID: 385000

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/30/2020 17:40	0.4944	U	1.0	1.5
Nitrate Nitrogen	01/30/2020 17:40	0.07350	U	0.12	0.20
Sulfate	01/30/2020 17:40	0.6602	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 385810

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL0373 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	02/05/2020 16:01	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 385814

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL0373 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	02/05/2020 19:08	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628

Lab Sample ID: 385816

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL0373 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	02/05/2020 19:54	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168727

Lab Sample ID: 388196

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	02/11/2020 10:26	8.700			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168727

Lab Sample ID: 388377

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	02/11/2020 10:26	6.300			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168488 Lab Sample ID: 384119

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/29/2020 13:39	0.4977	U	1.0	1.5
Nitrate Nitrogen	01/29/2020 13:39	0.07390	U	0.12	0.20
Sulfate	01/29/2020 13:39	0.6717	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168553 Lab Sample ID: 384978

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/31/2020 12:30	0.4925	U	1.0	1.5
Nitrate Nitrogen	01/31/2020 12:30	0.07280	U	0.12	0.20
Sulfate	01/31/2020 12:30	0.6659	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168532 Lab Sample ID: 385002

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	01/30/2020 13:39	0.4896	U	1.0	1.5
Nitrate Nitrogen	01/30/2020 13:39	0.07220	U	0.12	0.20
Sulfate	01/30/2020 13:39	0.6549	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168628 Lab Sample ID: 385807

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL0373 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	02/05/2020 12:46	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

SDG No.: 151051

Analytical Run #: 168727 Lab Sample ID: 386859

Analytical Prep Batch # 75455 Preparation Date/Time: 02/10/2020 08:16

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	02/11/2020 10:26	6.300	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	mg/L
Sample No	384128	Parent Sample No.:	383696
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	168488	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/29/2020	Analysis Time: --------	17:40

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	8.65		1.2	J	8.00	93		
Nitrate Nitrogen	88-111	3.25		1.1		2.00	108		
Sulfate	87-112	9.32		1.5	J	8.00	98		

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	mg/L
Sample No	384983	Parent Sample No.:	384613
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	168553	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/31/2020	Analysis Time: --------	15:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	12.6		5.4		8.00	90		
Nitrate Nitrogen	88-111	2.36		0.37	J	2.00	100		
Sulfate	87-112	8.05		0.88	J	8.00	90		

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	mg/L
Sample No	384998	Parent Sample No.:	384096
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	168532	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/30/2020	Analysis Time: --------	19:20

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.0		3.5		8.00	94			
Nitrate Nitrogen	88-111	2.74		0.65		2.00	104			
Sulfate	87-112	59.4		54		8.00	68			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	mg/L
Sample No	385811	Parent Sample No.:	384096
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	168628	ICAL Calibration #:	ICAL0373 I

Analysis Type	*Initial Analysis*	Analysis Date: -----	02/05/2020	Analysis Time: --------	16:19

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	49.5		BDL	U	50.0	99		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49IDW

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID
SDG No.: 151051

% Solids for Sample:
Concentration Units: mg/L

Sample No: 386857
Parent Sample No.: 384619

Analytical Prep Batch #: 75455
Analytical Preparation Date/Time: 02/10/2020 08:16

Analytical Run #: 168727
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 02/11/2020 Analysis Time: -------- 10:26

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
COD	90-110	294		130		148	111		SP	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	mg/L
Sample No	385812	Parent Sample No.:	385811
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	168628	ICAL Calibration #:	ICAL0373 I

Analysis Type	*Initial Analysis*	Analysis Date: -----	02/05/2020	Analysis Time: --------	16:32

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	49.9		BDL	U	50.0	100		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solids for Sample:
Concentration Units: mg/L
Sample No: 386858
Parent Sample No.: 386857
Analytical Prep Batch #: 75455
Analytical Preparation Date/Time: 02/10/2020 08:16
Analytical Run #: 168727
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 02/11/2020 Analysis Time: -------- 10:26

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
COD	90-110	294		130		148	111		SP	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW07

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	mg/L
Sample No	384237	Parent Sample No.:	384128
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	168488	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/29/2020	Analysis Time: --------	18:00

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	8.70		1.2	J	8.00	94		IC
Nitrate Nitrogen	88-111	3.27		1.1		2.00	108		IC
Sulfate	87-112	9.37		1.5	J	8.00	98		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solids for Sample:
Concentration Units: mg/L
Sample No 385577
Parent Sample No.: 384998
Analytical Prep Batch #
Analytical Preparation Date/Time:
Analytical Run #: 168532
ICAL Calibration #:

Analysis Type *Initial Analysis* Analysis Date: ----- 01/30/2020 Analysis Time: -------- 19:40

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.1		3.5		8.00	95		IC	
Nitrate Nitrogen	88-111	2.76		0.65		2.00	106		IC	
Sulfate	87-112	59.5		54		8.00	69		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix:	LIQUID	SDG No.:	151051
% Solids for Sample:		Concentration Units:	mg/L
Sample No	385602	Parent Sample No.:	384983
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	168553	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	01/31/2020	Analysis Time: --------	15:30

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	13.1		5.4		8.00	96		IC
Nitrate Nitrogen	88-111	2.47		0.37	J	2.00	105		IC
Sulfate	87-112	8.43		0.88	J	8.00	94		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

48MW07

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 168488

ICAL Calibration #:

Sample #: 384131

Parent Sample #: 383696

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/29/2020	16:39	10	1.2	J	1.24	J	3		
Nitrate Nitrogen	01/29/2020	16:39	10	1.1		1.15		4		
Sulfate	01/29/2020	16:39	10	1.5	J	1.51	J	1		

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49MW01

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 168553

ICAL Calibration #:

Sample #: 384984

Parent Sample #: 384613

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/31/2020	14:50	10	5.4		5.37		1		
Nitrate Nitrogen	01/31/2020	14:50	10	0.37	J	0.382	J	3		
Sulfate	01/31/2020	14:50	10	0.88	J	0.871	J	1		

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 168532

ICAL Calibration #:

Sample #: 384999

Parent Sample #: 384096

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/30/2020	19:00	10	3.5		3.51		0		
Nitrate Nitrogen	01/30/2020	19:00	10	0.65		0.652		0		
Sulfate	01/30/2020	19:00	10	54		53.6		1		

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 168555

ICAL Calibration #:

Sample #: 385295

Parent Sample #: 384619

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
pH	01/31/2020	14:45	1	7.48		7.62		2		ELEC	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 168628

ICAL Calibration #: ICAL0373 I

Sample #: 385808

Parent Sample #: 384096

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	02/05/2020	15:31	20	0.50	U	0.50	U	0		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

Matrix: LIQUID

SDG No.: 151051

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 75455

Analytical Run #: 168727

ICAL Calibration #:

Sample #: 386856

Parent Sample #: 384619

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
COD	02/11/2020	10:26	20	130		132		2		SP

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 168628
ICAL Calibration #: ICAL0373 I
Sample #: 385812
Parent Sample #: 385811

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	02/05/2020	16:32	20	49.5		49.9		1		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 75455
Analytical Preparation Date/Time: 02/10/2020 08:16
Analytical Run #: 168727
ICAL Calibration #:
Sample #: 386858
Parent Sample #: 386857

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
COD	02/11/2020	10:26	20	294		294		0		SP

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW07**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 168488
ICAL Calibration #:
Sample #: 384237
Parent Sample #: 384128

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/29/2020	18:00	15	8.65		8.70		1		IC
Nitrate Nitrogen	01/29/2020	18:00	15	3.25		3.27		1		IC
Sulfate	01/29/2020	18:00	15	9.32		9.37		1		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 168532
ICAL Calibration #:
Sample #: 385577
Parent Sample #: 384998

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/30/2020	19:40	15	11.0		11.1		1		IC
Nitrate Nitrogen	01/30/2020	19:40	15	2.74		2.76		1		IC
Sulfate	01/30/2020	19:40	15	59.4		59.5		0		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49MW01**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49
Matrix: LIQUID
SDG No.: 151051
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 168553
ICAL Calibration #:
Sample #: 385602
Parent Sample #: 384983

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	01/31/2020	15:30	15	12.6		13.1		4		IC
Nitrate Nitrogen	01/31/2020	15:30	15	2.36		2.47		4		IC
Sulfate	01/31/2020	15:30	15	8.05		8.43		5		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra SDG No.: 151051

Concentration Units: mg/L

Analytical Run #: 168488 Sample No.:#: 384120

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/29/2020 13:19	87-111	14.76		15.00	98		
Nitrate Nitrogen	01/29/2020 13:19	88-111	3.558		3.500	102		
Sulfate	01/29/2020 13:19	87-112	25.28		25.00	101		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra

SDG No.: 151051

Concentration Units: mg/L

Analytical Run #: 168553

Sample No.:#: 384979

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/31/2020 12:10	87-111	14.74		15.00	98		
Nitrate Nitrogen	01/31/2020 12:10	88-111	3.555		3.500	102		
Sulfate	01/31/2020 12:10	87-112	25.25		25.00	101		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra

SDG No.: 151051

Concentration Units: mg/L

Analytical Run #: 168532

Sample No.:#: 385003

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	01/30/2020 13:19	87-111	14.83		15.00	99		
Nitrate Nitrogen	01/30/2020 13:19	88-111	3.575		3.500	102		
Sulfate	01/30/2020 13:19	87-112	25.40		25.00	102		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra SDG No.: 151051

Concentration Units: mg/L

Analytical Run #: 168628 Sample No.:#: 385806

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #: ICAL0373 I

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	02/05/2020 12:33	85-111	49.14		50.00	98		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU 49

LCS Source: SPEX and Ultra SDG No.: 151051

Concentration Units: mg/L

Analytical Run #: 168727 Sample No.:#: 386860

Analytical Prep Batch #: 75455 Preparation Date/Time: 02/10/2020 08:16

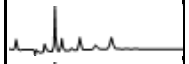
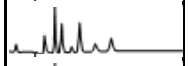
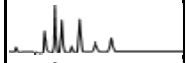
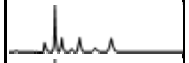
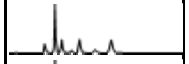
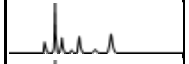
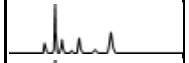
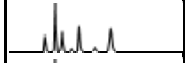
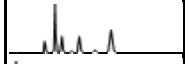
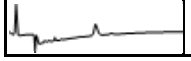
ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	02/11/2020 10:26	90-110	410.3		400.0	103		SP

INORGANICS
RAW DATA
DOCUMENTS

Sequence: 111919 - IC2732A
Last Update Operator: AQUION

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	STD1	1.0000	Calibration Standard	1	25	5000	Anions 1.0	IC2732A	Finished
	STD2	1.0000	Calibration Standard	2	26	5000	Anions 1.0	IC2732A	Finished
	STD3	1.0000	Calibration Standard	3	27	5000	Anions 1.0	IC2732A	Finished
	STD4	1.0000	Calibration Standard	4	28	5000	Anions 1.0	IC2732A	Finished
	STD5	1.0000	Calibration Standard	5	29	5000	Anions 1.0	IC2732A	Finished
	STD6	1.0000	Calibration Standard	6	30	5000	Anions 1.0	IC2732A	Finished
	STD7	1.0000	Calibration Standard	7	31	5000	Anions 1.0	IC2732A	Finished
	STD8	1.0000	Calibration Standard	8	32	5000	Anions 1.0	IC2732A	Finished
	STD9	1.0000	Calibration Standard	9	33	5000	Anions 1.0	IC2732A	Finished
	ICV	1.0000	Unknown		34	5000	Anions 1.0	IC2732A	Finished
	ICB	1.0000	Unknown		35	5000	Anions 1.0	IC2732A	Finished

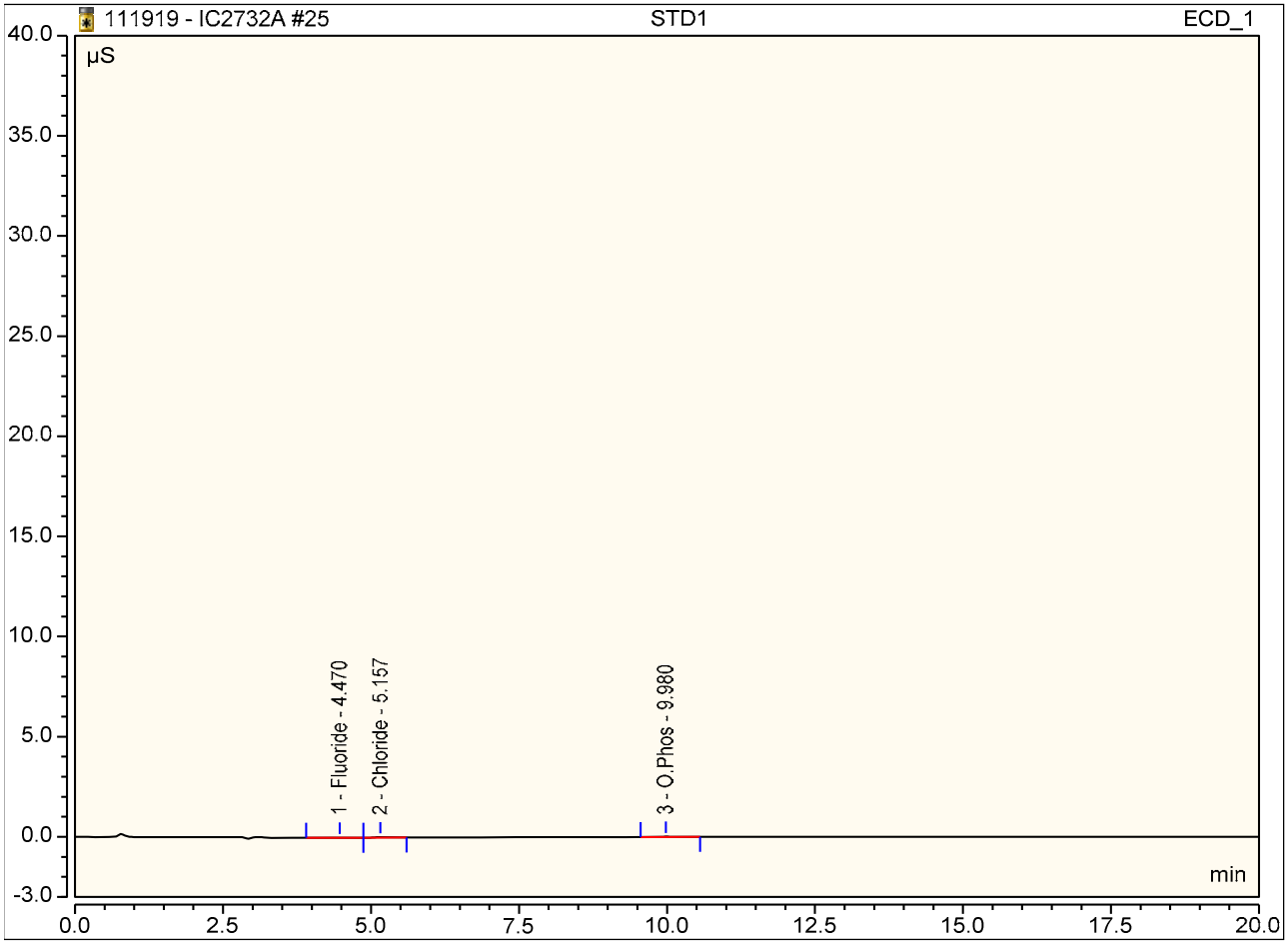
RJ01/10/2020

Page 1128

Peak Integration Report

Sample Name:	**STD1**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 22:11**	*Run Time:*	**20.00**

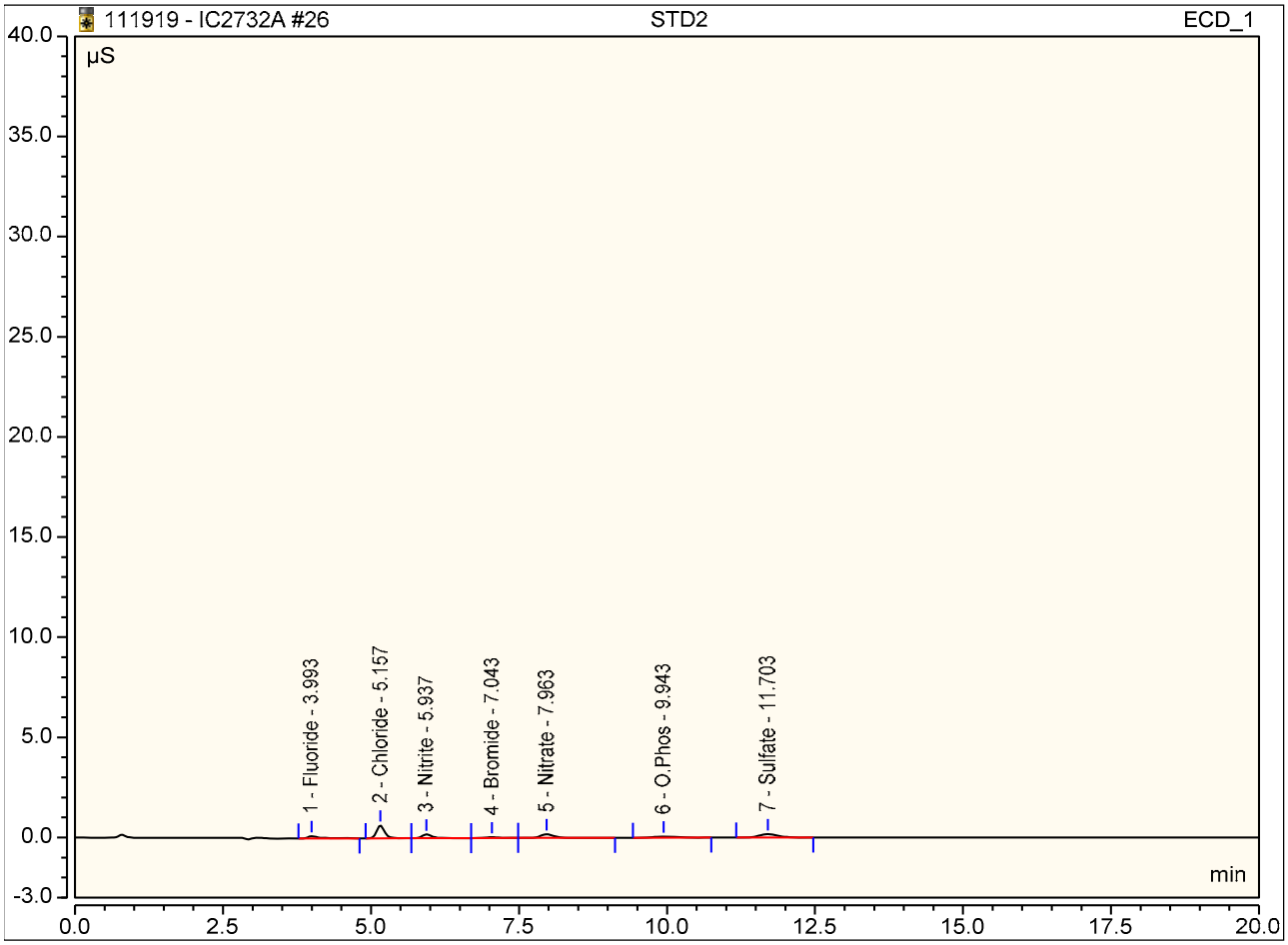
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.47	Fluoride	0.003	0.008	0.0159
2	5.16	Chloride	0.005	0.030	0.4934
3	9.98	O.Phos	0.007	0.017	n.a.



Peak Integration Report

Sample Name:	**STD2**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 22:31**	*Run Time:*	**20.00**

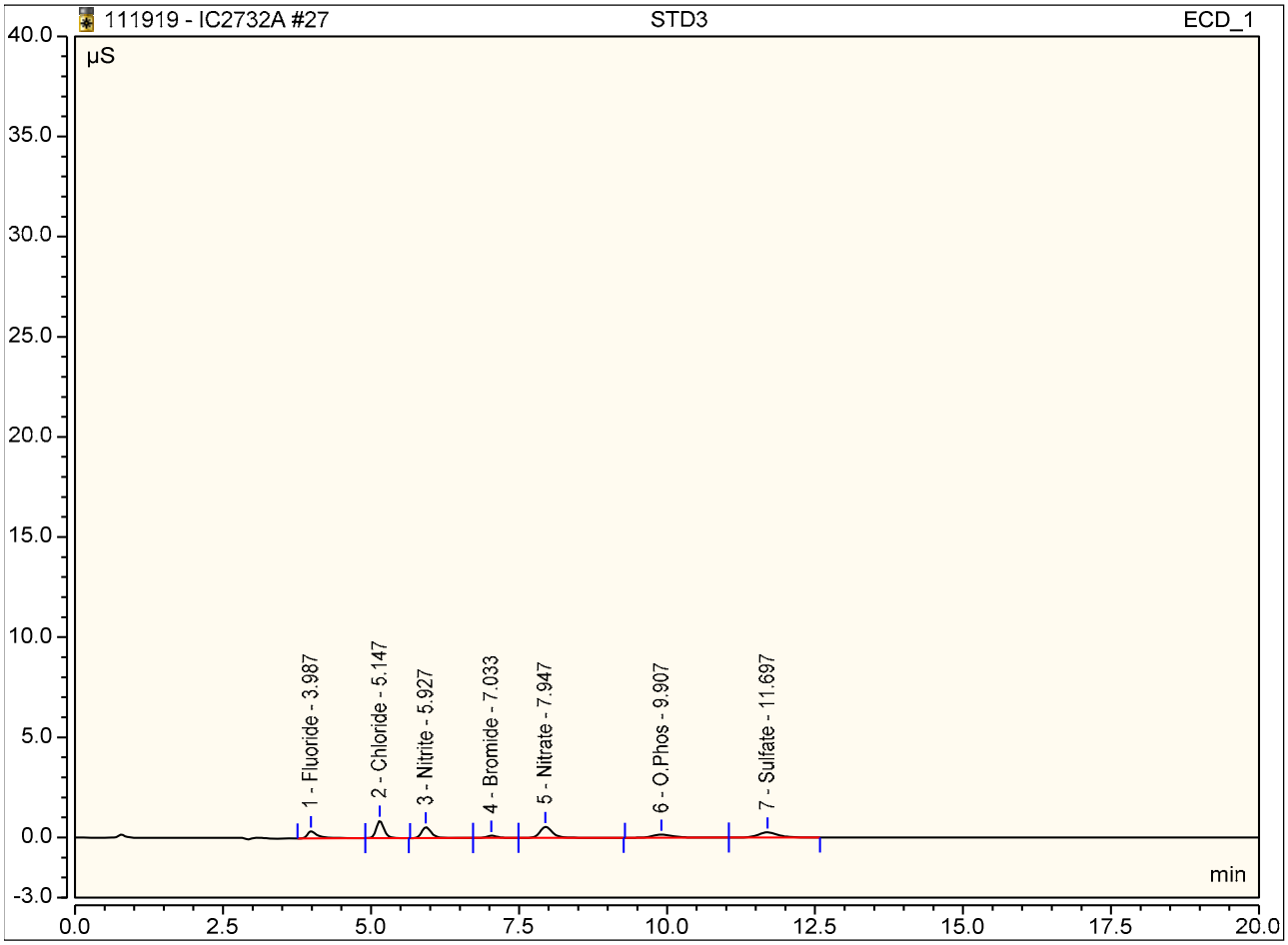
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.029	0.121	0.1155
2	5.16	Chloride	0.101	0.642	0.9050
3	5.94	Nitrite	0.036	0.184	0.1202
4	7.04	Bromide	0.008	0.038	0.1043
5	7.96	Nitrate	0.047	0.187	0.1597
6	9.94	O.Phos	0.026	0.064	0.0958
7	11.70	Sulfate	0.066	0.172	1.0380



Peak Integration Report

Sample Name:	**STD3**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 22:51**	*Run Time:*	**20.00**

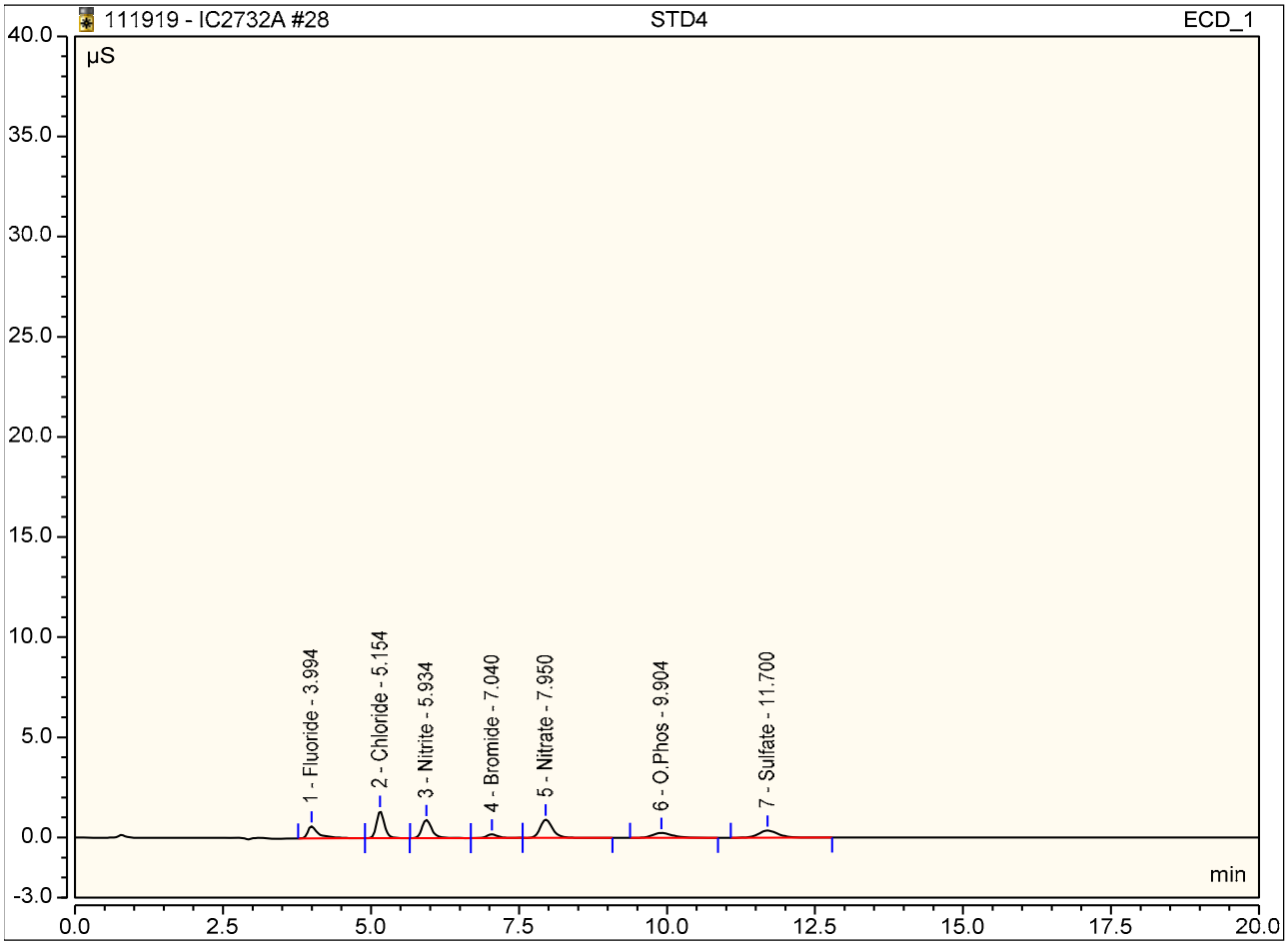
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.080	0.360	0.3013
2	5.15	Chloride	0.137	0.880	1.0634
3	5.93	Nitrite	0.106	0.542	0.3092
4	7.03	Bromide	0.023	0.111	0.3002
5	7.95	Nitrate	0.136	0.546	0.3358
6	9.91	O.Phos	0.061	0.155	0.3113
7	11.70	Sulfate	0.099	0.257	1.2514



Peak Integration Report

Sample Name:	**STD4**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 23:11**	*Run Time:*	**20.00**

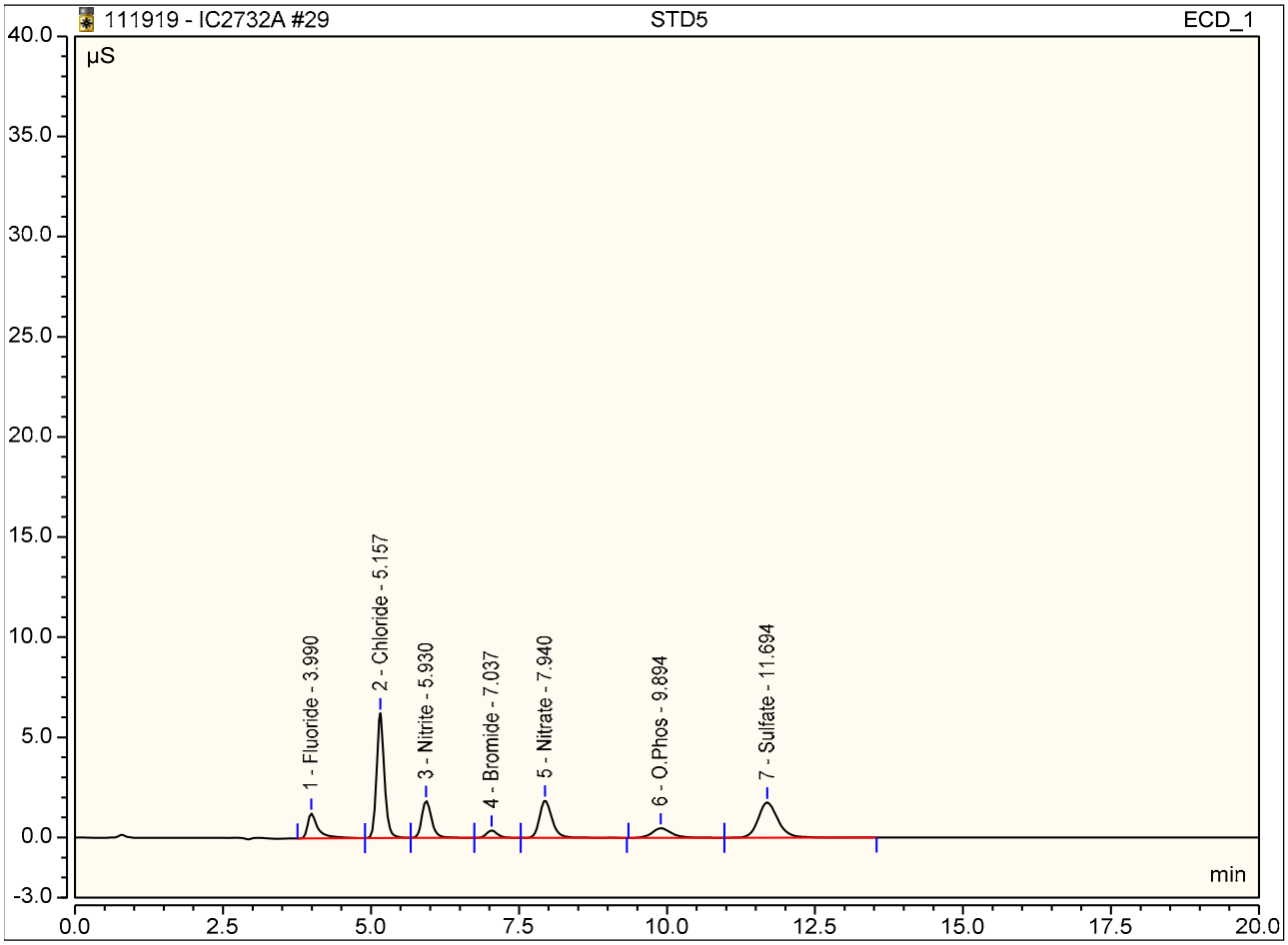
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.137	0.608	0.5149
2	5.15	Chloride	0.213	1.369	1.3911
3	5.93	Nitrite	0.179	0.913	0.5039
4	7.04	Bromide	0.039	0.184	0.5019
5	7.95	Nitrate	0.228	0.922	0.5172
6	9.90	O.Phos	0.094	0.246	0.5097
7	11.70	Sulfate	0.138	0.355	1.4957



Peak Integration Report

Sample Name:	**STD5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 23:31**	*Run Time:*	**20.00**

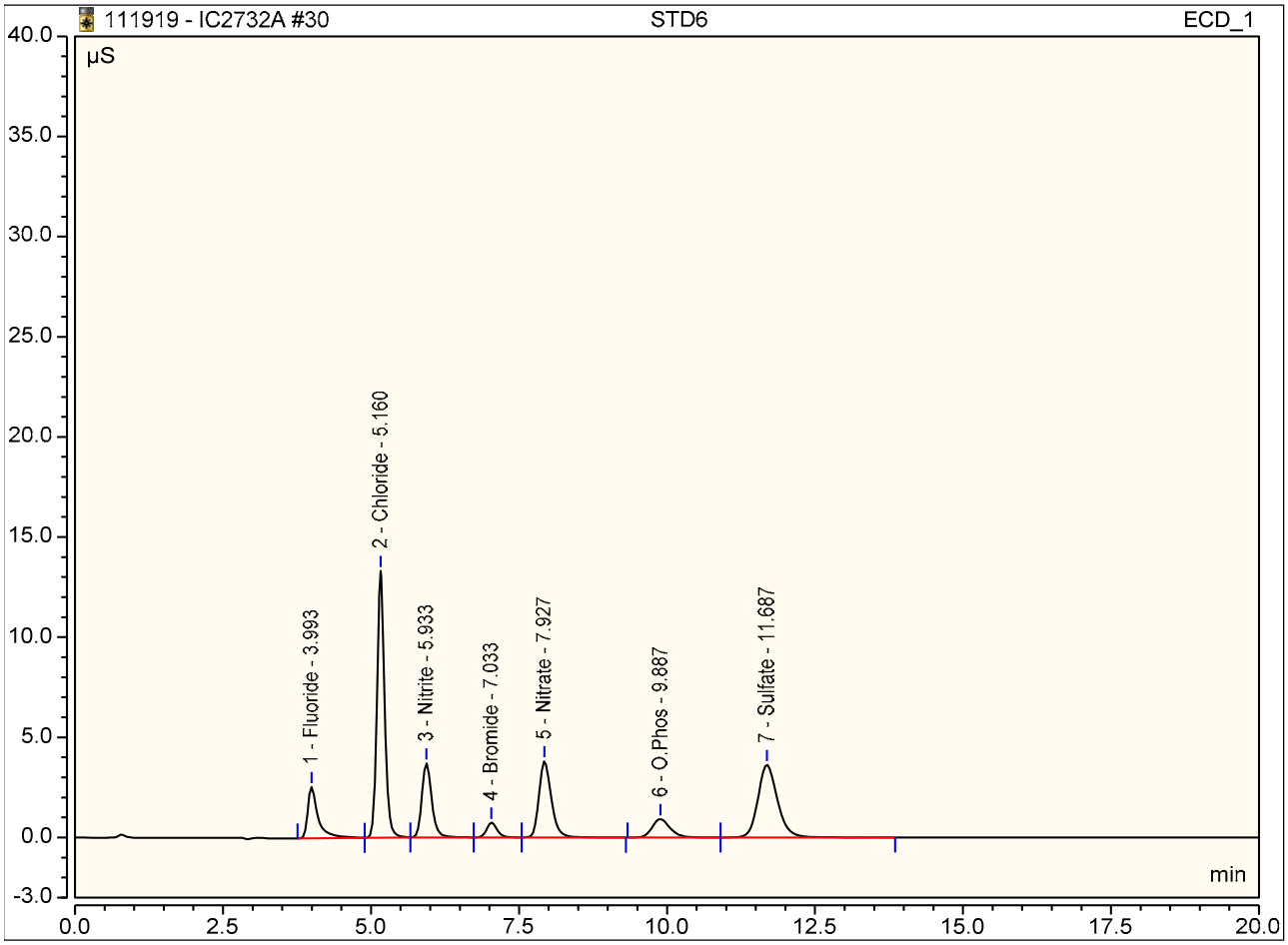
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.262	1.249	0.9787
2	5.16	Chloride	0.948	6.228	4.5546
3	5.93	Nitrite	0.359	1.845	0.9890
4	7.04	Bromide	0.078	0.372	1.0010
5	7.94	Nitrate	0.461	1.870	0.9770
6	9.89	O.Phos	0.176	0.474	1.0173
7	11.69	Sulfate	0.683	1.757	4.9423



Peak Integration Report

Sample Name:	**STD6**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 23:51**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.525	2.569	1.9523
2	5.16	Chloride	1.975	13.318	8.9813
3	5.93	Nitrite	0.721	3.702	1.9614
4	7.03	Bromide	0.155	0.743	1.9885
5	7.93	Nitrate	0.933	3.812	1.9075
6	9.89	O.Phos	0.334	0.925	1.9907
7	11.69	Sulfate	1.400	3.627	9.4805

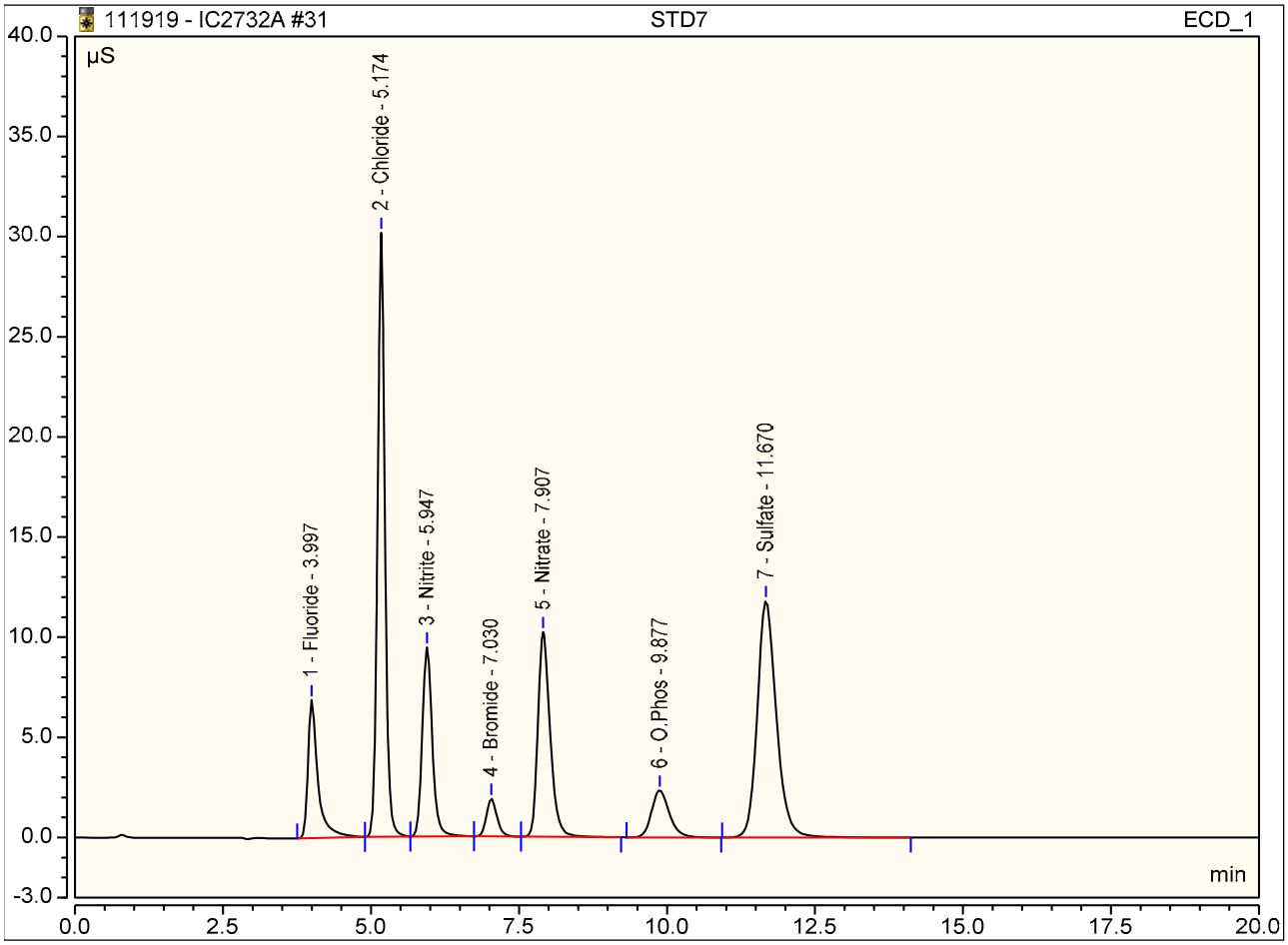


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**STD7**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 00:11**	*Run Time:*	**20.00**

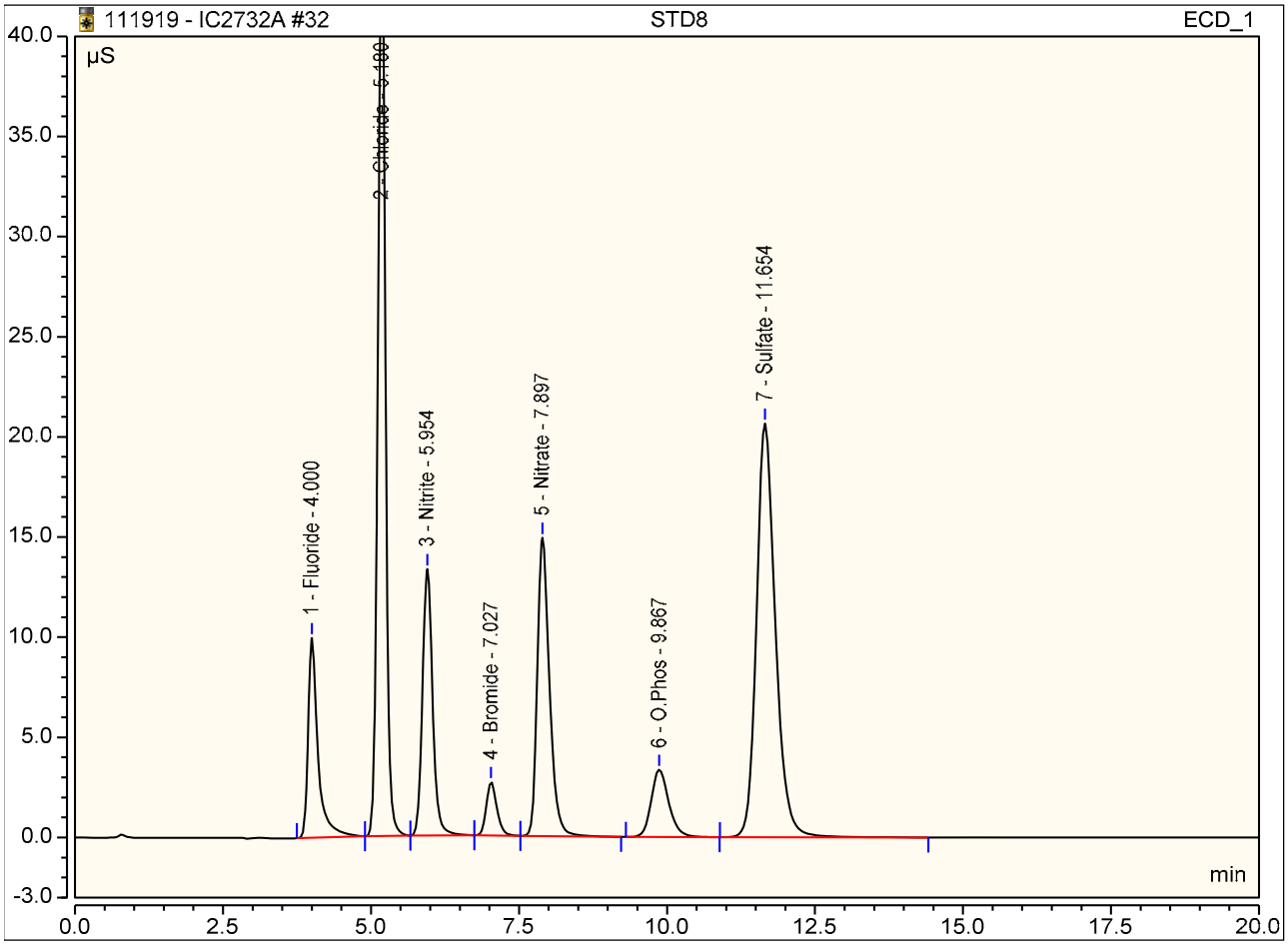
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	1.353	6.894	5.0215
2	5.17	Chloride	4.365	30.163	19.2743
3	5.95	Nitrite	1.857	9.442	5.0163
4	7.03	Bromide	0.391	1.888	5.0041
5	7.91	Nitrate	2.458	10.224	4.9183
6	9.88	O.Phos	0.821	2.345	4.9987
7	11.67	Sulfate	4.437	11.813	28.6959



Peak Integration Report

Sample Name:	**STD8**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 00:31**	*Run Time:*	**20.00**

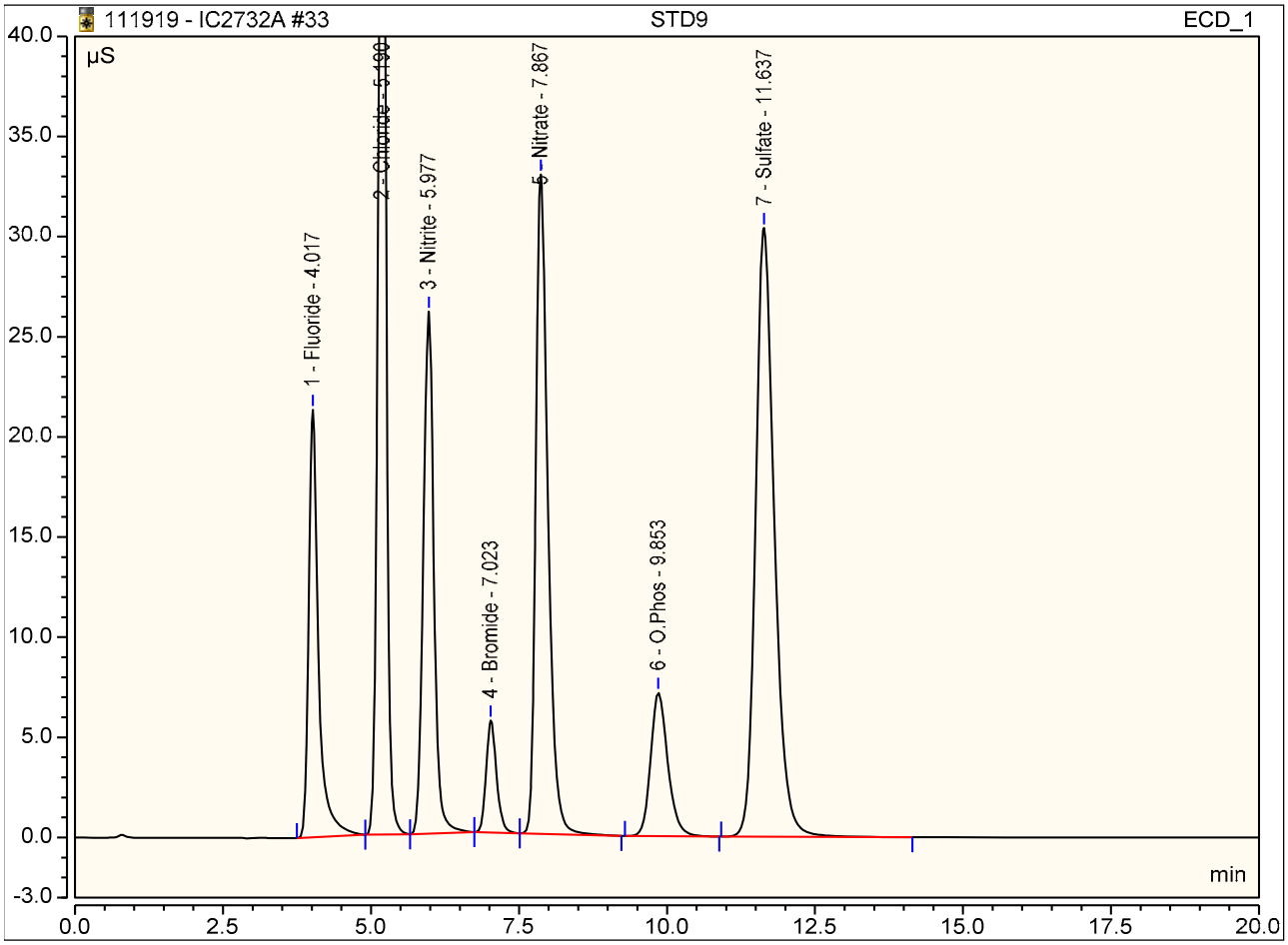
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	1.932	9.980	7.1693
2	5.18	Chloride	6.794	47.101	29.7375
3	5.95	Nitrite	2.640	13.302	7.1237
4	7.03	Bromide	0.555	2.679	7.1053
5	7.90	Nitrate	3.555	14.892	7.0844
6	9.87	O.Phos	1.164	3.364	7.1117
7	11.65	Sulfate	7.652	20.652	49.0387



Peak Integration Report

Sample Name:	**STD9**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 00:51**	*Run Time:*	**20.00**

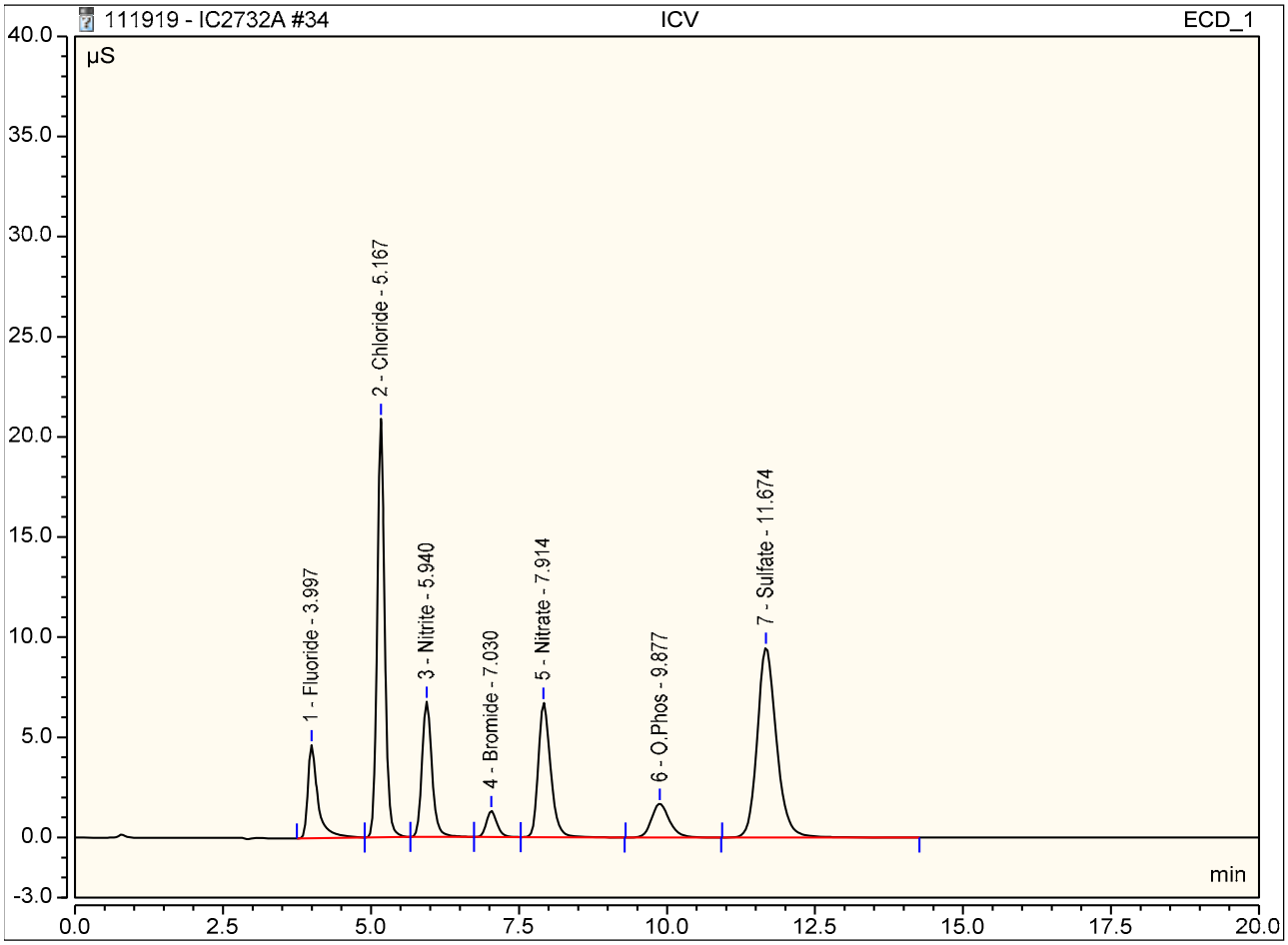
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.02	Fluoride	4.069	21.343	15.0910
2	5.19	Chloride	9.373	64.211	40.8494
3	5.98	Nitrite	5.402	26.068	14.5498
4	7.02	Bromide	1.138	5.595	14.5750
5	7.87	Nitrate	7.791	32.919	15.4457
6	9.85	O.Phos	2.416	7.164	14.8404
7	11.64	Sulfate	11.172	30.393	71.3076



Peak Integration Report

Sample Name:	**ICV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 01:11**	*Run Time:*	**20.00**

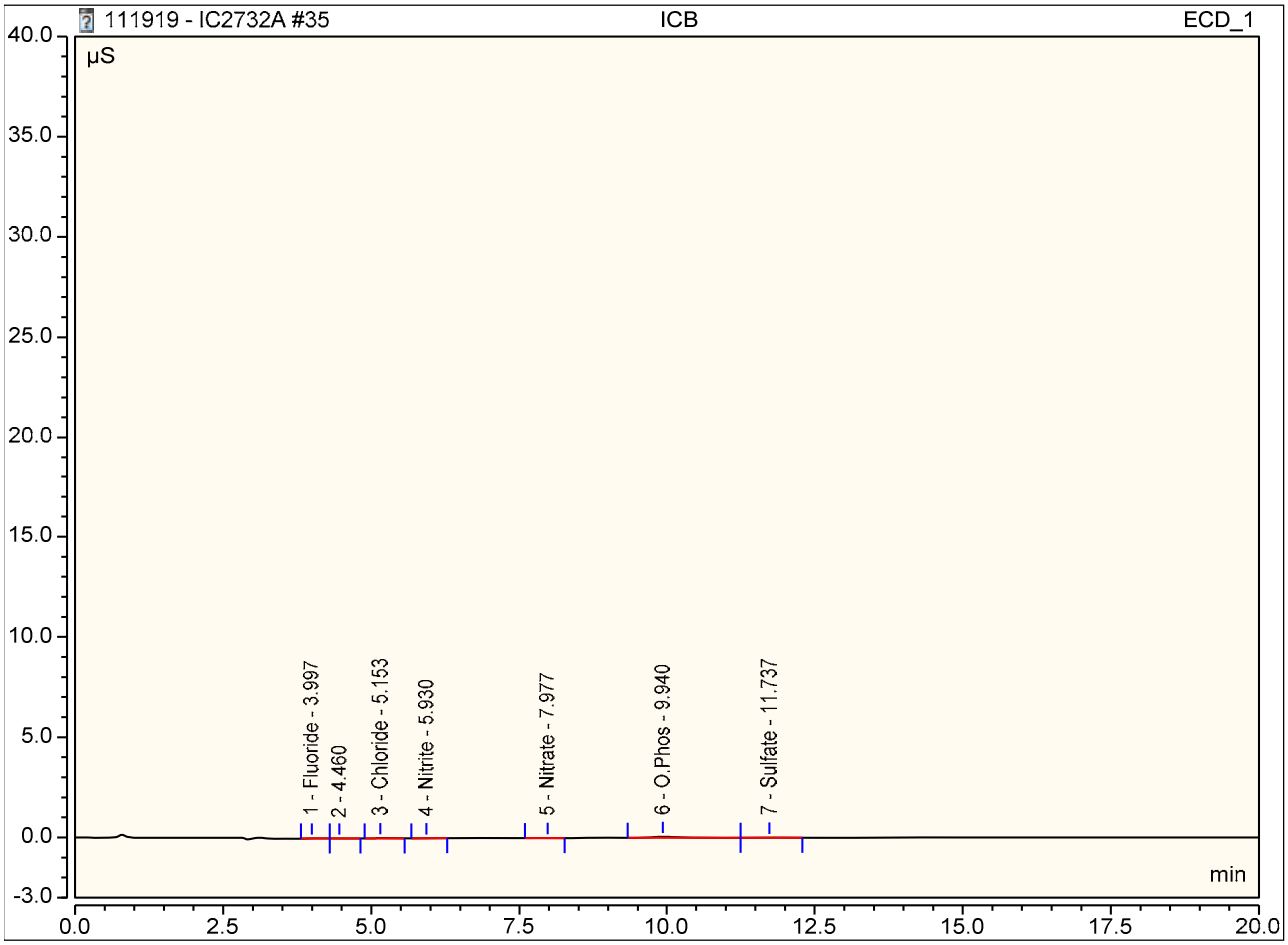
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	0.918	4.652	3.4087
2	5.17	Chloride	3.055	20.893	13.6312
3	5.94	Nitrite	1.319	6.762	3.5717
4	7.03	Bromide	0.270	1.299	3.4635
5	7.91	Nitrate	1.629	6.713	3.2822
6	9.88	O.Phos	0.595	1.685	3.6058
7	11.67	Sulfate	3.585	9.487	23.3079



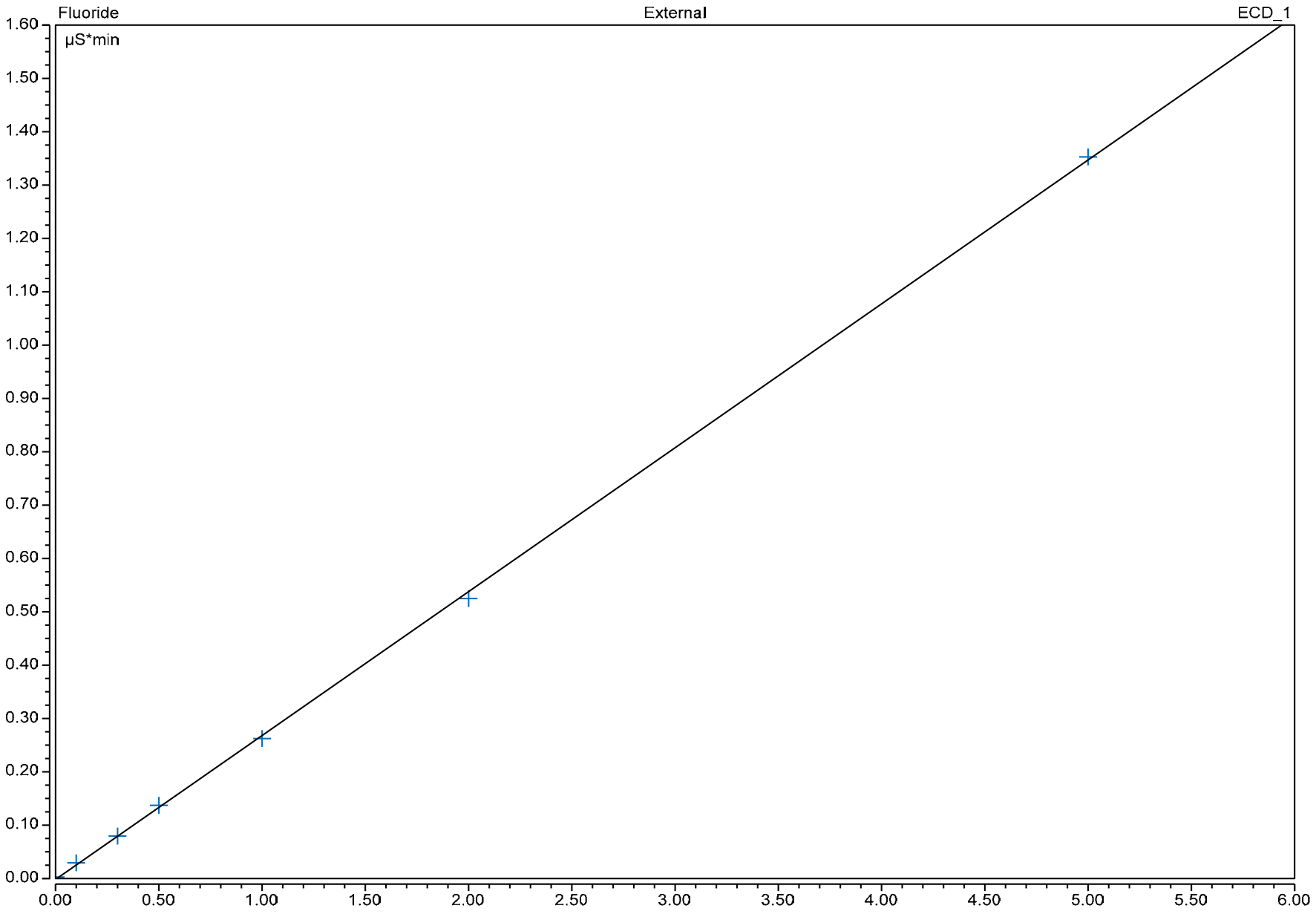
Peak Integration Report

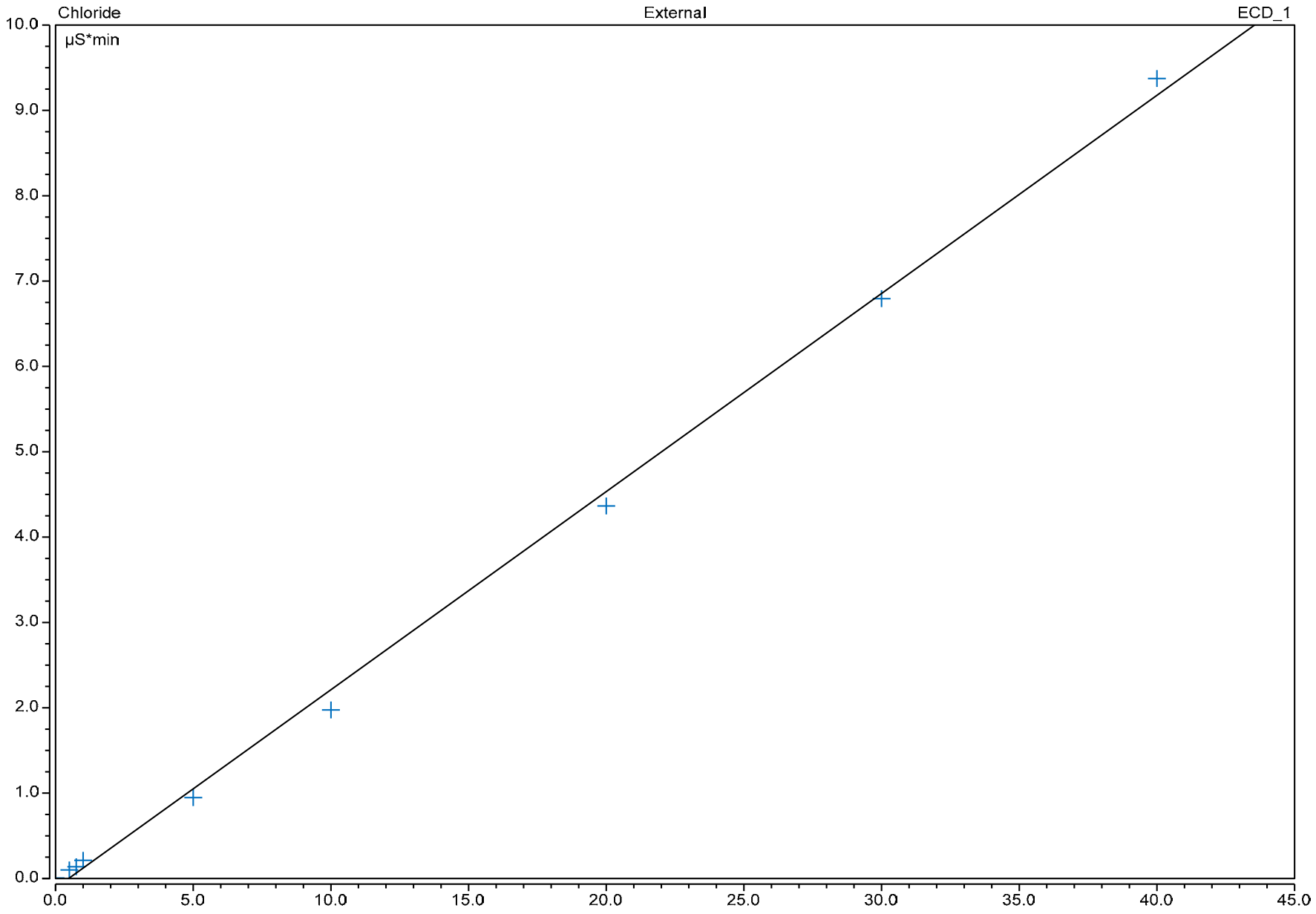
Sample Name:	**ICB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 01:31**	*Run Time:*	**20.00**

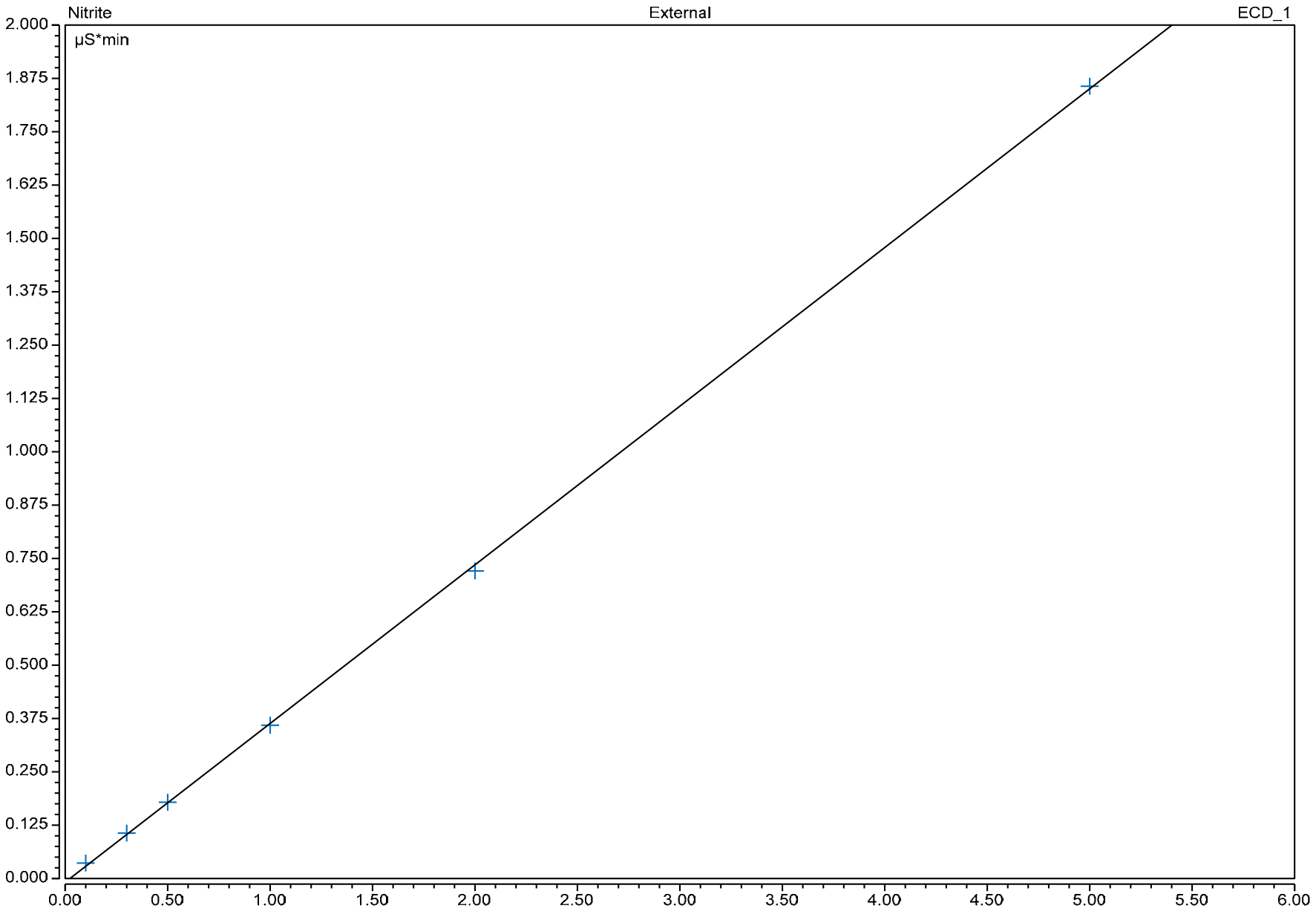
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	0.002	0.010	0.0126
3	5.15	Chloride	0.003	0.018	0.4853
4	5.93	Nitrite	0.001	0.005	0.0258
5	7.98	Nitrate	0.001	0.004	0.0686
6	9.94	O.Phos	0.026	0.058	0.0923
7	11.74	Sulfate	0.003	0.007	0.6402



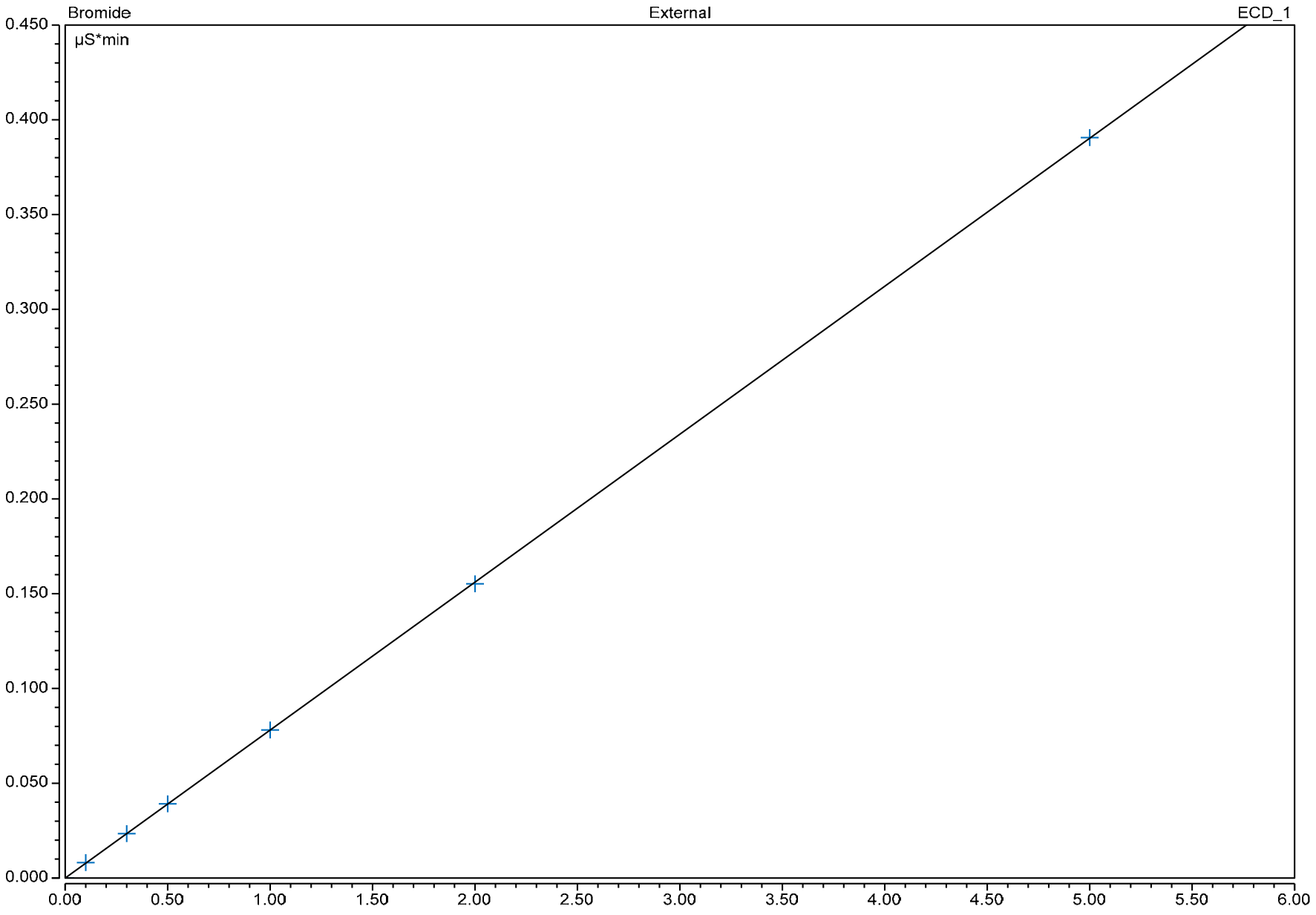
Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	Fluoride	Lin, WithOffset	Area	7	2.2106	0.99979	-0.0017	0.2697	0.0000
2	Chloride	Lin, WithOffset	Area	9	5.9184	0.99817	-0.1095	0.2321	0.0000
3	Nitrite	Lin, WithOffset	Area	6	1.6717	0.99986	-0.0086	0.3718	0.0000
4	Bromide	Lin, WithOffset	Area	6	0.4433	0.99999	0.0000	0.0781	0.0000
5	Nitrate	Lin, WithOffset	Area	7	3.3958	0.99935	-0.0338	0.5066	0.0000
6	O.Phos	Lin, WithOffset	Area	7	1.1453	0.99994	0.0109	0.1621	0.0000
7	*Sulfate*	*Lin, WithOffset*	*Area*	*8*	*4.6746*	*0.99891*	*-0.0984*	*0.1581*	*0.0000*
Maximum					**5.9184**	0.99999			
Minimum					0.4433	**0.99817**			

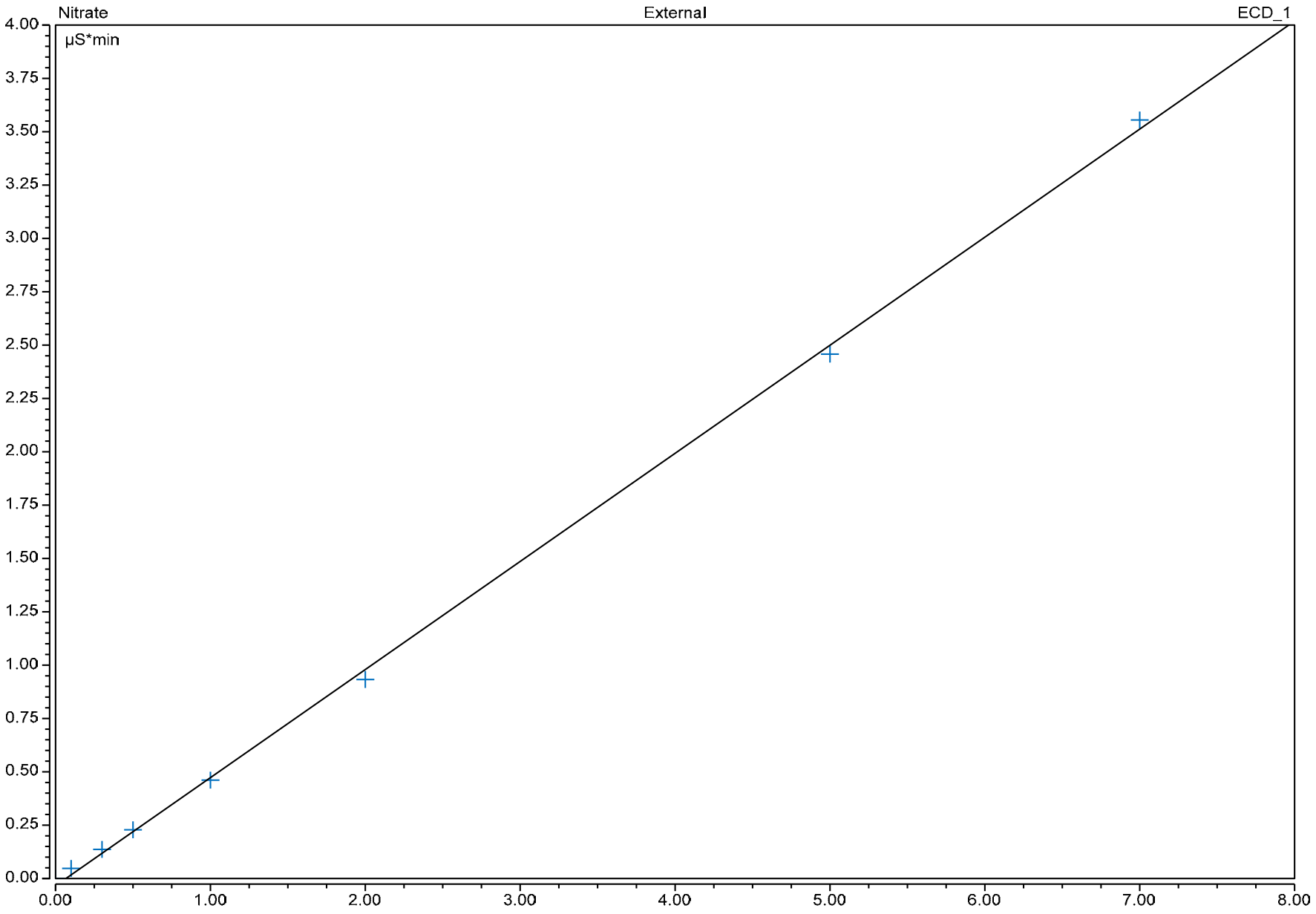

Fluoride
External
ECD_1
µS*min
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00


Chloride
External
ECD_1
µS*min
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0

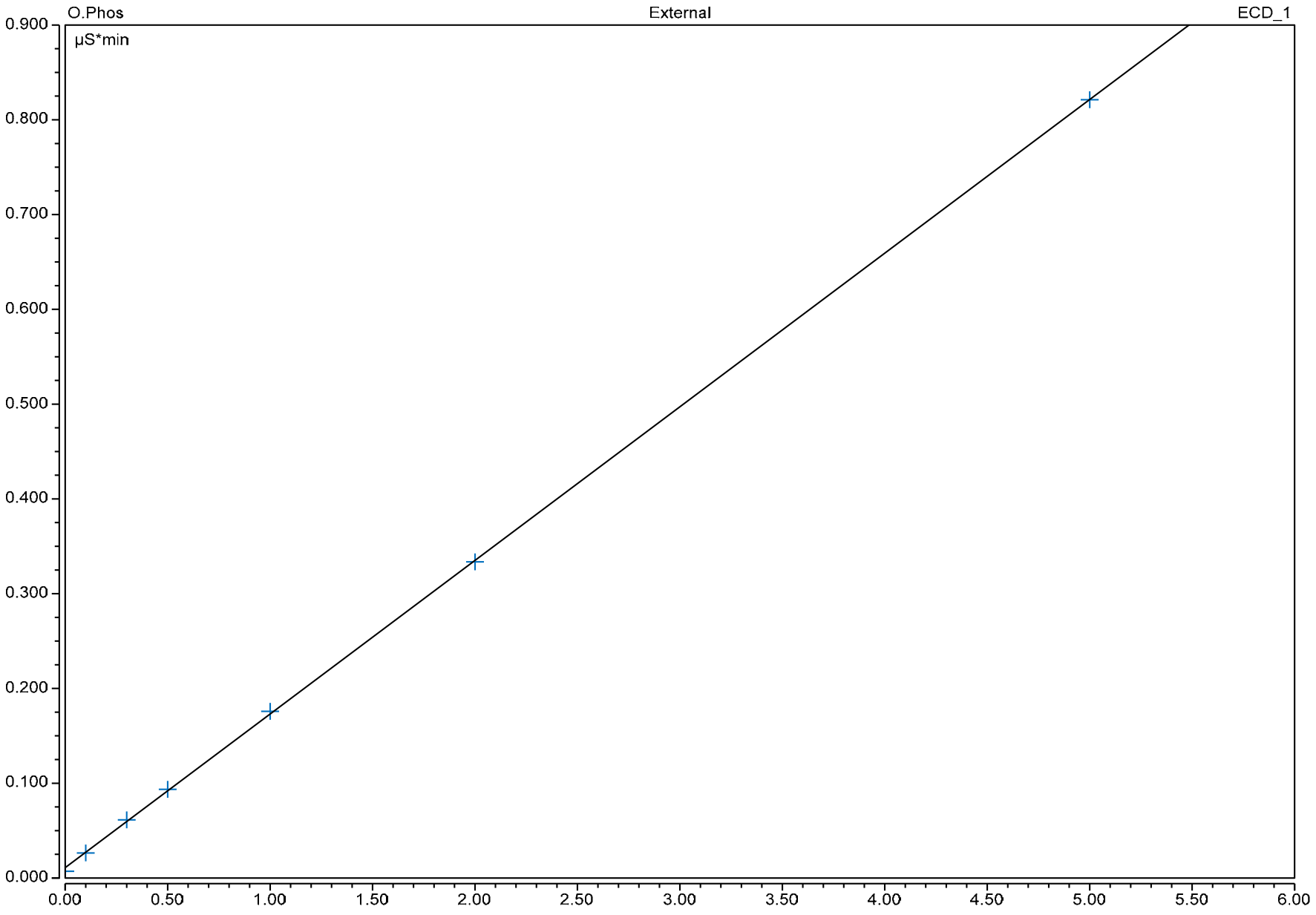

Nitrite
External
ECD_1
µS*min
2.000
1.875
1.750
1.625
1.500
1.375
1.250
1.125
1.000
0.875
0.750
0.625
0.500
0.375
0.250
0.125
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

RJ 01/10/2020

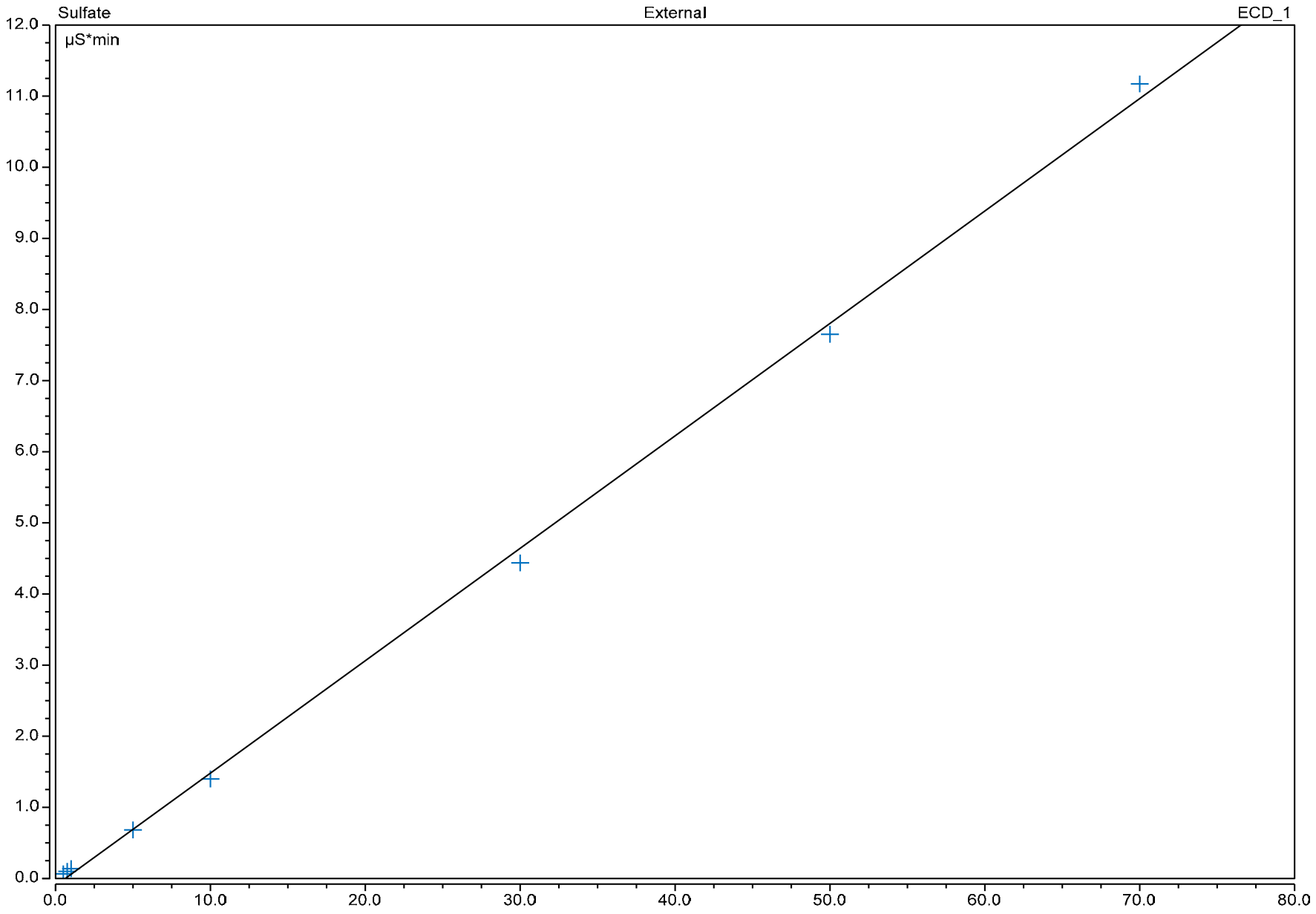

Bromide
External
ECD_1
µS*min
0.450
0.400
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00


Nitrate
External
ECD_1
µS*min
4.00
3.75
3.50
3.25
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00

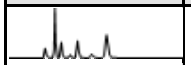
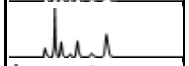
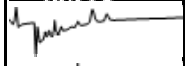
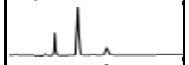
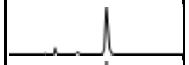
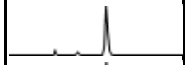
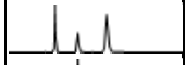
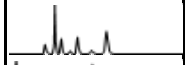
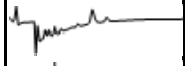
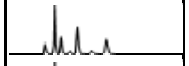
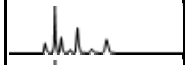
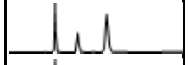
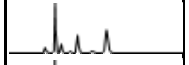
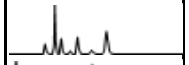
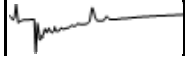
RJ 01/10/2020

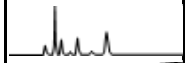
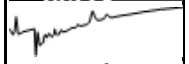
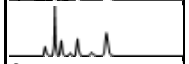

O.Phos
External
ECD_1
µS*min
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

RJ 01/10/2020


Sulfate
External
ECD_1
µS*min
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

Sequence: 012920 - 168488 168489
Last Update Operator: aquion

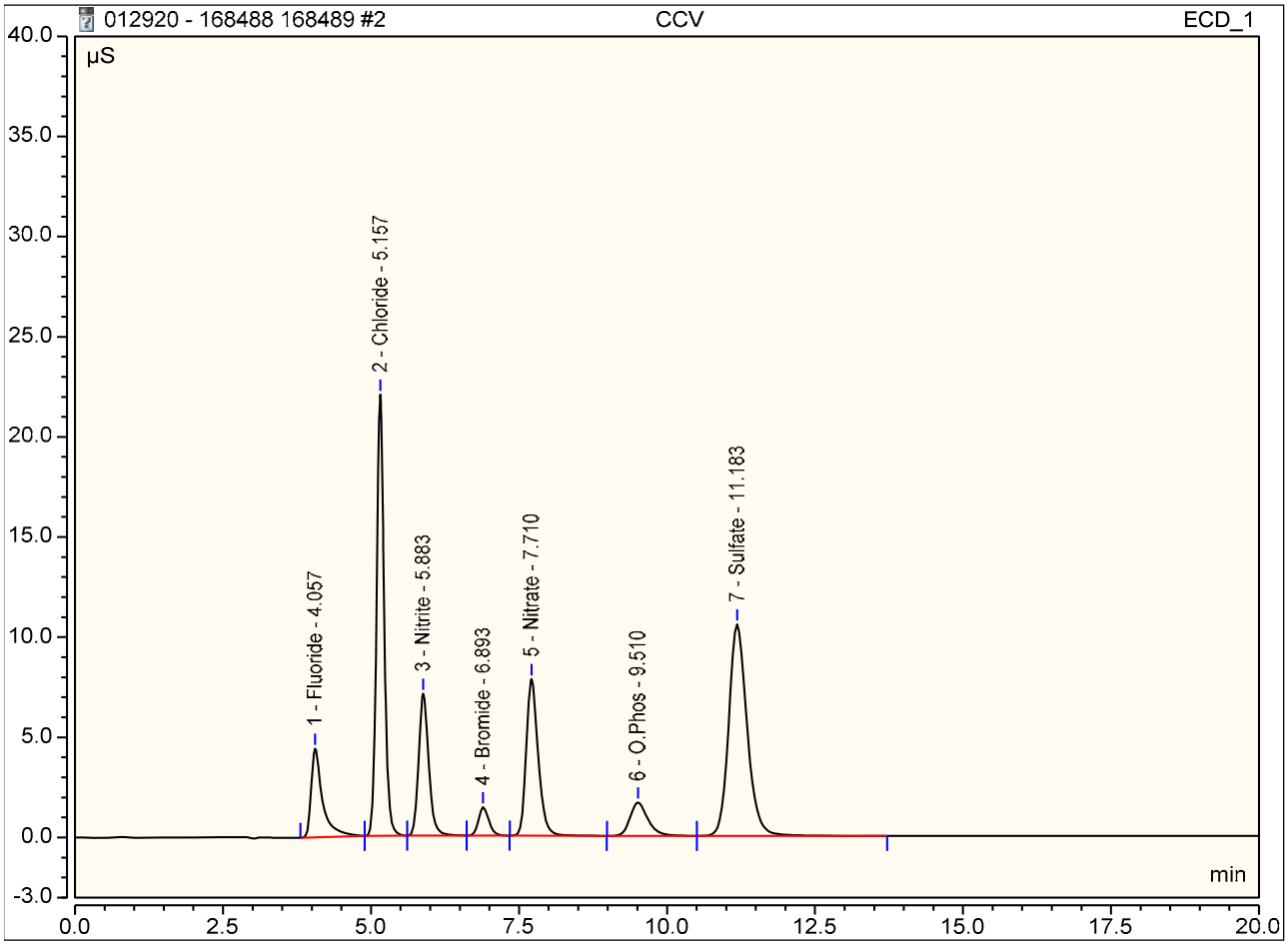
ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		2	5000	Anions	IC2732A	Finished
	LCSW	1.0000	Unknown		3	5000	Anions	IC2732A	Finished
	MBW	1.0000	Unknown		4	5000	Anions	IC2732A	Finished
	383696	1.0000	Unknown		5	5000	Anions	IC2732A	Finished
	383697	1.0000	Unknown		6	5000	Anions	IC2732A	Finished
	383698	1.0000	Unknown		7	5000	Anions	IC2732A	Finished
	383699	1.0000	Unknown		8	5000	Anions	IC2732A	Finished
	383700	1.0000	Unknown		9	5000	Anions	IC2732A	Finished
	383701	1.0000	Unknown		10	5000	Anions	IC2732A	Finished
									
	DUP383696	1.0000	Unknown		13	5000	Anions	IC2732A	Finished
	CCV	1.0000	Unknown		14	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		15	5000	Anions	IC2732A	Finished
	MSW383696	1.0000	Unknown		16	5000	Anions	IC2732A	Finished
	MSDW383696	1.0000	Unknown		17	5000	Anions	IC2732A	Finished
									
									
	CCV	1.0000	Unknown		20	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		21	5000	Anions	IC2732A	Finished

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		24	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		25	5000	Anions	IC2732A	Finished
	383699X5	1.0000	Unknown		26	5000	Anions	IC2732A	Finished
	383700X5	1.0000	Unknown		27	5000	Anions	IC2732A	Finished
	CCV	1.0000	Unknown		28	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		29	5000	Anions	IC2732A	Finished

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 12:59**	*Run Time:*	**20.00**

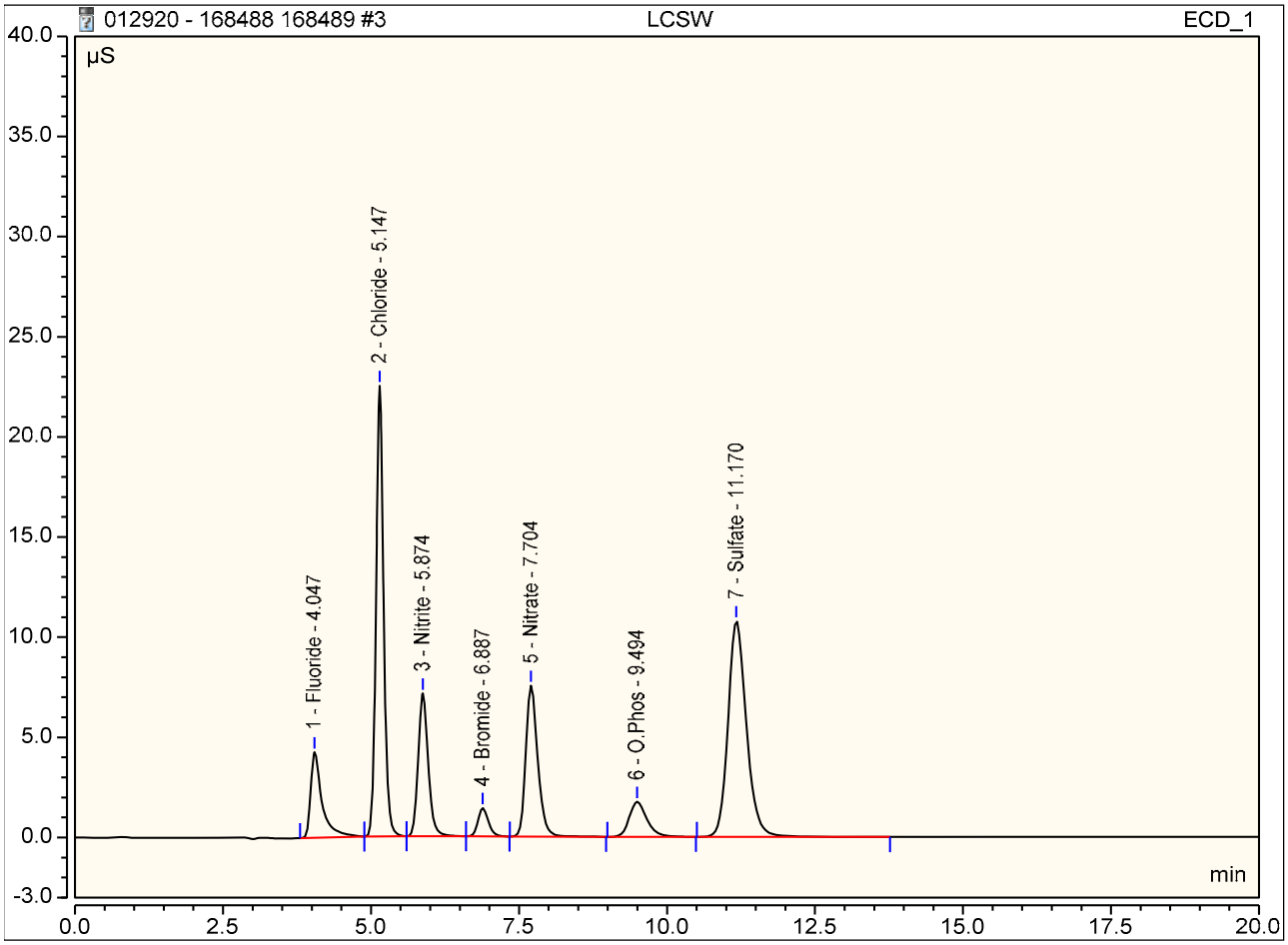
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.984	4.429	3.6527
2	5.16	Chloride	3.251	22.029	14.4757
3	5.88	Nitrite	1.398	7.094	3.7835
4	6.89	Bromide	0.289	1.418	3.7089
5	7.71	Nitrate	1.835	7.821	3.6889
6	9.51	O.Phos	0.583	1.670	3.5287
7	11.18	Sulfate	3.820	10.567	24.7930



Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 13:19**	*Run Time:*	**20.00**

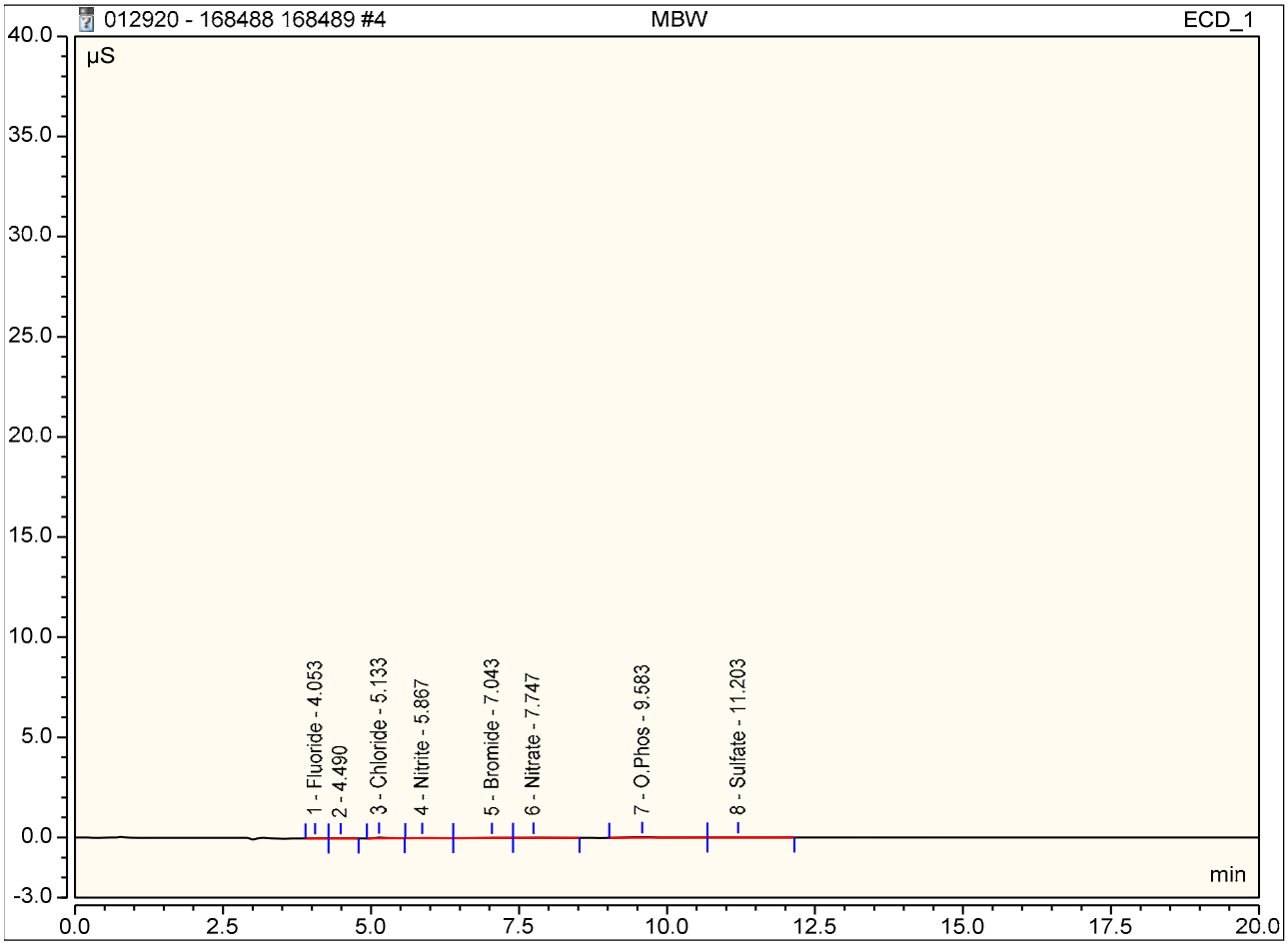
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.954	4.271	3.5444
2	5.15	Chloride	3.317	22.502	14.7629
3	5.87	Nitrite	1.403	7.131	3.7976
4	6.89	Bromide	0.290	1.419	3.7142
5	7.70	Nitrate	1.768	7.538	3.5575
6	9.49	O.Phos	0.606	1.745	3.6690
7	11.17	Sulfate	3.898	10.777	25.2844



Peak Integration Report

Sample Name:	**MBW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 13:39**	*Run Time:*	**20.00**

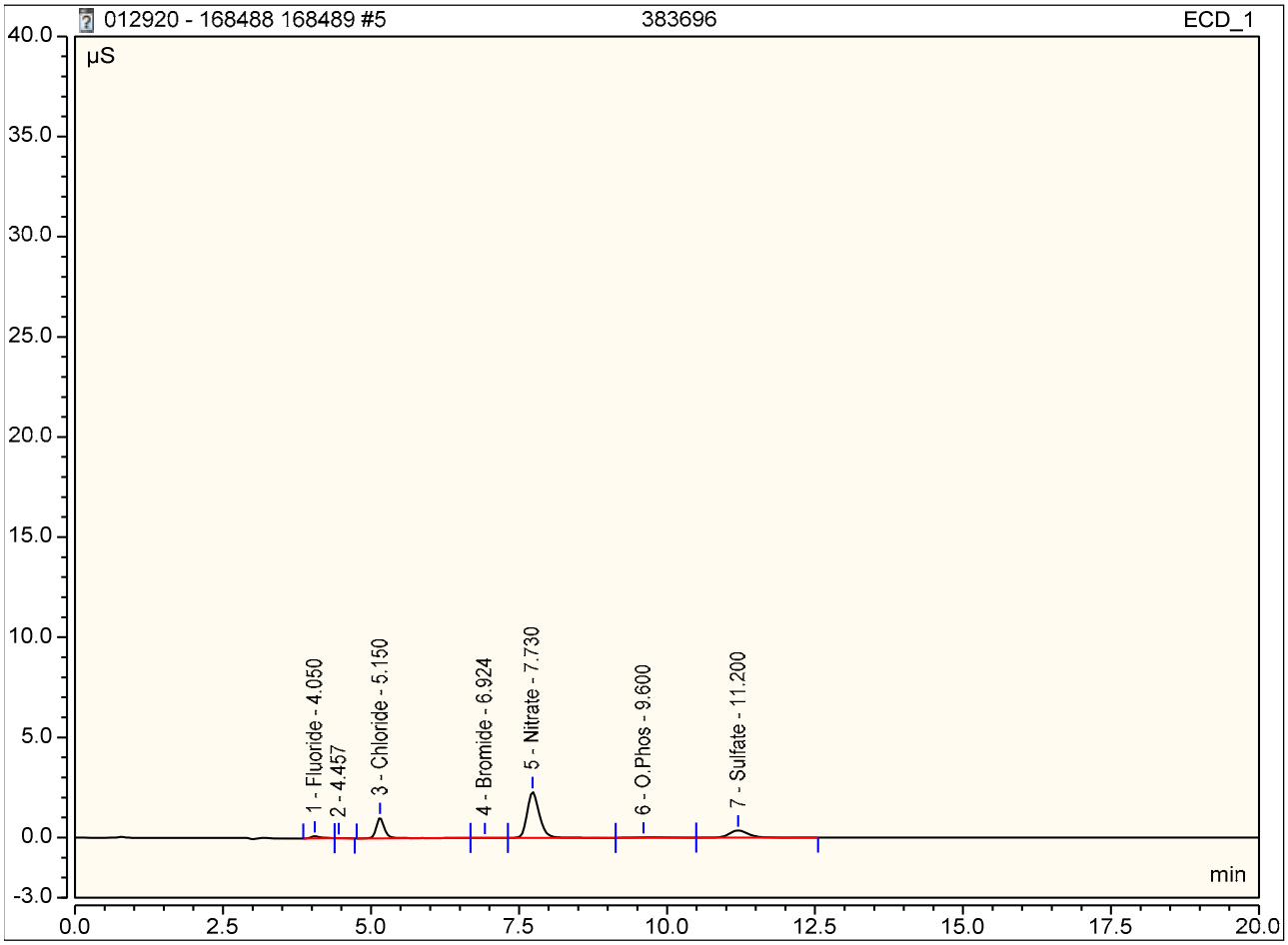
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.002	0.013	0.0144
3	5.13	Chloride	0.006	0.037	0.4977
4	5.87	Nitrite	0.003	0.014	0.0313
5	7.04	Bromide	0.002	0.005	0.0225
6	7.75	Nitrate	0.004	0.014	0.0739
7	9.58	O.Phos	0.017	0.037	0.0352
8	11.20	Sulfate	0.008	0.019	0.6717



Peak Integration Report

Sample Name:	**383696**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 13:59**	*Run Time:*	**20.00**

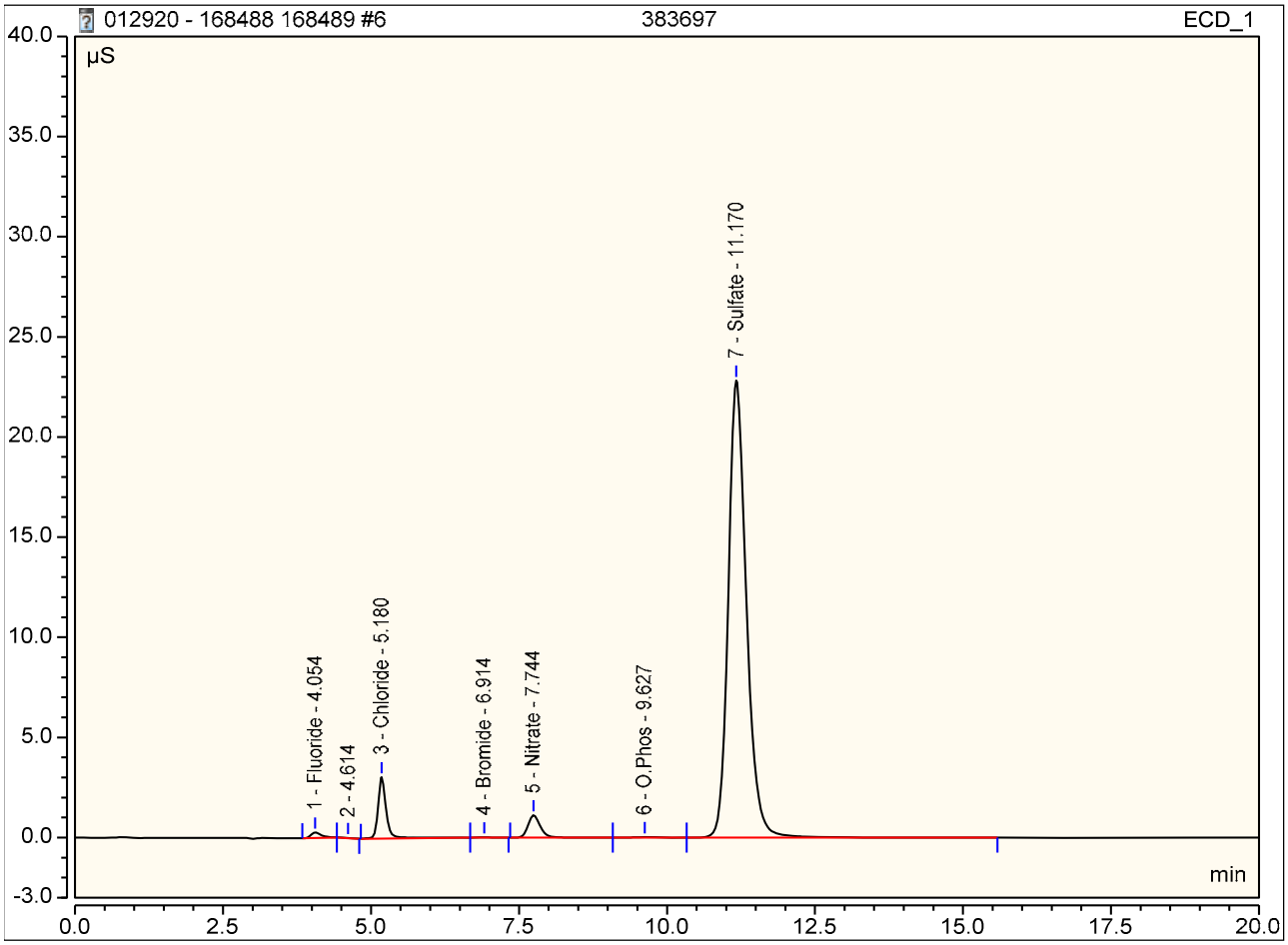
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.019	0.098	0.0770
3	5.15	Chloride	0.173	1.036	1.2192
4	6.92	Bromide	0.001	0.005	0.0162
5	7.73	Nitrate	0.547	2.292	1.1473
6	9.60	O.Phos	0.012	0.026	0.0040
7	11.20	Sulfate	0.137	0.364	1.4891



Peak Integration Report

Sample Name:	**383697**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 14:19**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.057	0.279	0.2170
3	5.18	Chloride	0.495	3.070	2.6023
4	6.91	Bromide	0.004	0.019	0.0509
5	7.74	Nitrate	0.268	1.120	0.5954
6	9.63	O.Phos	0.012	0.027	0.0039
7	11.17	Sulfate	8.125	22.818	52.0281

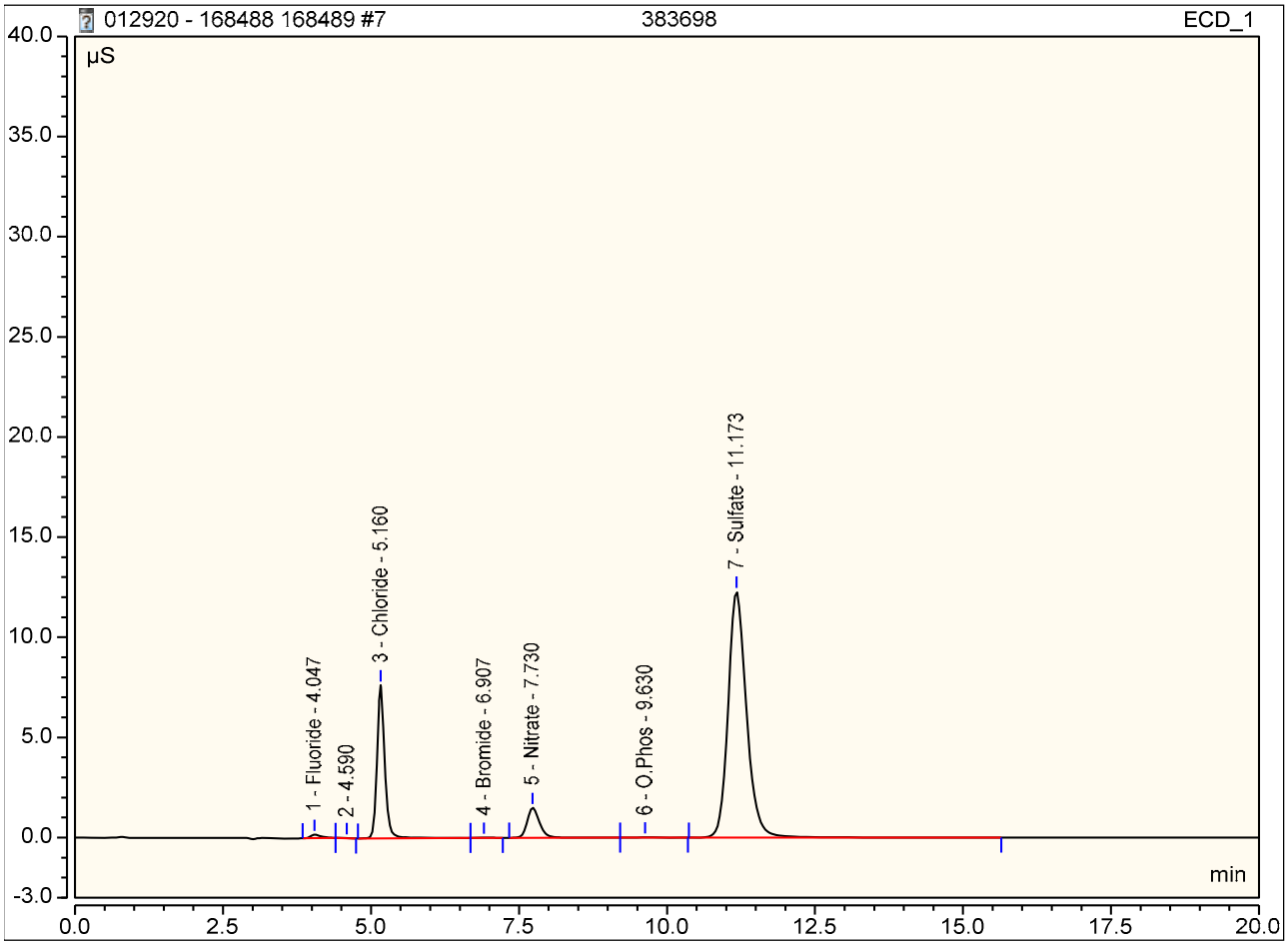


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**383698**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 14:39**	*Run Time:*	**20.00**

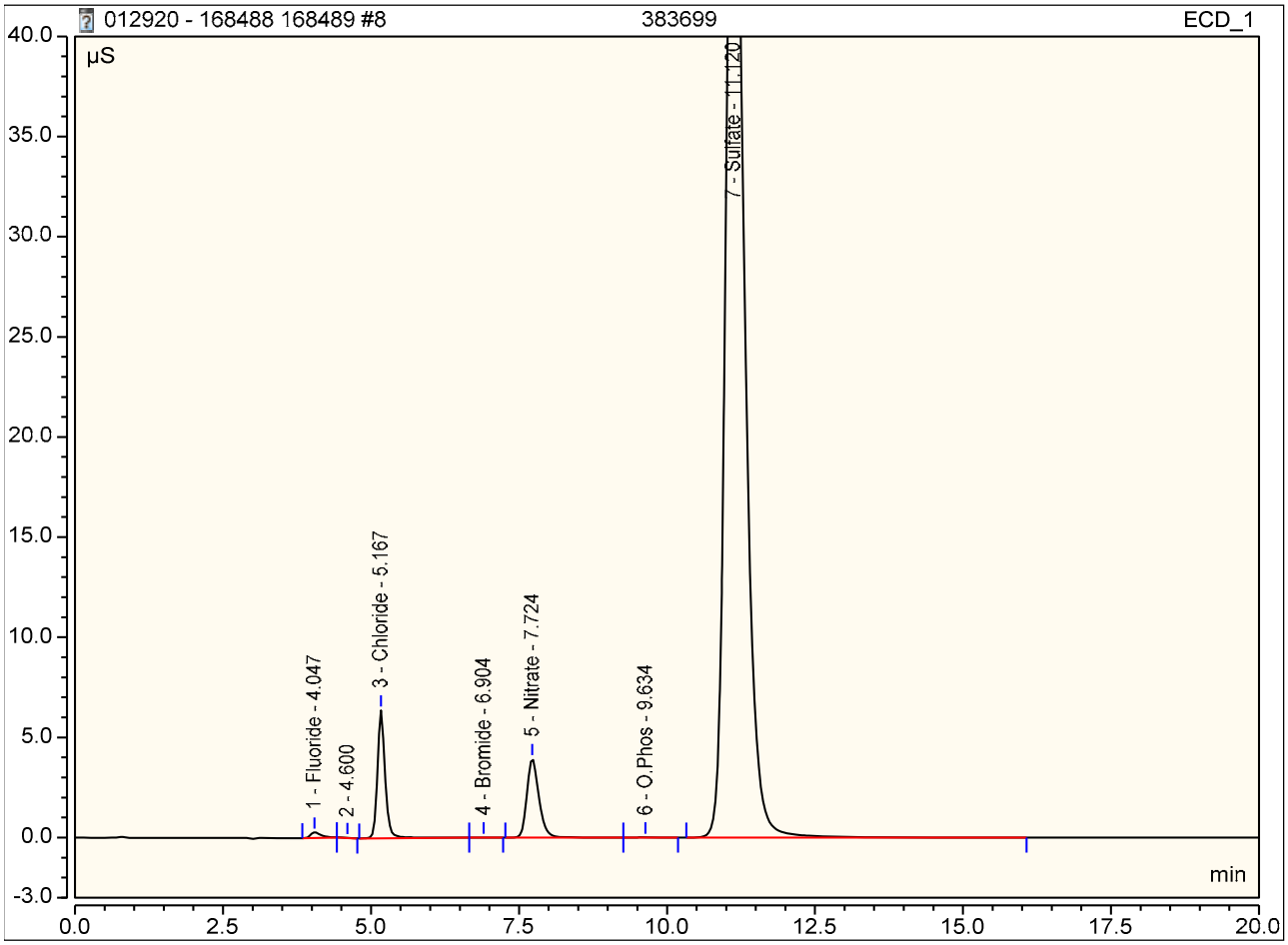
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.035	0.177	0.1372
3	5.16	Chloride	1.161	7.650	5.4743
4	6.91	Bromide	0.001	0.006	0.0155
5	7.73	Nitrate	0.359	1.499	0.7760
6	9.63	O.Phos	0.007	0.017	n.a.
7	11.17	Sulfate	4.449	12.285	28.7688



Peak Integration Report

Sample Name:	**383699**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 14:59**	*Run Time:*	**20.00**

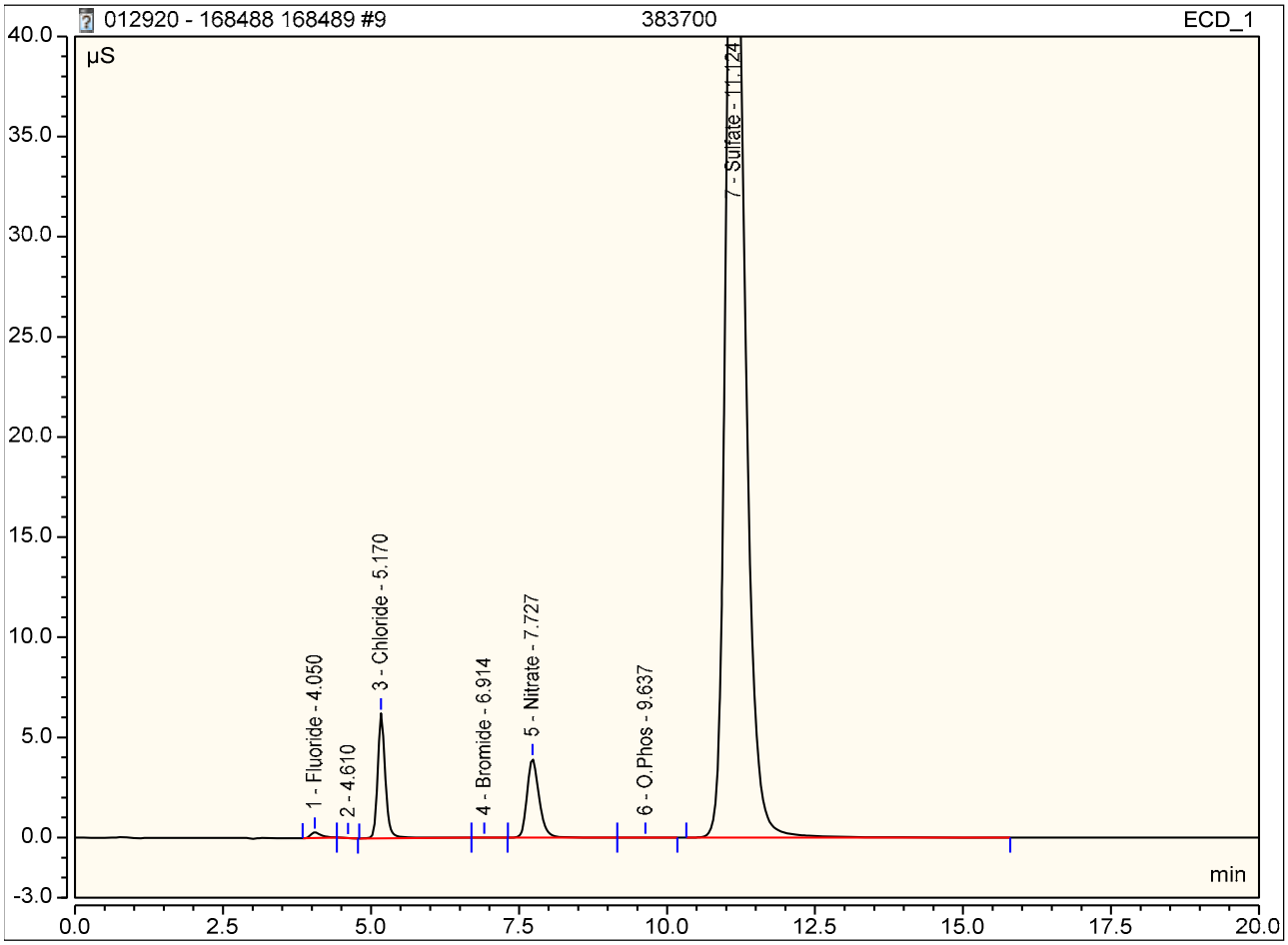
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.057	0.279	0.2171
3	5.17	Chloride	0.977	6.394	4.6812
4	6.90	Bromide	0.002	0.010	0.0307
5	7.72	Nitrate	0.932	3.927	1.9071
6	9.63	O.Phos	0.005	0.012	n.a.
7	11.12	Sulfate	20.137	56.417	128.0291



Peak Integration Report

Sample Name:	**383700**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 15:19**	*Run Time:*	**20.00**

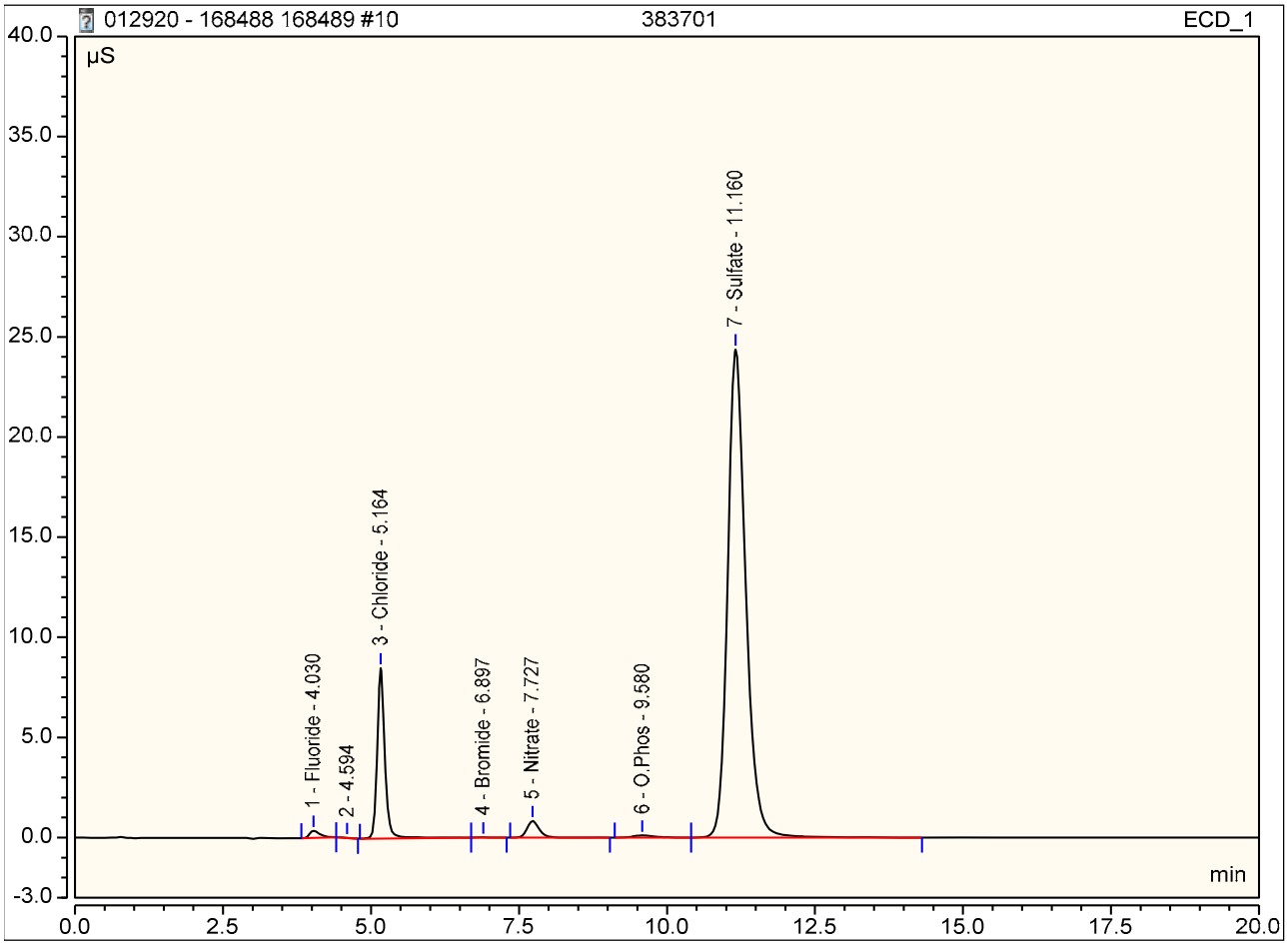
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.057	0.281	0.2183
3	5.17	Chloride	0.958	6.249	4.5995
4	6.91	Bromide	0.003	0.011	0.0367
5	7.73	Nitrate	0.933	3.931	1.9080
6	9.64	O.Phos	0.004	0.009	n.a.
7	11.12	Sulfate	20.210	56.585	128.4937



Peak Integration Report

Sample Name:	**383701**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 15:39**	*Run Time:*	**20.00**

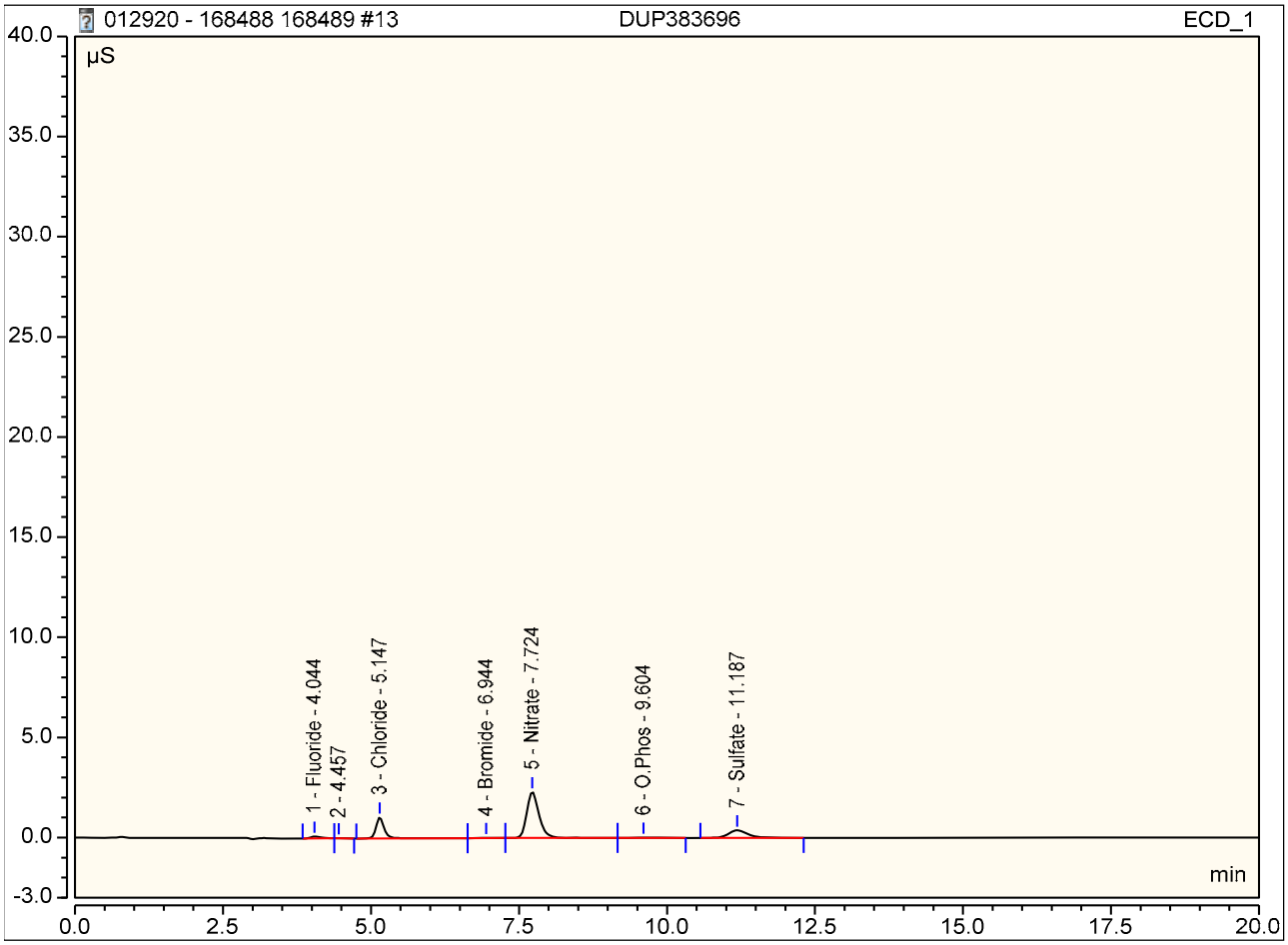
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.03	Fluoride	0.074	0.359	0.2801
3	5.16	Chloride	1.277	8.514	5.9740
4	6.90	Bromide	0.003	0.013	0.0410
5	7.73	Nitrate	0.199	0.830	0.4601
6	9.58	O.Phos	0.044	0.105	0.2030
7	11.16	Sulfate	8.664	24.376	55.4417



Peak Integration Report

Sample Name:	**DUP383696**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 16:39**	*Run Time:*	**20.00**

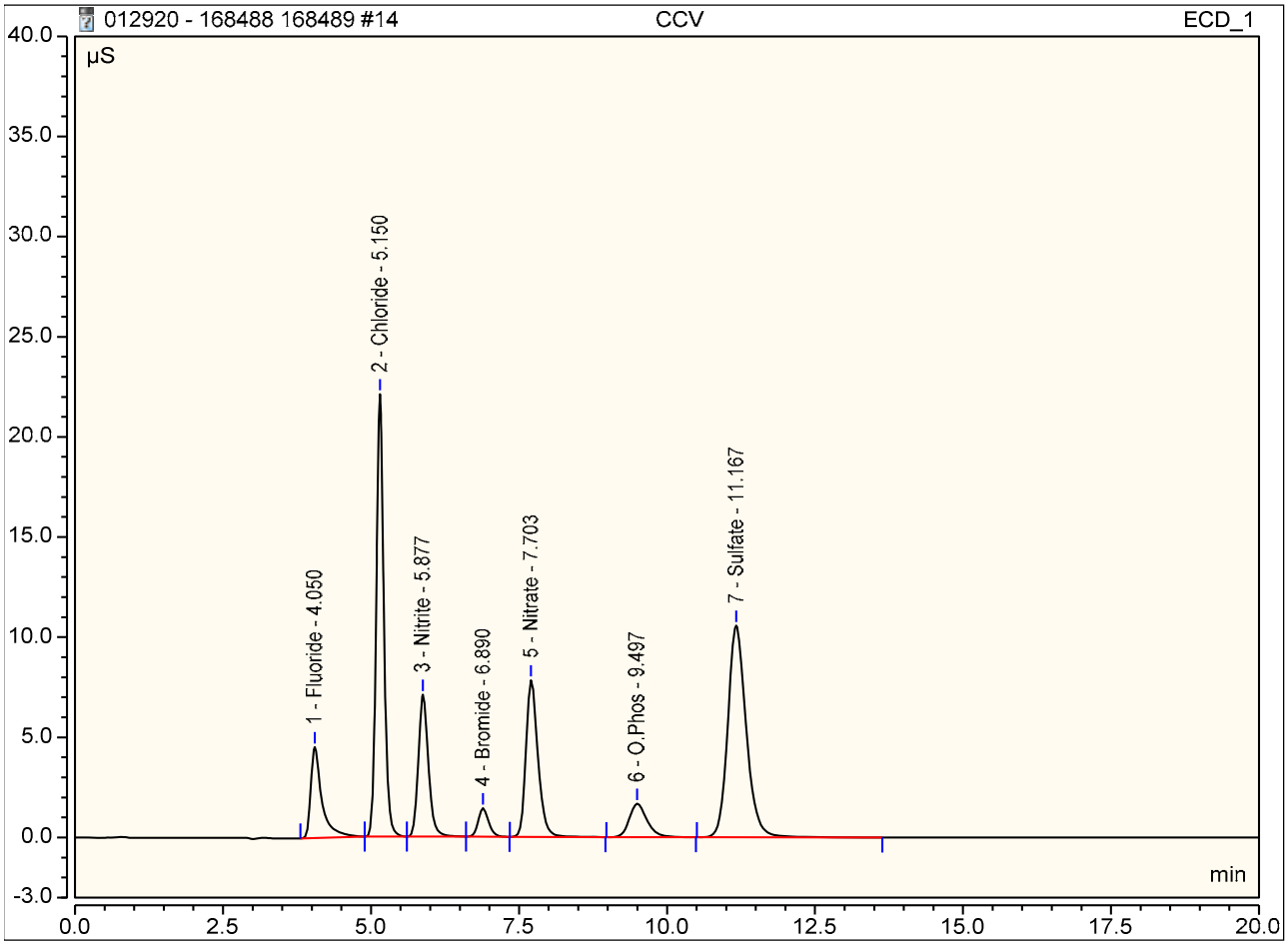
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	0.019	0.098	0.0757
3	5.15	Chloride	0.178	1.058	1.2385
4	6.94	Bromide	0.002	0.005	0.0206
5	7.72	Nitrate	0.548	2.292	1.1492
6	9.60	O.Phos	0.007	0.015	n.a.
7	11.19	Sulfate	0.139	0.371	1.5052



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 16:59**	*Run Time:*	**20.00**

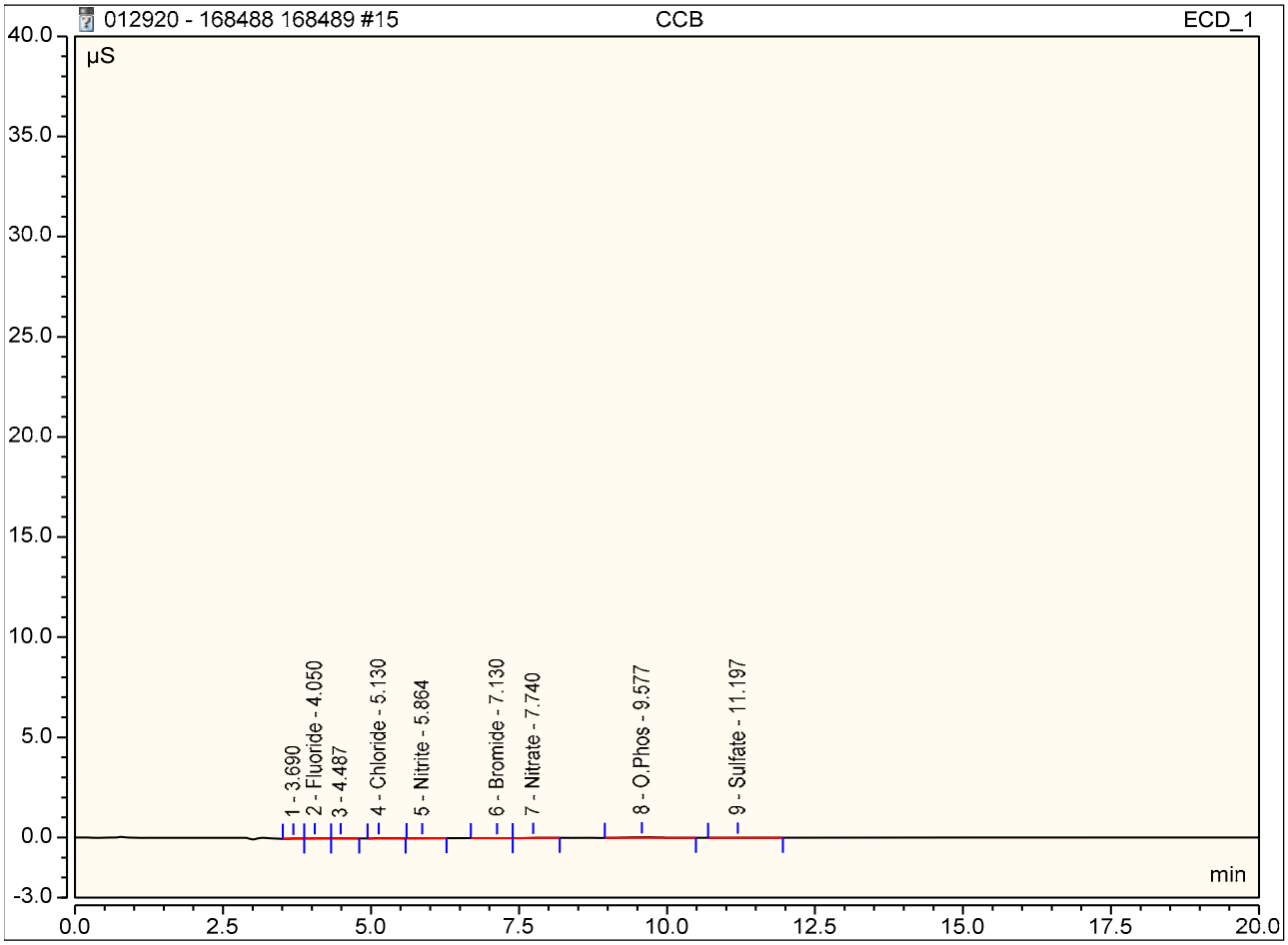
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.988	4.534	3.6695
2	5.15	Chloride	3.262	22.096	14.5234
3	5.88	Nitrite	1.396	7.079	3.7764
4	6.89	Bromide	0.290	1.420	3.7192
5	7.70	Nitrate	1.840	7.824	3.6983
6	9.50	O.Phos	0.580	1.670	3.5083
7	11.17	Sulfate	3.829	10.567	24.8490



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 17:20**	*Run Time:*	**20.00**

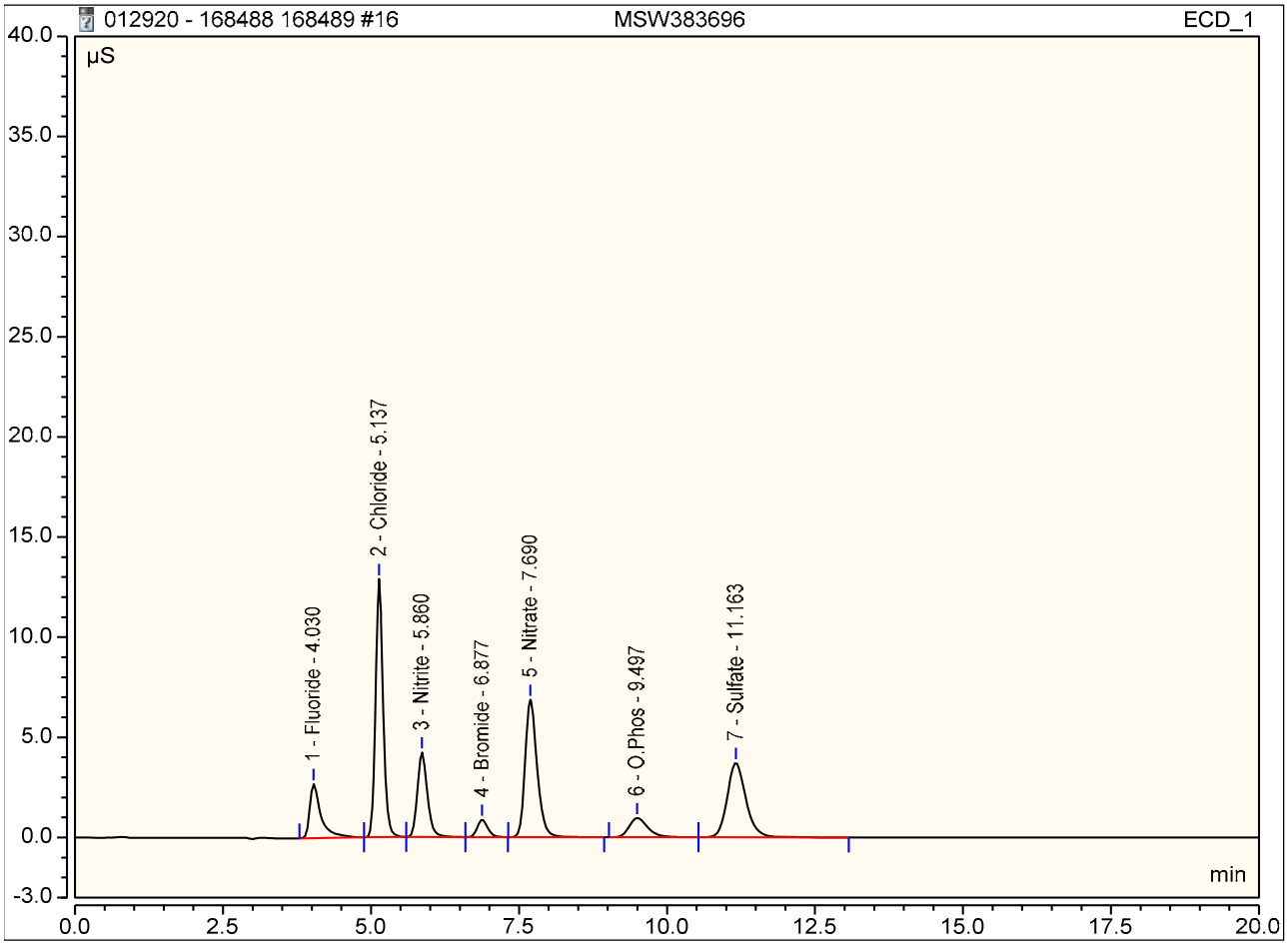
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	4.05	Fluoride	0.003	0.017	0.0178
4	5.13	Chloride	0.003	0.020	0.4863
5	5.86	Nitrite	0.002	0.008	0.0280
6	7.13	Bromide	0.001	0.003	0.0153
7	7.74	Nitrate	0.002	0.008	0.0710
8	9.58	O.Phos	0.017	0.038	0.0370
9	11.20	Sulfate	0.005	0.012	0.6537



Peak Integration Report

Sample Name:	**MSW383696**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 17:40**	*Run Time:*	**20.00**

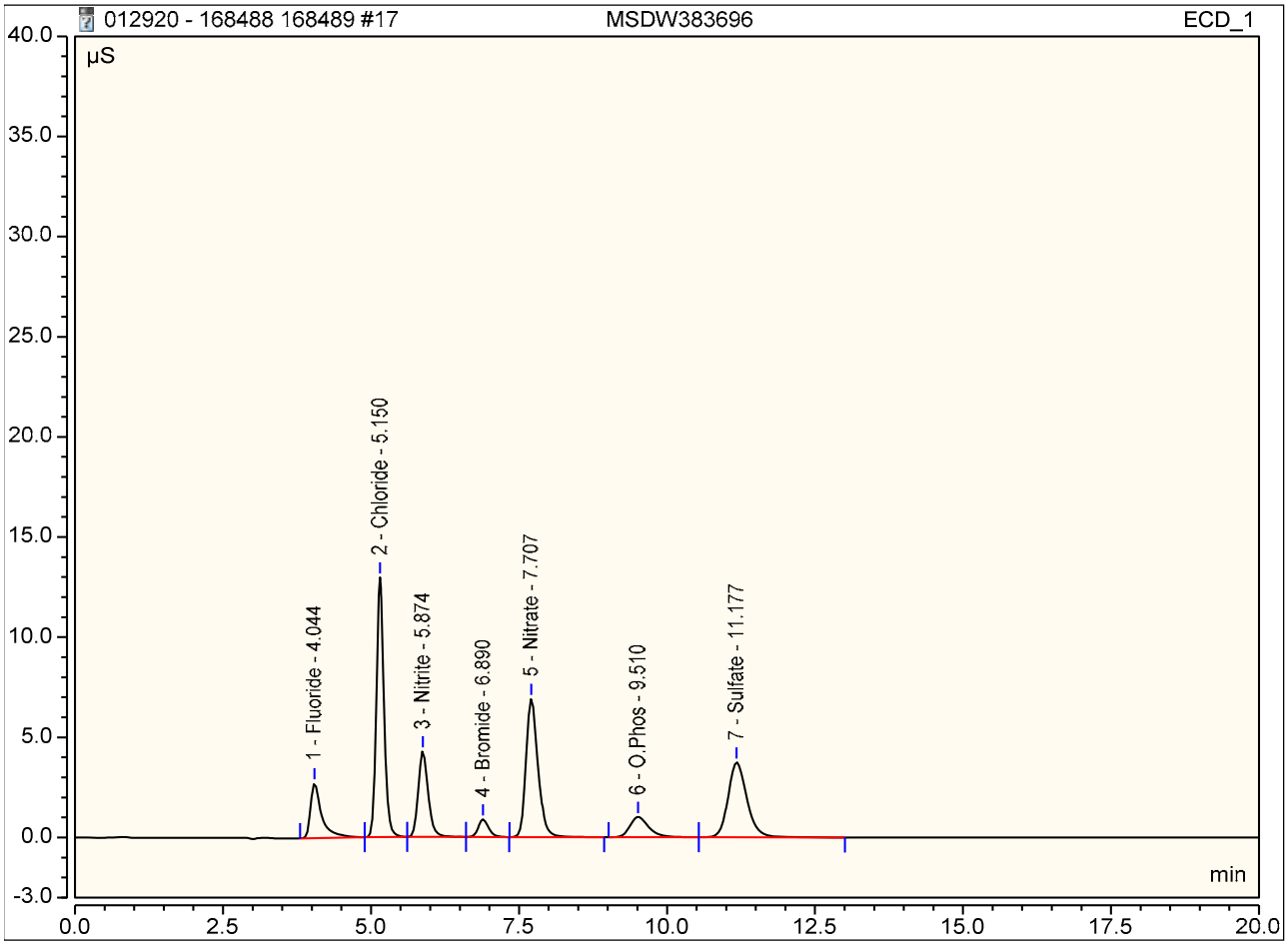
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.03	Fluoride	0.597	2.703	2.2182
2	5.14	Chloride	1.898	12.889	8.6465
3	5.86	Nitrite	0.827	4.238	2.2482
4	6.88	Bromide	0.179	0.875	2.2974
5	7.69	Nitrate	1.611	6.862	3.2476
6	9.50	O.Phos	0.358	0.968	2.1400
7	11.16	Sulfate	1.375	3.719	9.3208



Peak Integration Report

Sample Name:	**MSDW383696**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 18:00**	*Run Time:*	**20.00**

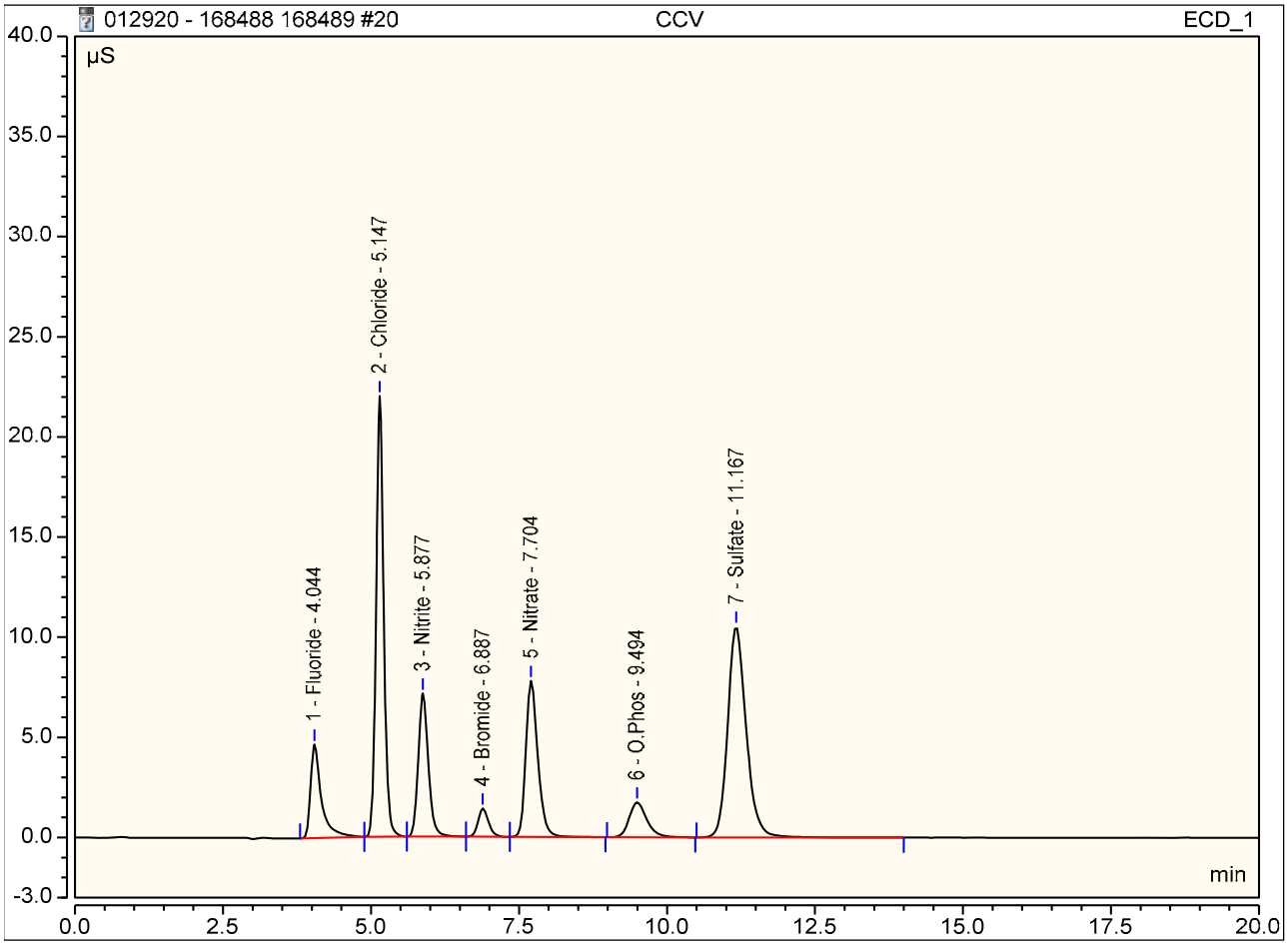
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	0.602	2.738	2.2387
2	5.15	Chloride	1.911	12.972	8.7027
3	5.87	Nitrite	0.837	4.284	2.2742
4	6.89	Bromide	0.180	0.882	2.3123
5	7.71	Nitrate	1.623	6.906	3.2714
6	9.51	O.Phos	0.375	1.017	2.2440
7	11.18	Sulfate	1.382	3.739	9.3693



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 19:00**	*Run Time:*	**20.00**

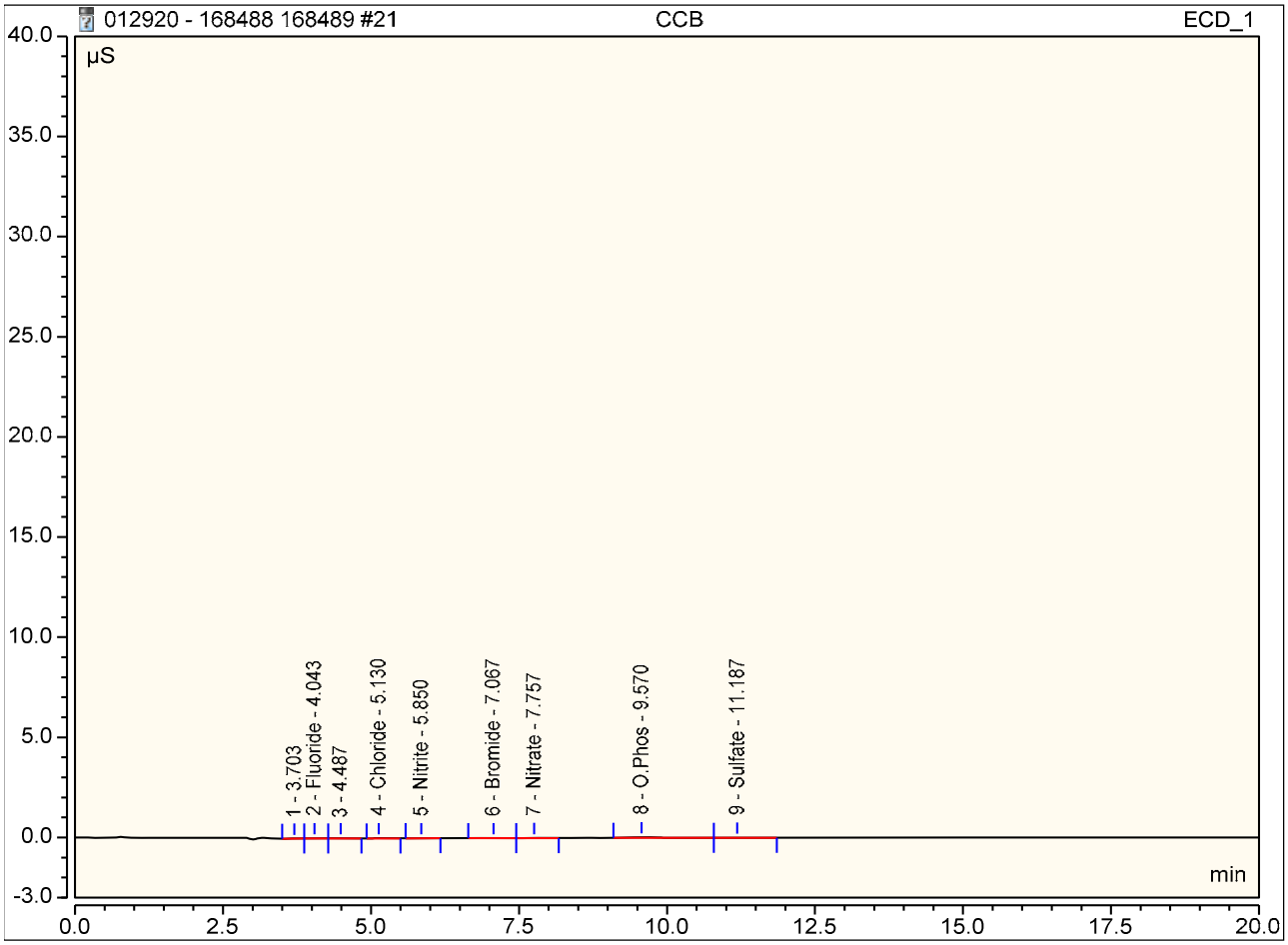
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	0.993	4.664	3.6895
2	5.15	Chloride	3.255	22.007	14.4924
3	5.88	Nitrite	1.409	7.147	3.8134
4	6.89	Bromide	0.290	1.414	3.7096
5	7.70	Nitrate	1.835	7.798	3.6897
6	9.49	O.Phos	0.605	1.745	3.6664
7	11.17	Sulfate	3.820	10.529	24.7934



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**29-Jan-2020 / 19:20**	*Run Time:*	**20.00**

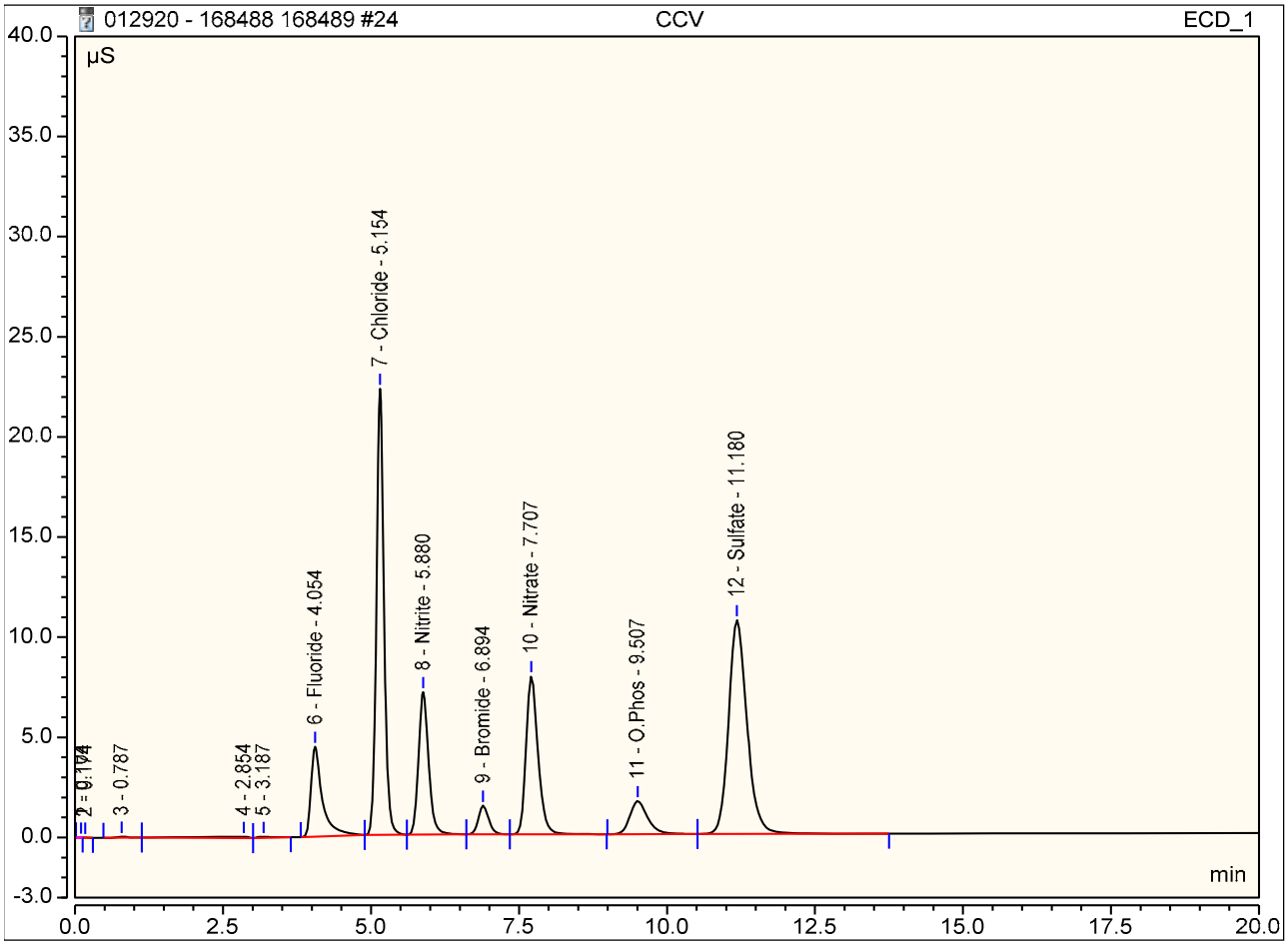
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	4.04	Fluoride	0.002	0.014	0.0154
4	5.13	Chloride	0.002	0.014	0.4820
5	5.85	Nitrite	0.001	0.007	0.0266
6	7.07	Bromide	0.001	0.005	0.0175
7	7.76	Nitrate	0.001	0.006	0.0695
8	9.57	O.Phos	0.017	0.039	0.0399
9	11.19	Sulfate	0.004	0.010	0.6485



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 08:20**	*Run Time:*	**20.00**

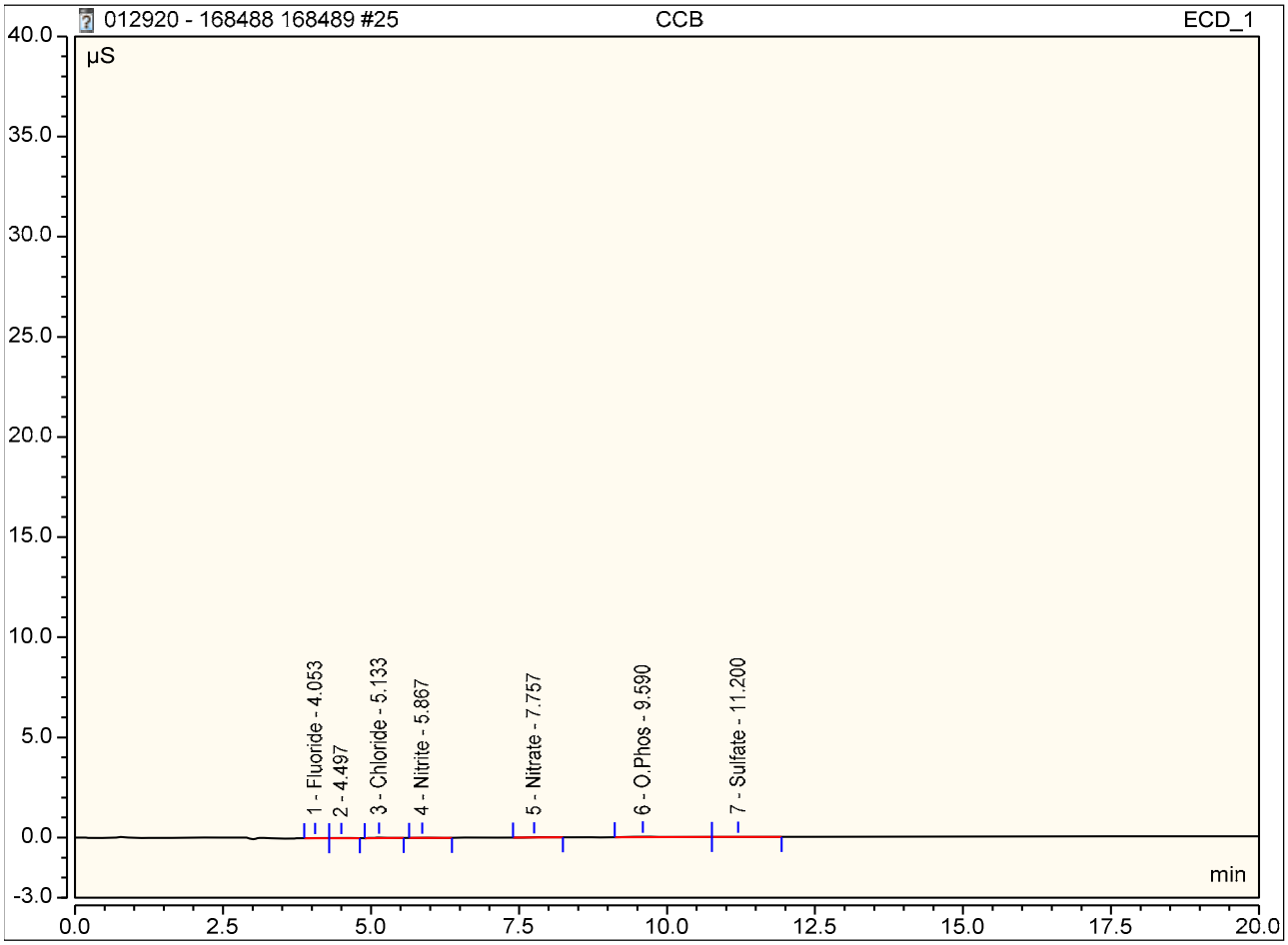
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
6	4.05	Fluoride	0.995	4.482	3.6936
7	5.15	Chloride	3.288	22.269	14.6376
8	5.88	Nitrite	1.405	7.116	3.8023
9	6.89	Bromide	0.292	1.431	3.7432
10	7.71	Nitrate	1.852	7.899	3.7219
11	9.51	O.Phos	0.576	1.648	3.4859
12	11.18	Sulfate	3.858	10.678	25.0315



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 08:41**	*Run Time:*	**20.00**

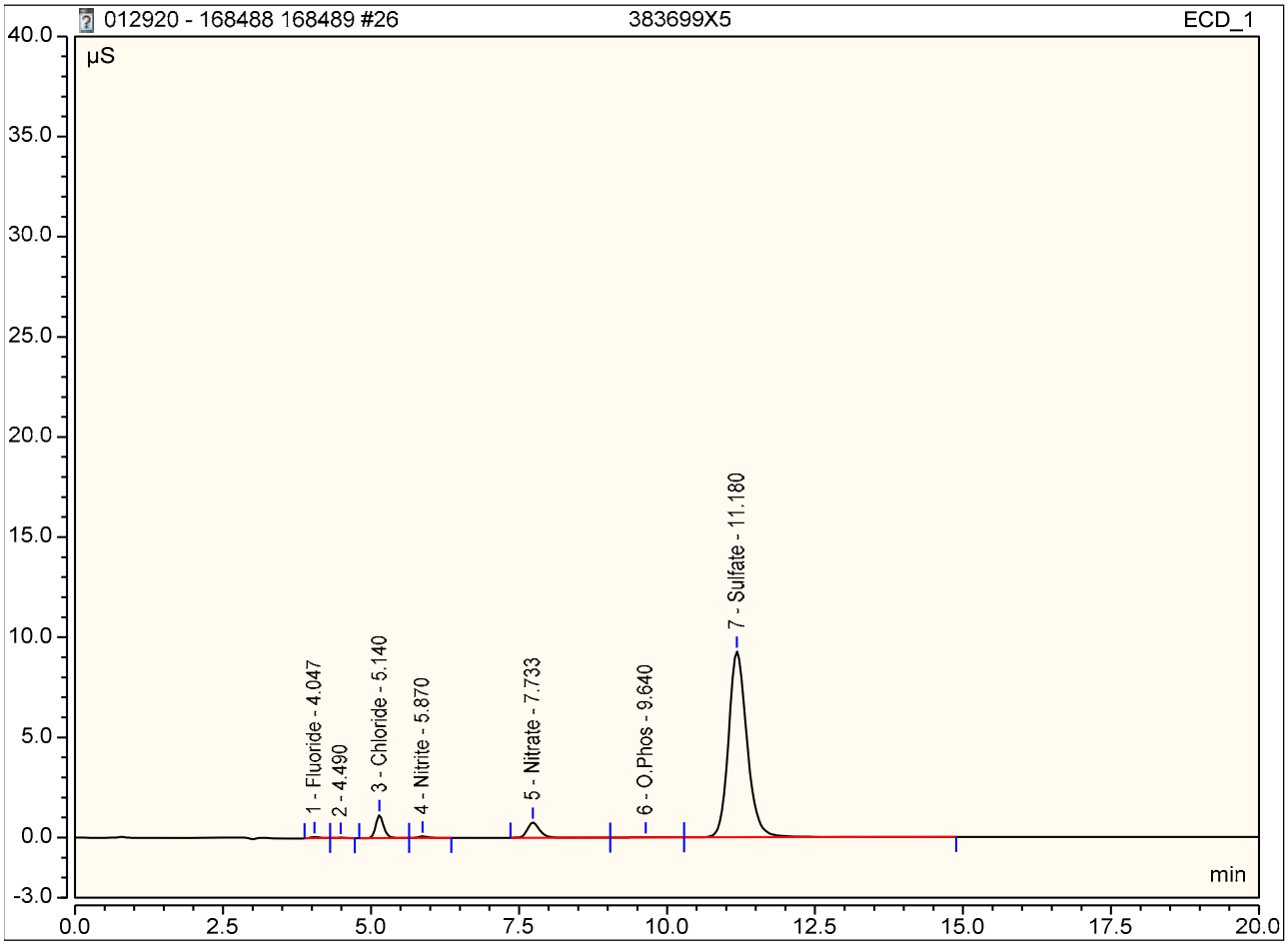
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.002	0.014	0.0155
3	5.13	Chloride	0.004	0.022	0.4876
4	5.87	Nitrite	0.002	0.010	0.0291
5	7.76	Nitrate	0.002	0.008	0.0707
6	9.59	O.Phos	0.016	0.035	0.0327
7	11.20	Sulfate	0.005	0.013	0.6552



Peak Integration Report

Sample Name:	**383699X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 09:01**	*Run Time:*	**20.00**

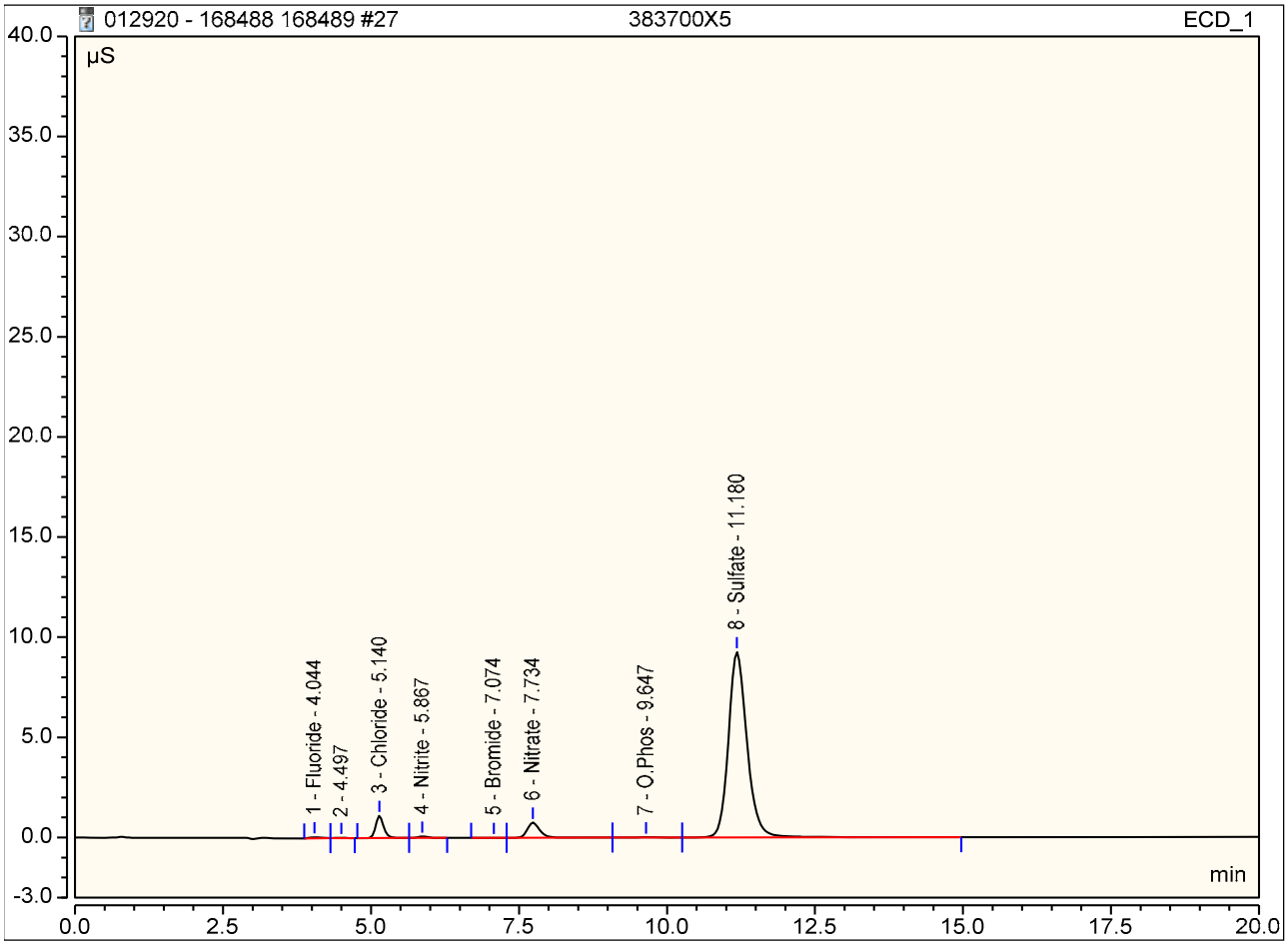
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.010	0.058	0.0446
3	5.14	Chloride	0.182	1.156	1.2551
4	5.87	Nitrite	0.014	0.074	0.0616
5	7.73	Nitrate	0.183	0.758	0.4272
6	9.64	O.Phos	0.006	0.014	n.a.
7	11.18	Sulfate	3.389	9.282	22.0620



Peak Integration Report

Sample Name:	**383700X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 09:21**	*Run Time:*	**20.00**

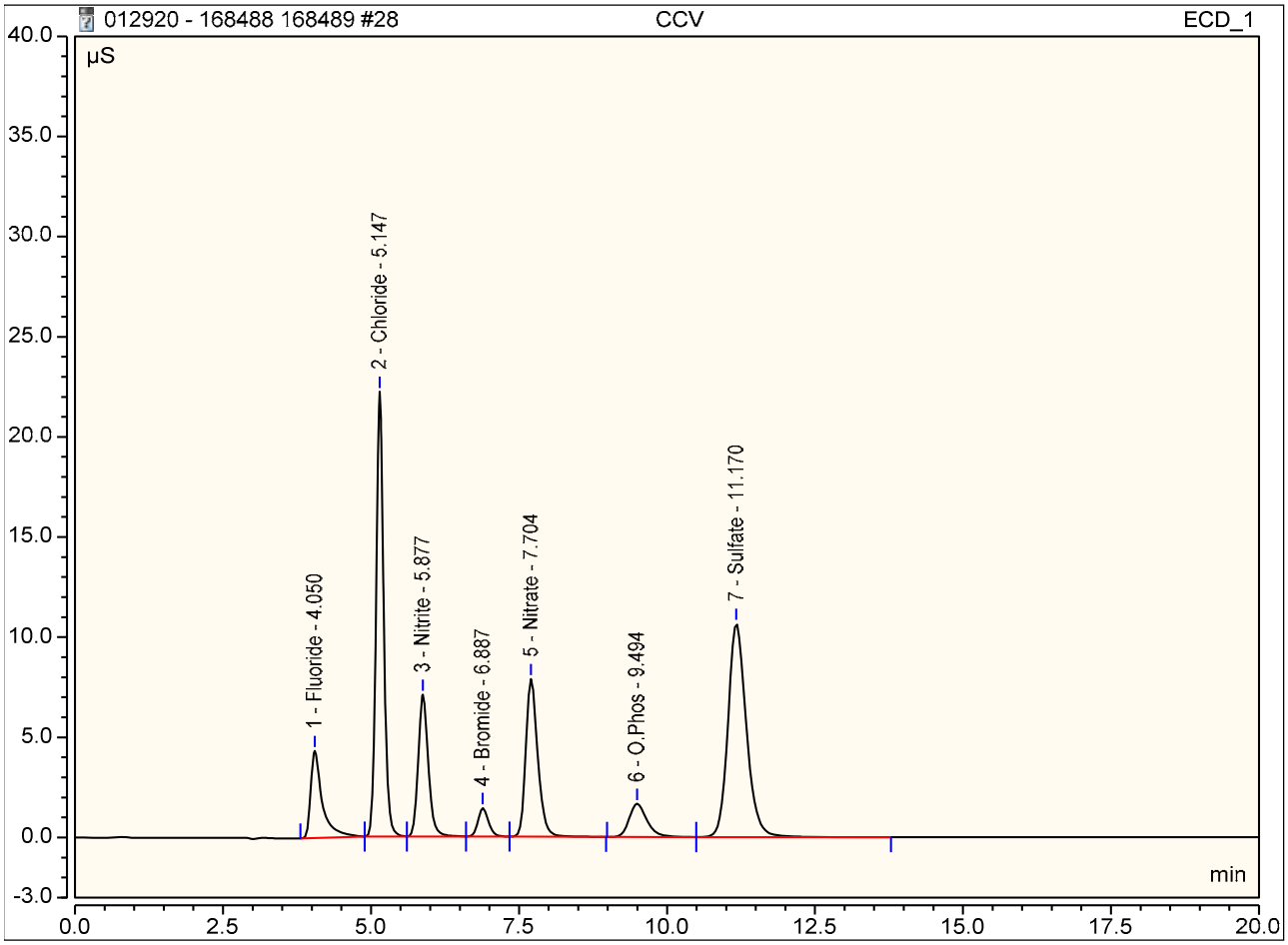
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	0.010	0.055	0.0426
3	5.14	Chloride	0.176	1.119	1.2315
4	5.87	Nitrite	0.014	0.075	0.0616
5	7.07	Bromide	0.001	0.002	0.0111
6	7.73	Nitrate	0.183	0.756	0.4281
7	9.65	O.Phos	0.004	0.009	n.a.
8	11.18	Sulfate	3.379	9.246	22.0000



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 09:41**	*Run Time:*	**20.00**

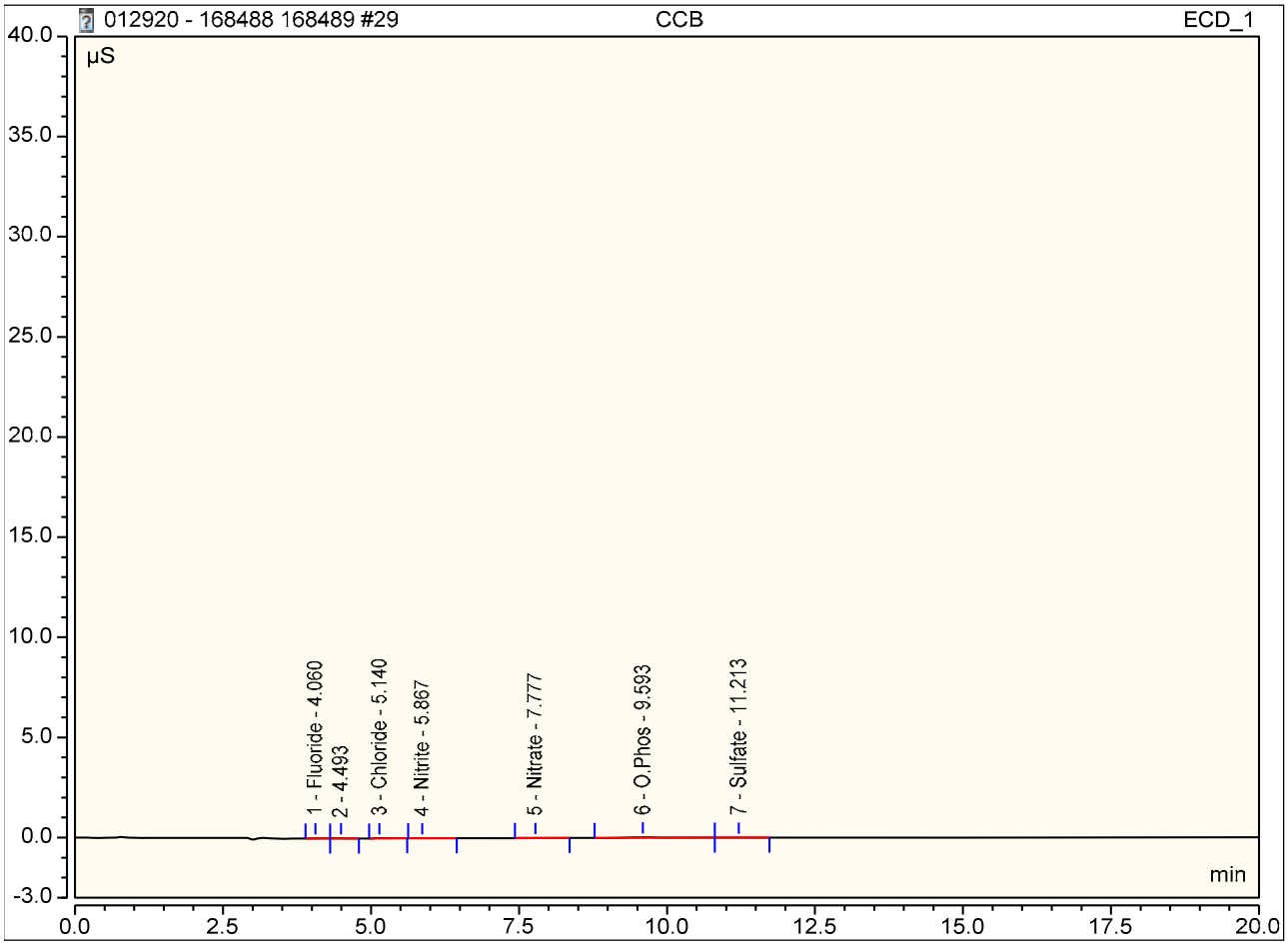
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.983	4.348	3.6508
2	5.15	Chloride	3.281	22.203	14.6078
3	5.88	Nitrite	1.399	7.086	3.7846
4	6.89	Bromide	0.292	1.429	3.7389
5	7.70	Nitrate	1.849	7.874	3.7165
6	9.49	O.Phos	0.579	1.659	3.5027
7	11.17	Sulfate	3.855	10.662	25.0153



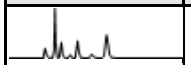
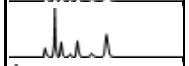
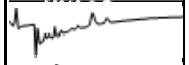
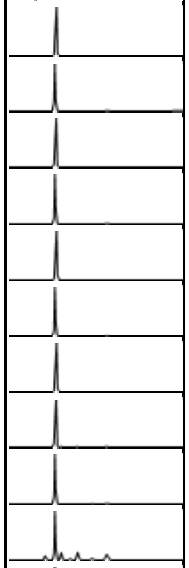
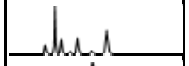
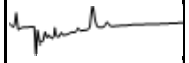
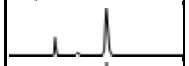
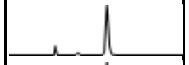
Peak Integration Report

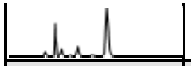
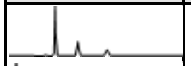
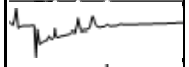
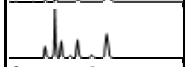
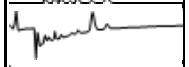
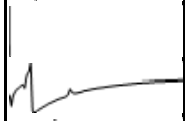
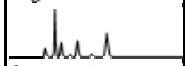
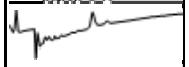
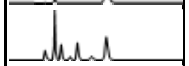
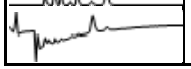
Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 10:01**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.002	0.012	0.0145
3	5.14	Chloride	0.003	0.016	0.4841
4	5.87	Nitrite	0.002	0.008	0.0280
5	7.78	Nitrate	0.002	0.006	0.0701
6	9.59	O.Phos	0.016	0.034	0.0338
7	11.21	Sulfate	0.004	0.012	0.6506



Sequence: 013020 - 168531 168532
Last Update Operator: aquion

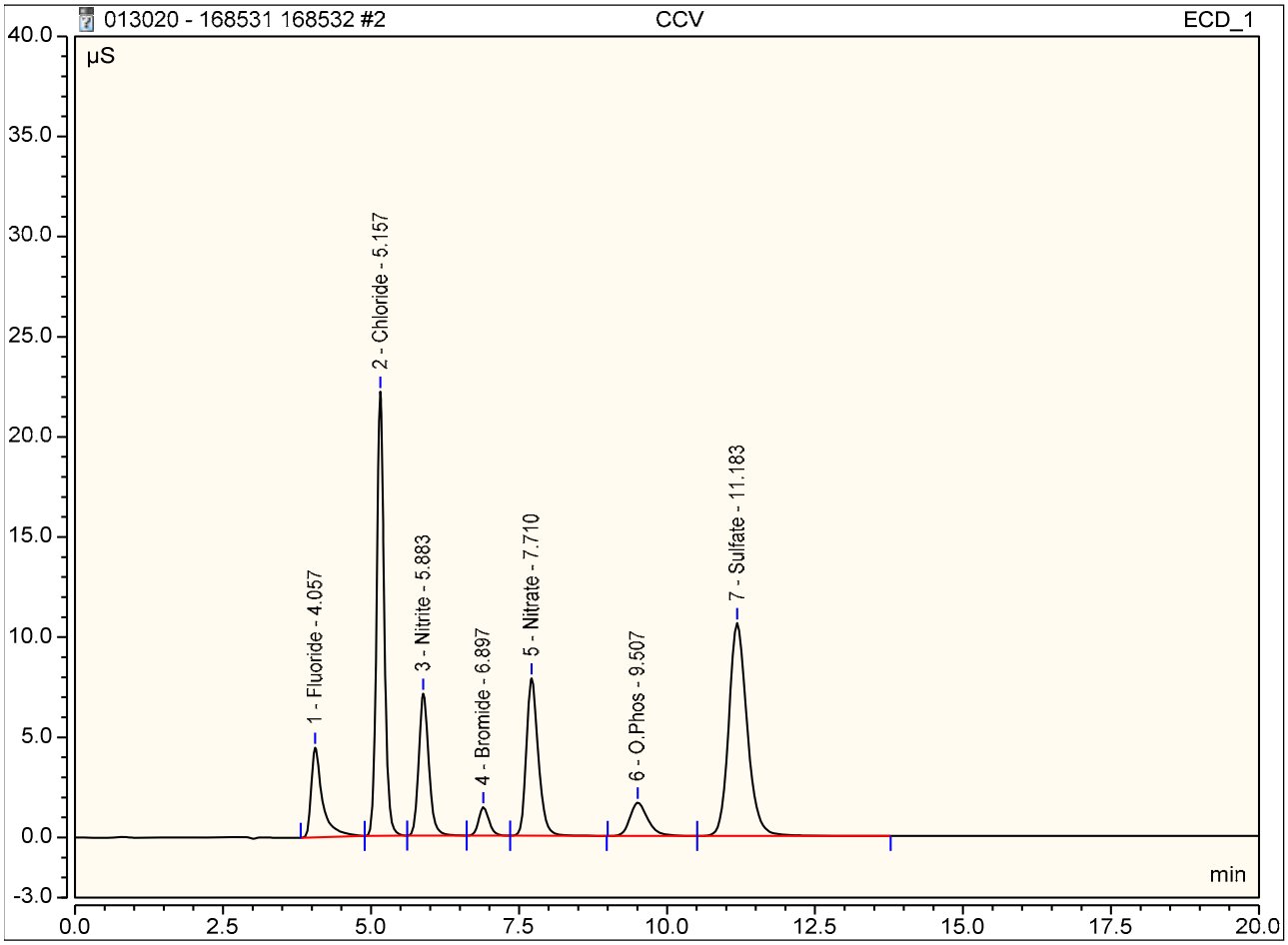
ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		2	5000	Anions	IC2732A	Finished
	LCSW	1.0000	Unknown		3	5000	Anions	IC2732A	Finished
	MBW	1.0000	Unknown		4	5000	Anions	IC2732A	Finished
									
	CCV	1.0000	Unknown		15	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		16	5000	Anions	IC2732A	Finished
	384094	1.0000	Unknown		17	5000	Anions	IC2732A	Finished
	384095	1.0000	Unknown		18	5000	Anions	IC2732A	Finished
	384096	1.0000	Unknown		19	5000	Anions	IC2732A	Finished
	DUP384096	1.0000	Unknown		20	5000	Anions	IC2732A	Finished
	MSW384096	1.0000	Unknown		21	5000	Anions	IC2732A	Finished

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	MSDW384096	1.0000	Unknown		22	5000	Anions	IC2732A	Finished
	384097	1.0000	Unknown		23	5000	Anions	IC2732A	Finished
	384098	1.0000	Unknown		24	5000	Anions	IC2732A	Finished
	384099	1.0000	Unknown		25	5000	Anions	IC2732A	Finished
	CCV	1.0000	Unknown		26	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		27	5000	Anions	IC2732A	Finished
									
	CCV	1.0000	Unknown		30	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		31	5000	Anions	IC2732A	Finished
	384094X5	1.0000	Unknown		32	5000	Anions	IC2732A	Finished
	384095X5	1.0000	Unknown		33	5000	Anions	IC2732A	Finished
	CCV	1.0000	Unknown		34	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		35	5000	Anions	IC2732A	Finished

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 12:59**	*Run Time:*	**20.00**

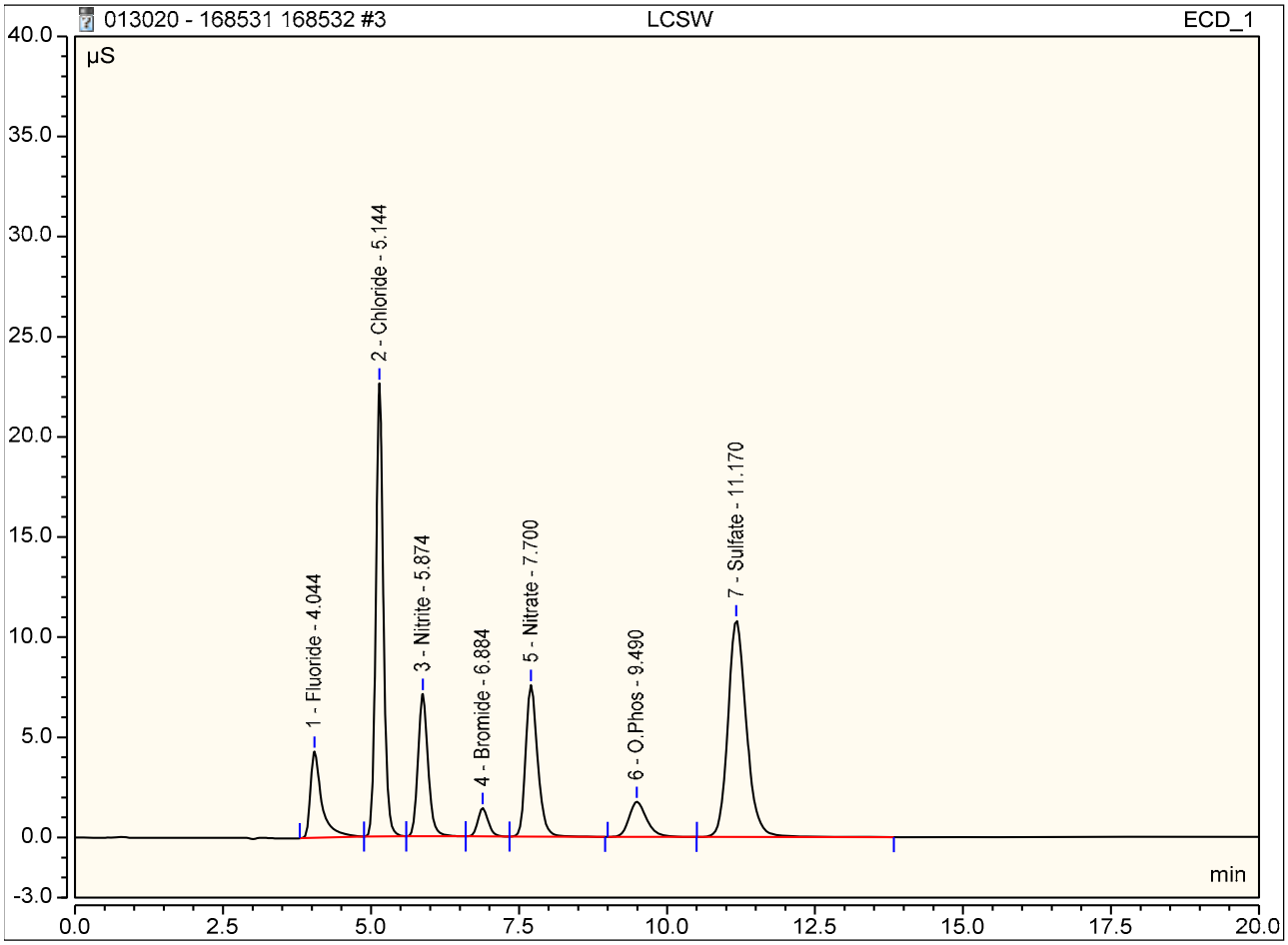
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.988	4.481	3.6706
2	5.16	Chloride	3.265	22.171	14.5383
3	5.88	Nitrite	1.398	7.095	3.7820
4	6.90	Bromide	0.291	1.425	3.7260
5	7.71	Nitrate	1.843	7.860	3.7042
6	9.51	O.Phos	0.582	1.668	3.5241
7	11.18	Sulfate	3.840	10.622	24.9174



Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 13:19**	*Run Time:*	**20.00**

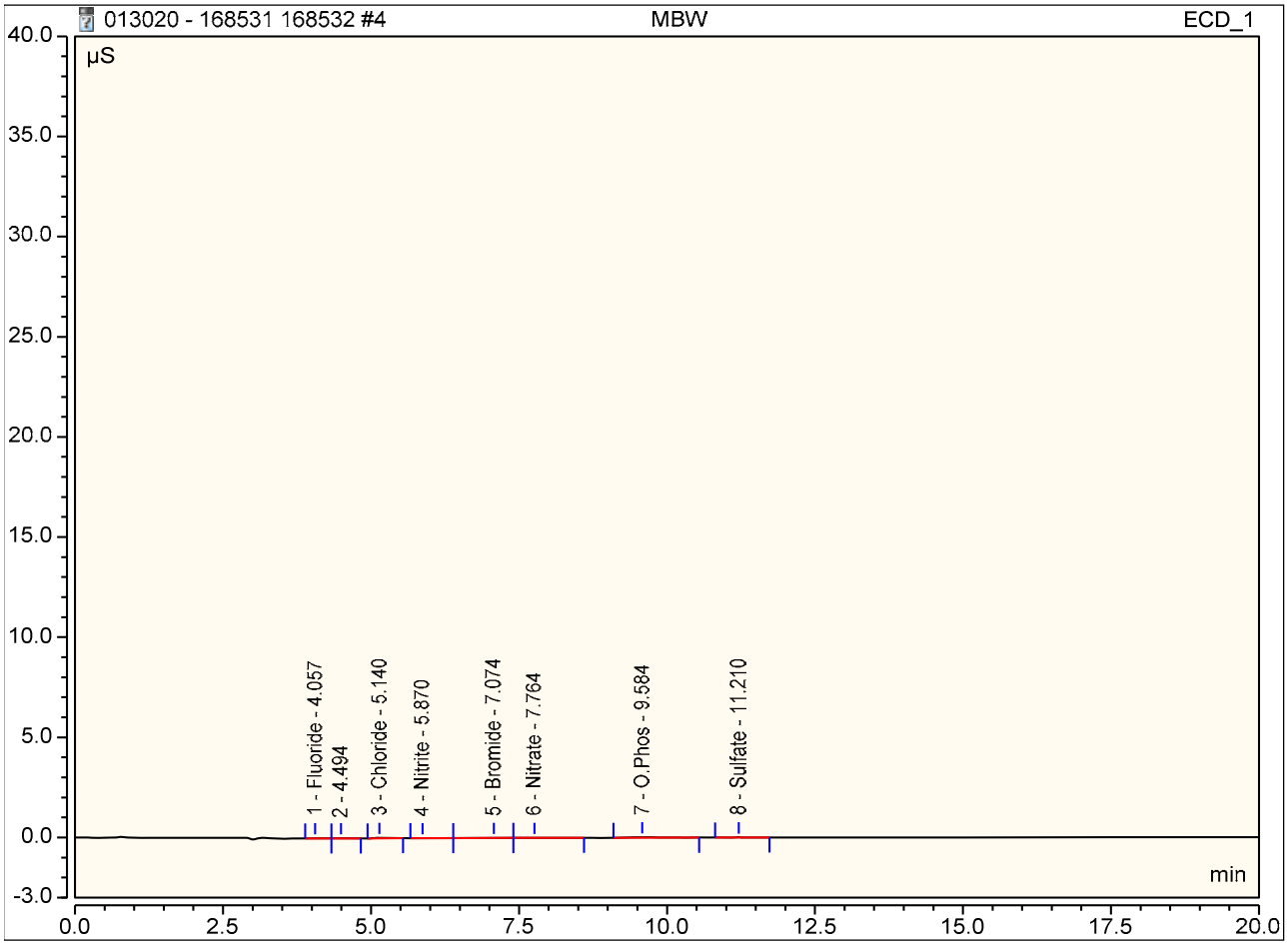
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	0.959	4.316	3.5606
2	5.14	Chloride	3.334	22.620	14.8328
3	5.87	Nitrite	1.402	7.117	3.7936
4	6.88	Bromide	0.292	1.426	3.7373
5	7.70	Nitrate	1.777	7.577	3.5750
6	9.49	O.Phos	0.607	1.754	3.6765
7	11.17	Sulfate	3.916	10.828	25.3973



Peak Integration Report

Sample Name:	**MBW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 13:39**	*Run Time:*	**20.00**

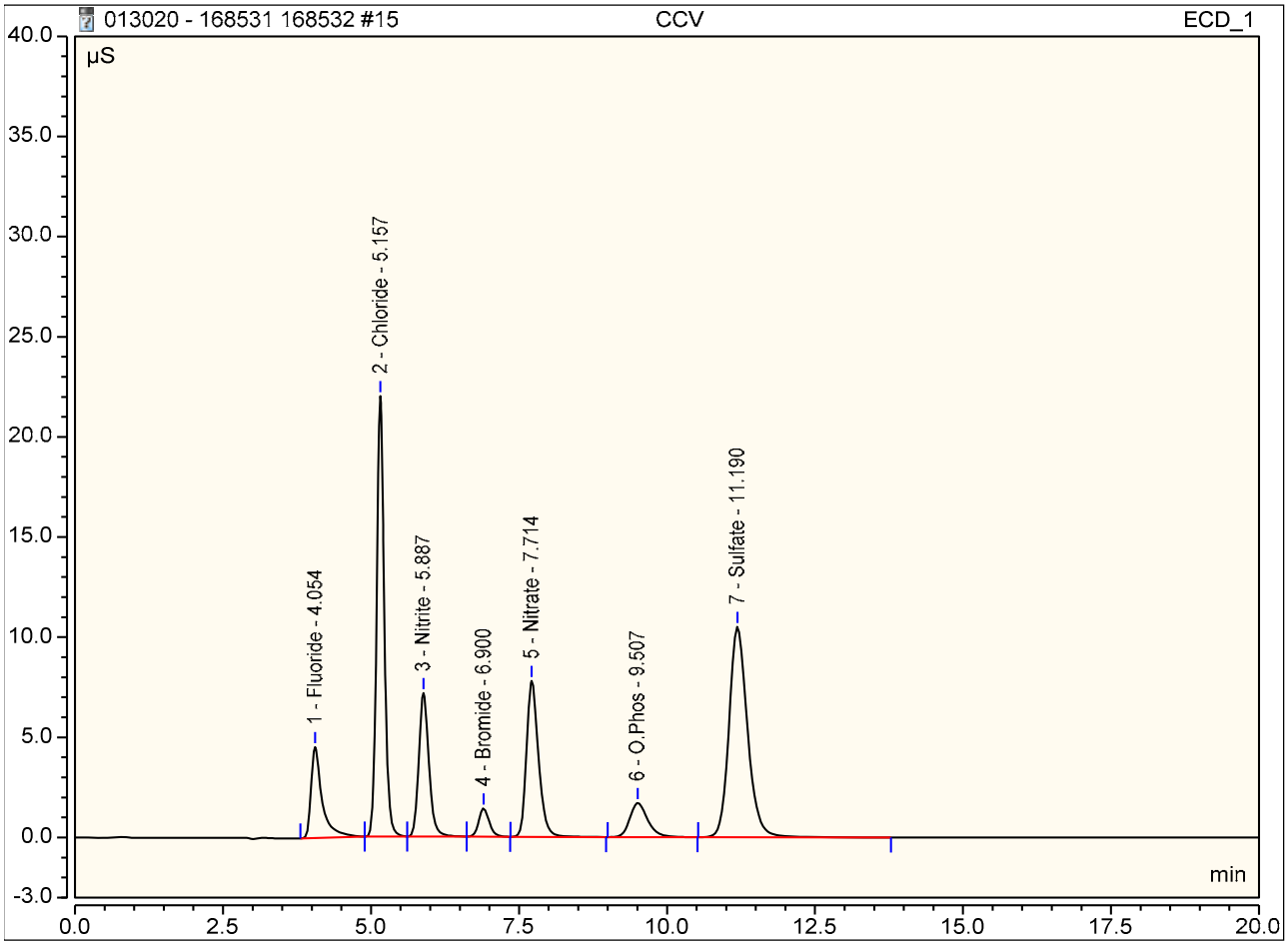
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.002	0.013	0.0153
3	5.14	Chloride	0.004	0.025	0.4896
4	5.87	Nitrite	0.002	0.009	0.0283
5	7.07	Bromide	0.002	0.006	0.0248
6	7.76	Nitrate	0.003	0.009	0.0722
7	9.58	O.Phos	0.015	0.034	0.0281
8	11.21	Sulfate	0.005	0.014	0.6549



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 17:20**	*Run Time:*	**20.00**

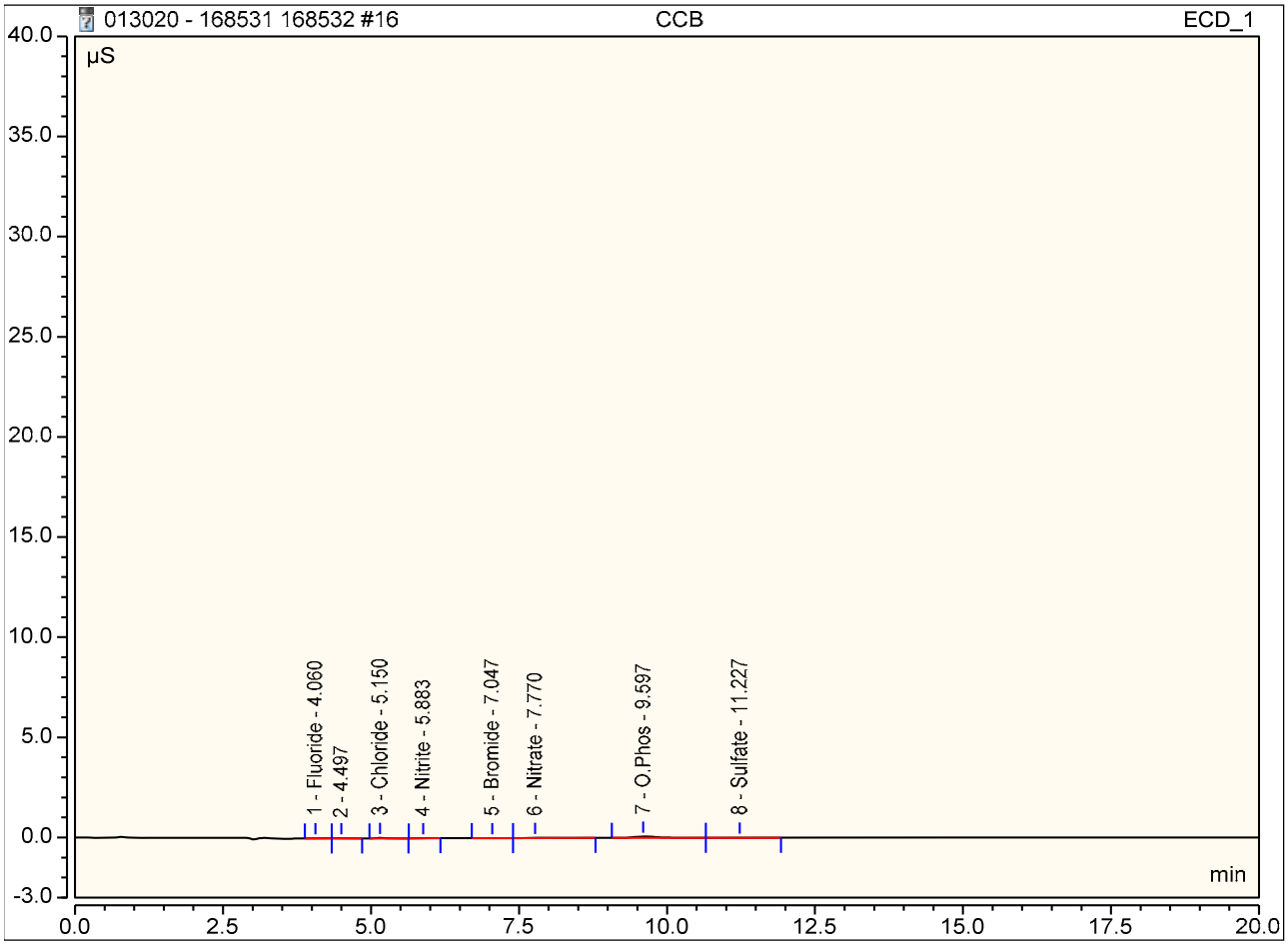
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.986	4.547	3.6618
2	5.16	Chloride	3.254	22.001	14.4910
3	5.89	Nitrite	1.415	7.165	3.8295
4	6.90	Bromide	0.289	1.413	3.7090
5	7.71	Nitrate	1.832	7.782	3.6831
6	9.51	O.Phos	0.600	1.705	3.6311
7	11.19	Sulfate	3.818	10.511	24.7816



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 17:40**	*Run Time:*	**20.00**

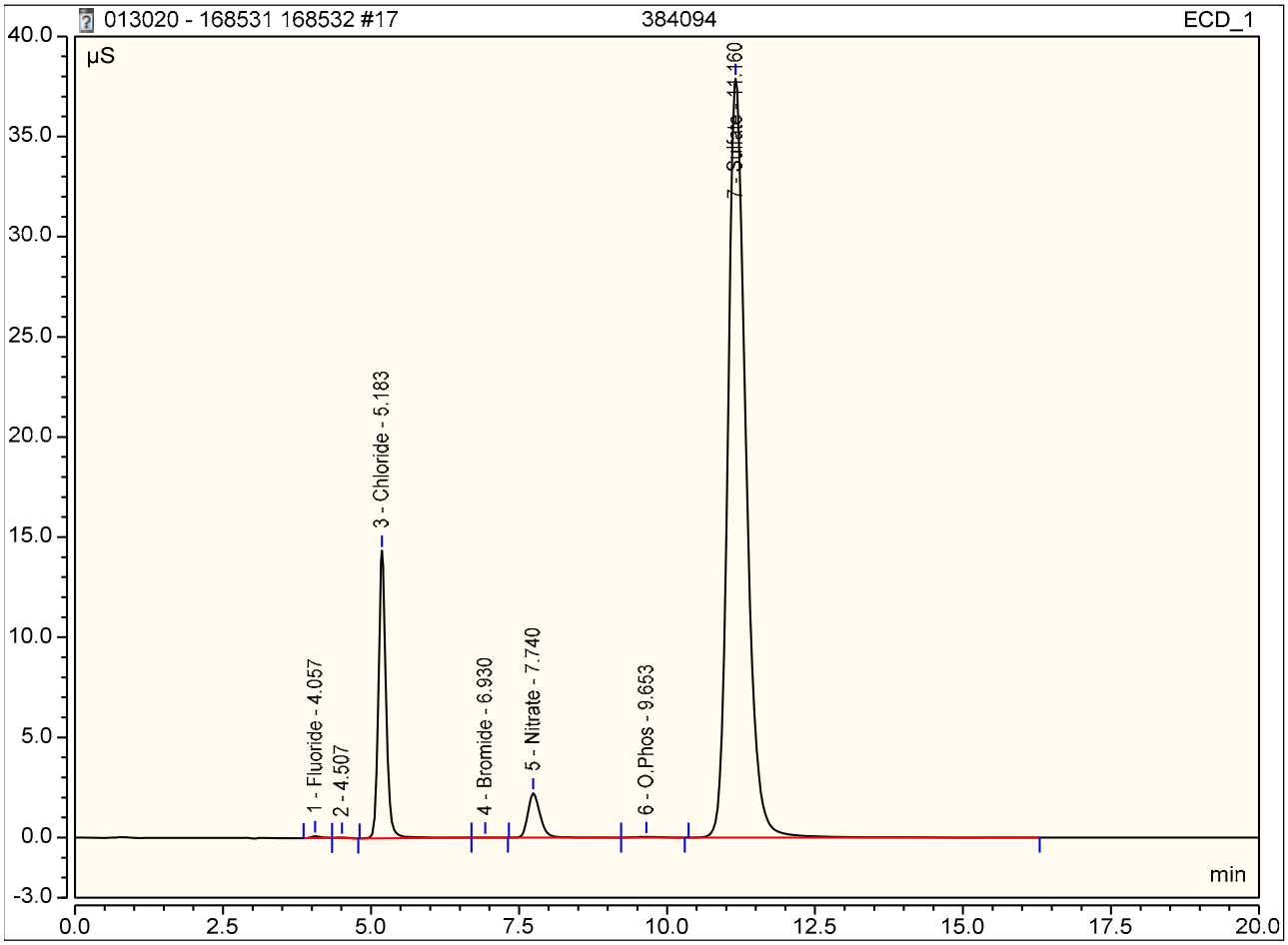
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.004	0.023	0.0219
3	5.15	Chloride	0.005	0.031	0.4944
4	5.88	Nitrite	0.002	0.011	0.0289
5	7.05	Bromide	0.001	0.004	0.0148
6	7.77	Nitrate	0.003	0.011	0.0735
7	9.60	O.Phos	0.032	0.071	0.1271
8	11.23	Sulfate	0.006	0.015	0.6602



Peak Integration Report

Sample Name:	**384094**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 18:00**	*Run Time:*	**20.00**

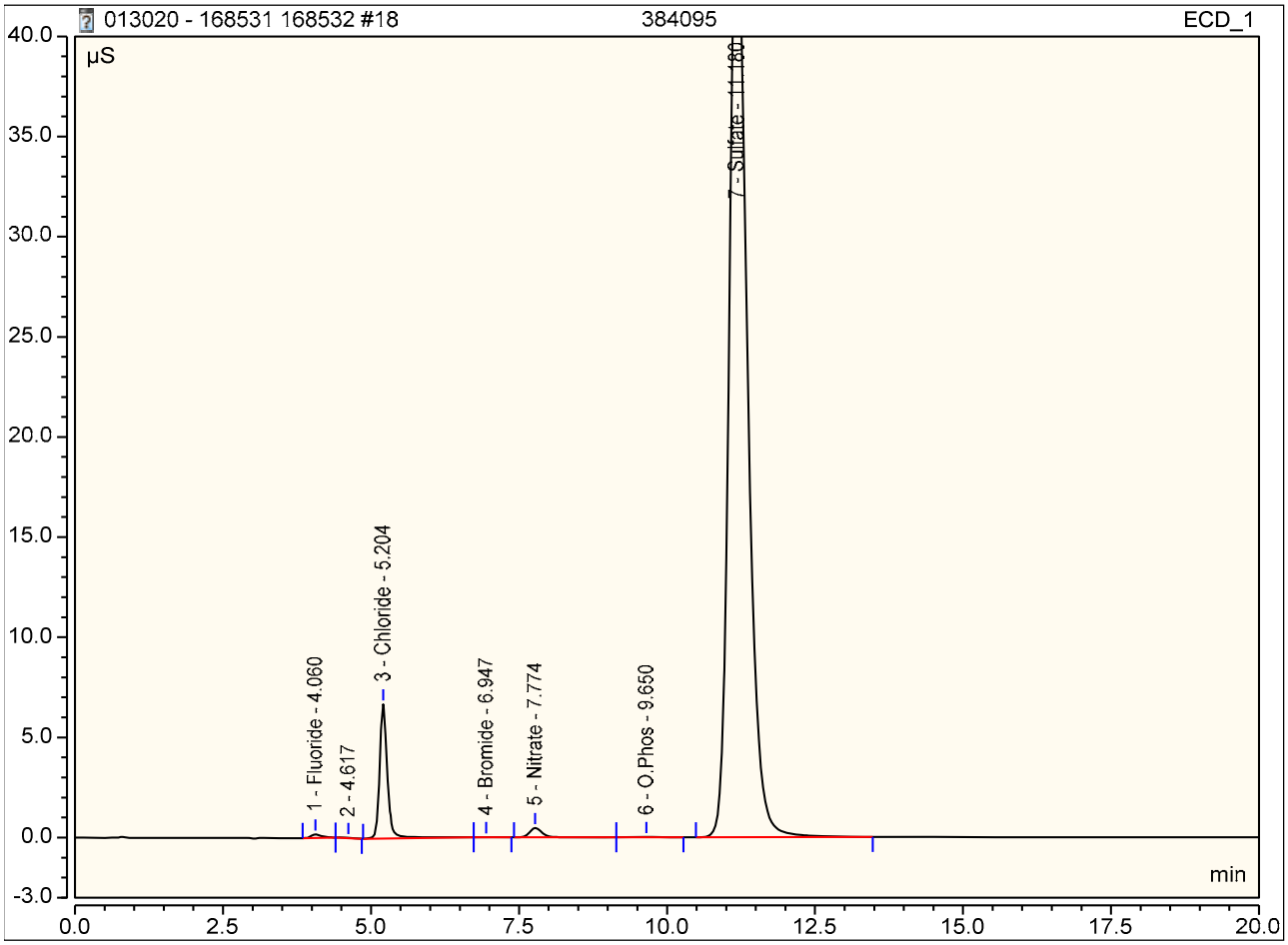
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.018	0.096	0.0727
3	5.18	Chloride	2.113	14.365	9.5755
4	6.93	Bromide	0.002	0.009	0.0305
5	7.74	Nitrate	0.531	2.221	1.1157
6	9.65	O.Phos	0.012	0.030	0.0092
7	11.16	Sulfate	13.471	37.886	85.8557



Peak Integration Report

Sample Name:	**384095**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 18:20**	*Run Time:*	**20.00**

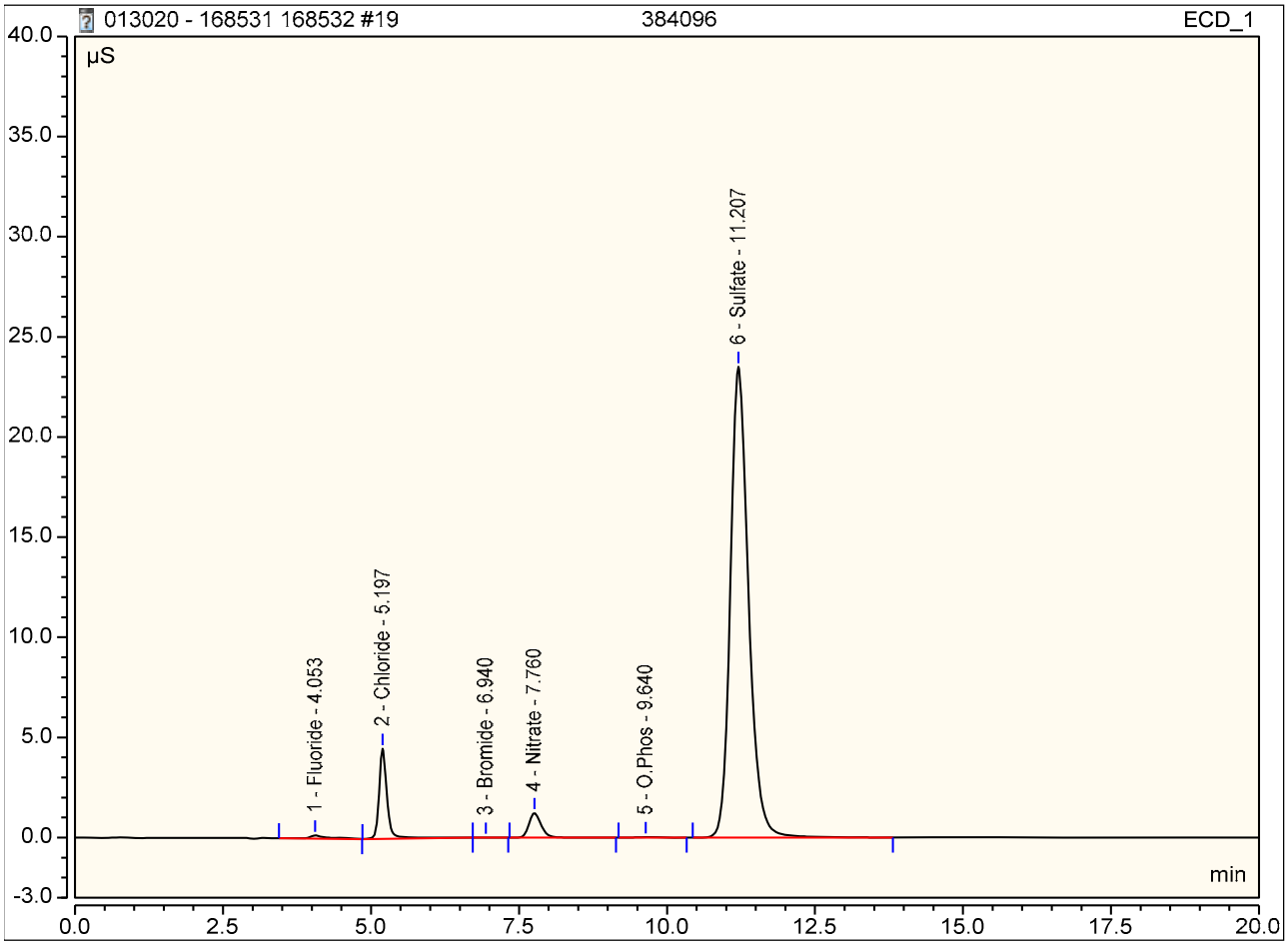
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.034	0.173	0.1337
3	5.20	Chloride	1.022	6.700	4.8737
4	6.95	Bromide	0.003	0.010	0.0343
5	7.77	Nitrate	0.113	0.467	0.2900
6	9.65	O.Phos	0.010	0.024	n.a.
7	11.18	Sulfate	16.676	46.918	106.1297



Peak Integration Report

Sample Name:	**384096**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 18:40**	*Run Time:*	**20.00**

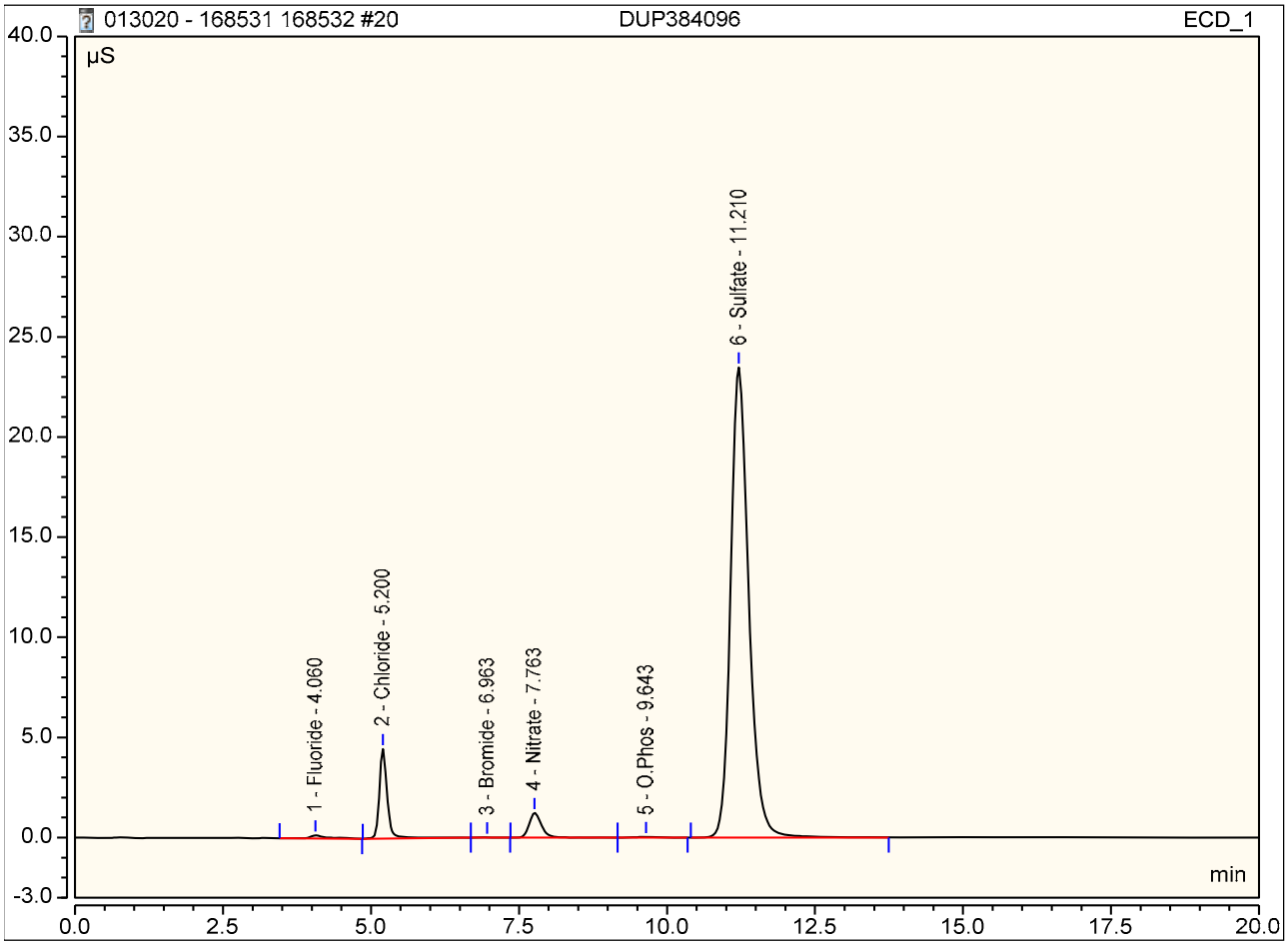
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.061	0.161	0.2343
2	5.20	Chloride	0.708	4.492	3.5236
3	6.94	Bromide	0.002	0.007	0.0285
4	7.76	Nitrate	0.295	1.233	0.6491
5	9.64	O.Phos	0.013	0.031	0.0142
6	11.21	Sulfate	8.387	23.506	53.6877



Peak Integration Report

Sample Name:	**DUP384096**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 19:00**	*Run Time:*	**20.00**

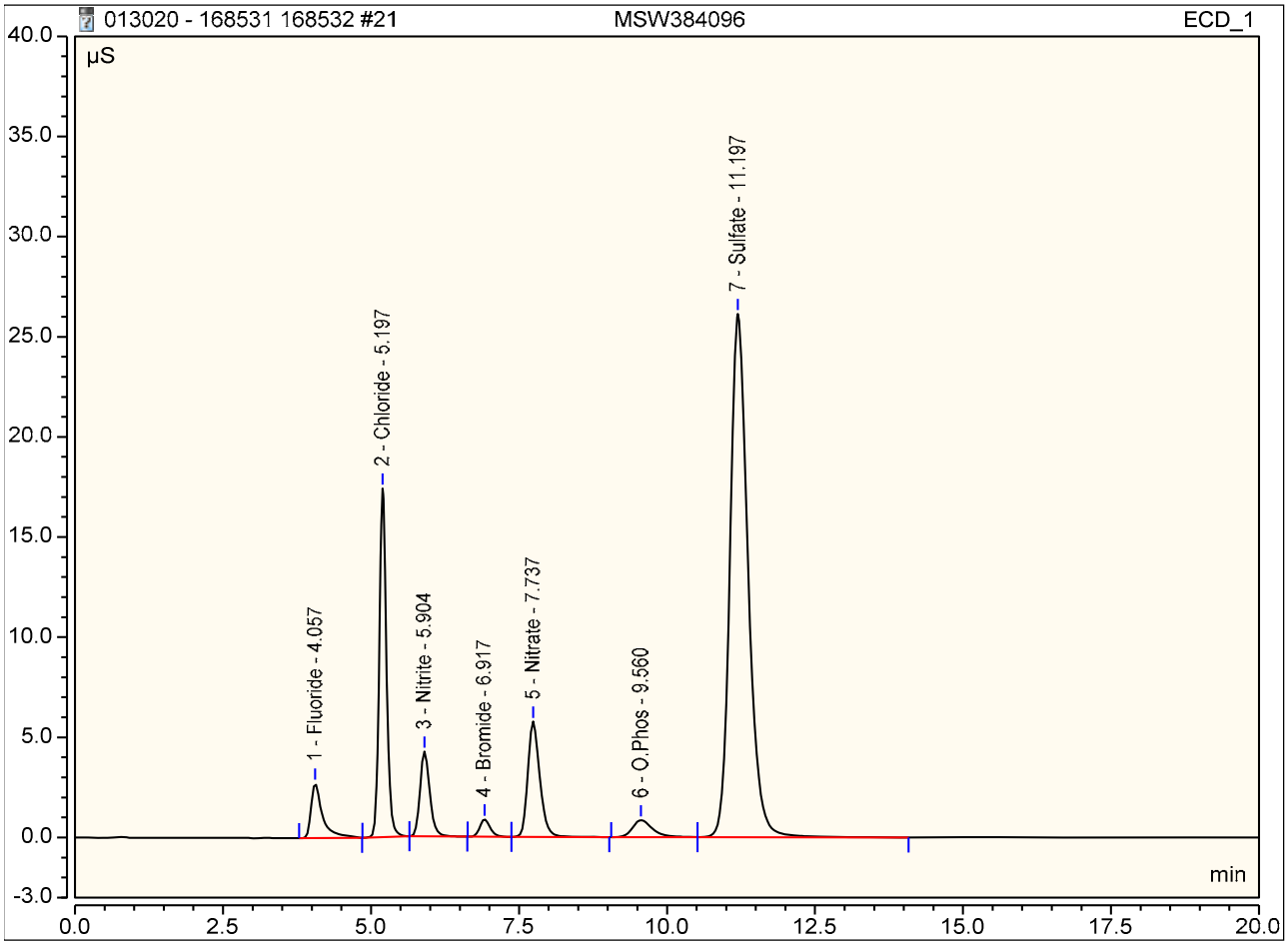
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.062	0.162	0.2351
2	5.20	Chloride	0.706	4.485	3.5142
3	6.96	Bromide	0.002	0.008	0.0316
4	7.76	Nitrate	0.296	1.234	0.6516
5	9.64	O.Phos	0.013	0.031	0.0148
6	11.21	Sulfate	8.365	23.476	53.5505



Peak Integration Report

Sample Name:	**MSW384096**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 19:20**	*Run Time:*	**20.00**

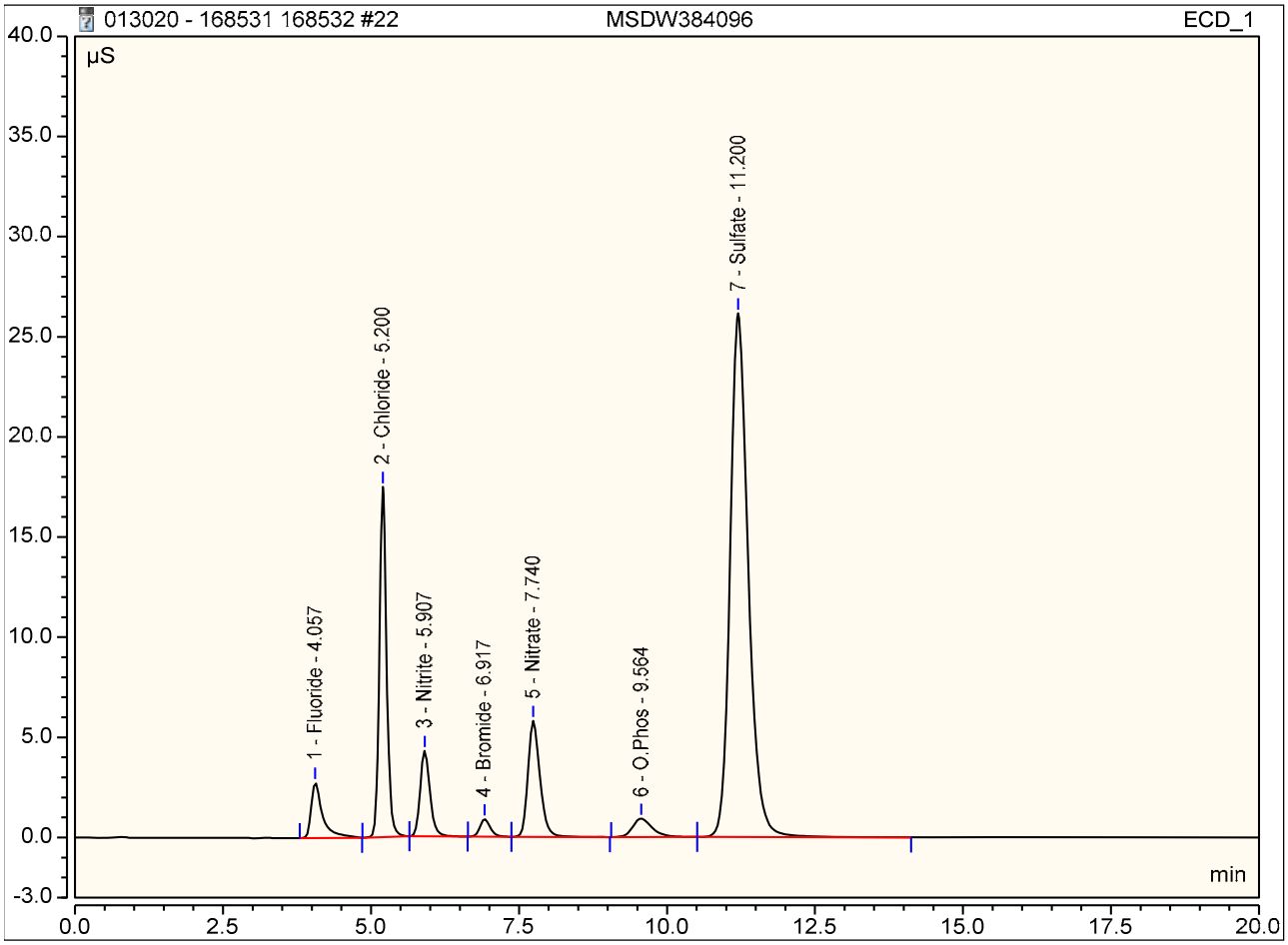
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.615	2.722	2.2858
2	5.20	Chloride	2.452	17.408	11.0329
3	5.90	Nitrite	0.817	4.238	2.2212
4	6.92	Bromide	0.177	0.865	2.2714
5	7.74	Nitrate	1.355	5.757	2.7415
6	9.56	O.Phos	0.329	0.845	1.9612
7	11.20	Sulfate	9.295	26.122	59.4332



Peak Integration Report

Sample Name:	**MSDW384096**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 19:40**	*Run Time:*	**20.00**

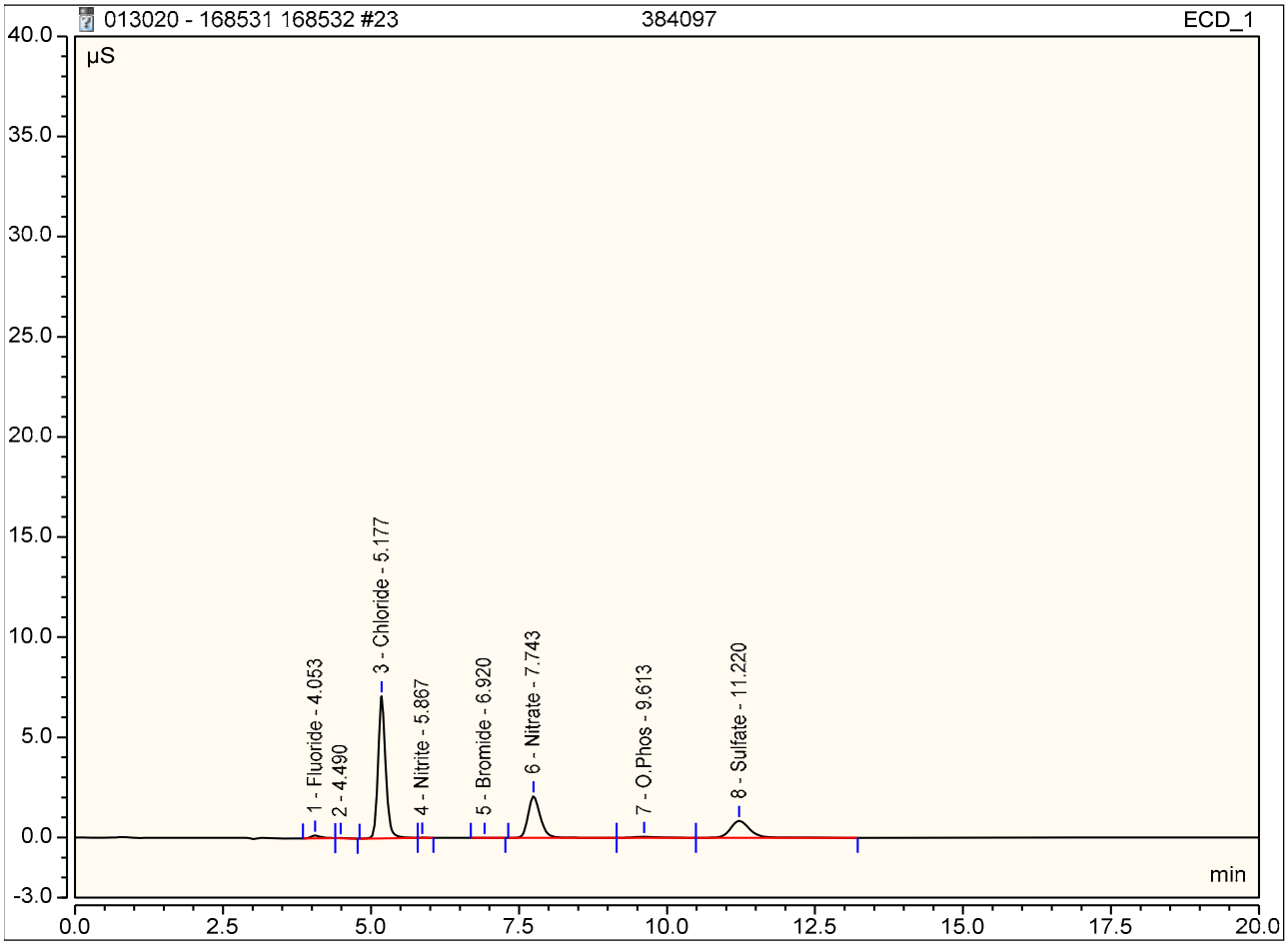
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.621	2.763	2.3078
2	5.20	Chloride	2.466	17.481	11.0965
3	5.91	Nitrite	0.825	4.274	2.2409
4	6.92	Bromide	0.179	0.872	2.2907
5	7.74	Nitrate	1.364	5.789	2.7597
6	9.56	O.Phos	0.355	0.917	2.1245
7	11.20	Sulfate	9.303	26.146	59.4843



Peak Integration Report

Sample Name:	**384097**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 20:00**	*Run Time:*	**20.00**

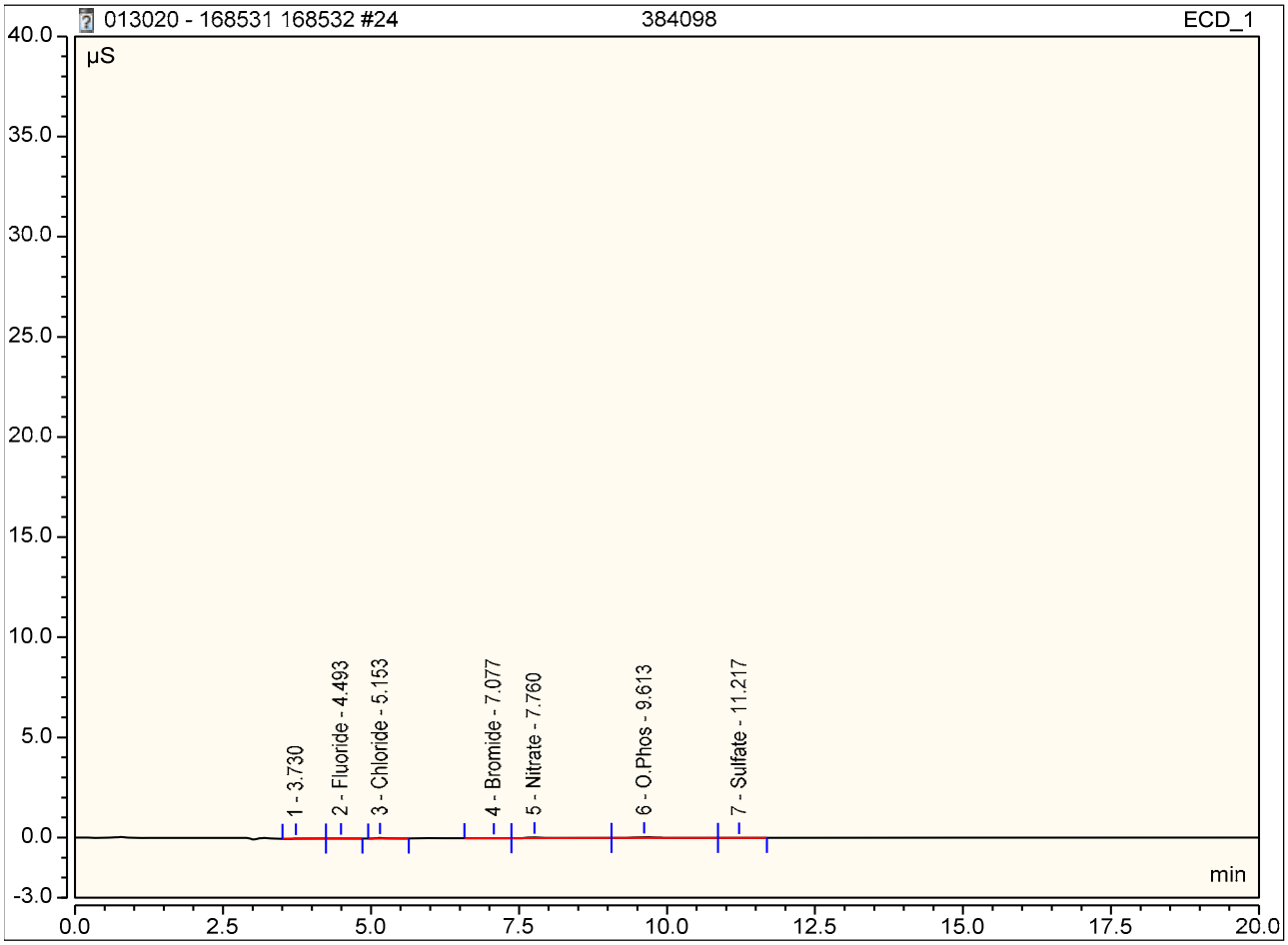
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.025	0.132	0.0995
3	5.18	Chloride	1.060	7.100	5.0389
4	5.87	Nitrite	0.001	0.004	0.0249
5	6.92	Bromide	0.002	0.008	0.0209
6	7.74	Nitrate	0.498	2.081	1.0494
7	9.61	O.Phos	0.021	0.049	0.0611
8	11.22	Sulfate	0.317	0.842	2.6287



Peak Integration Report

Sample Name:	**384098**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 20:20**	*Run Time:*	**20.00**

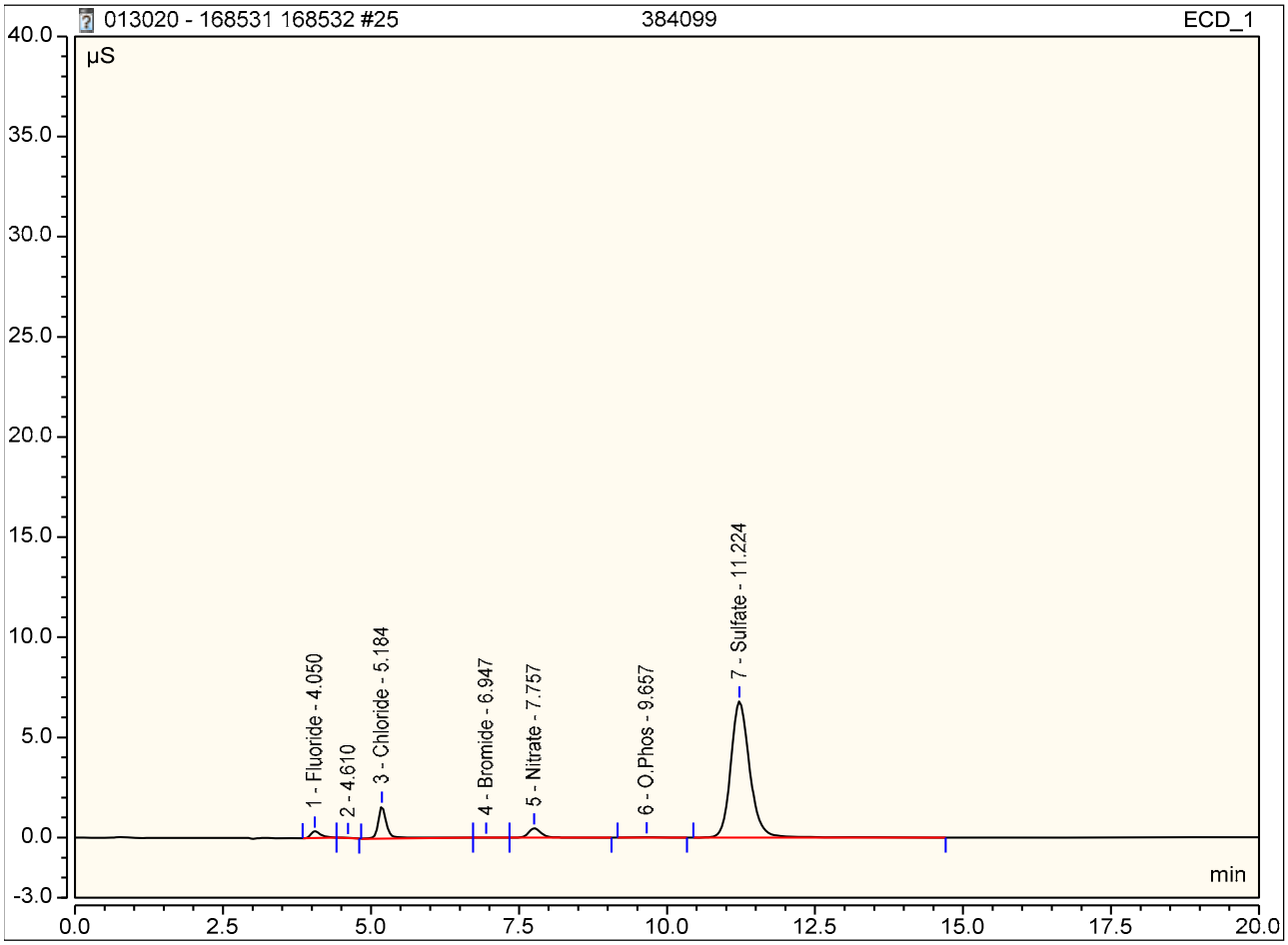
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	4.49	Fluoride	0.003	0.011	0.0157
3	5.15	Chloride	0.004	0.024	0.4896
4	7.08	Bromide	0.001	0.004	0.0147
5	7.76	Nitrate	0.010	0.037	0.0855
6	9.61	O.Phos	0.016	0.035	0.0309
7	11.22	Sulfate	0.002	0.006	0.6360



Peak Integration Report

Sample Name:	**384099**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 20:40**	*Run Time:*	**20.00**

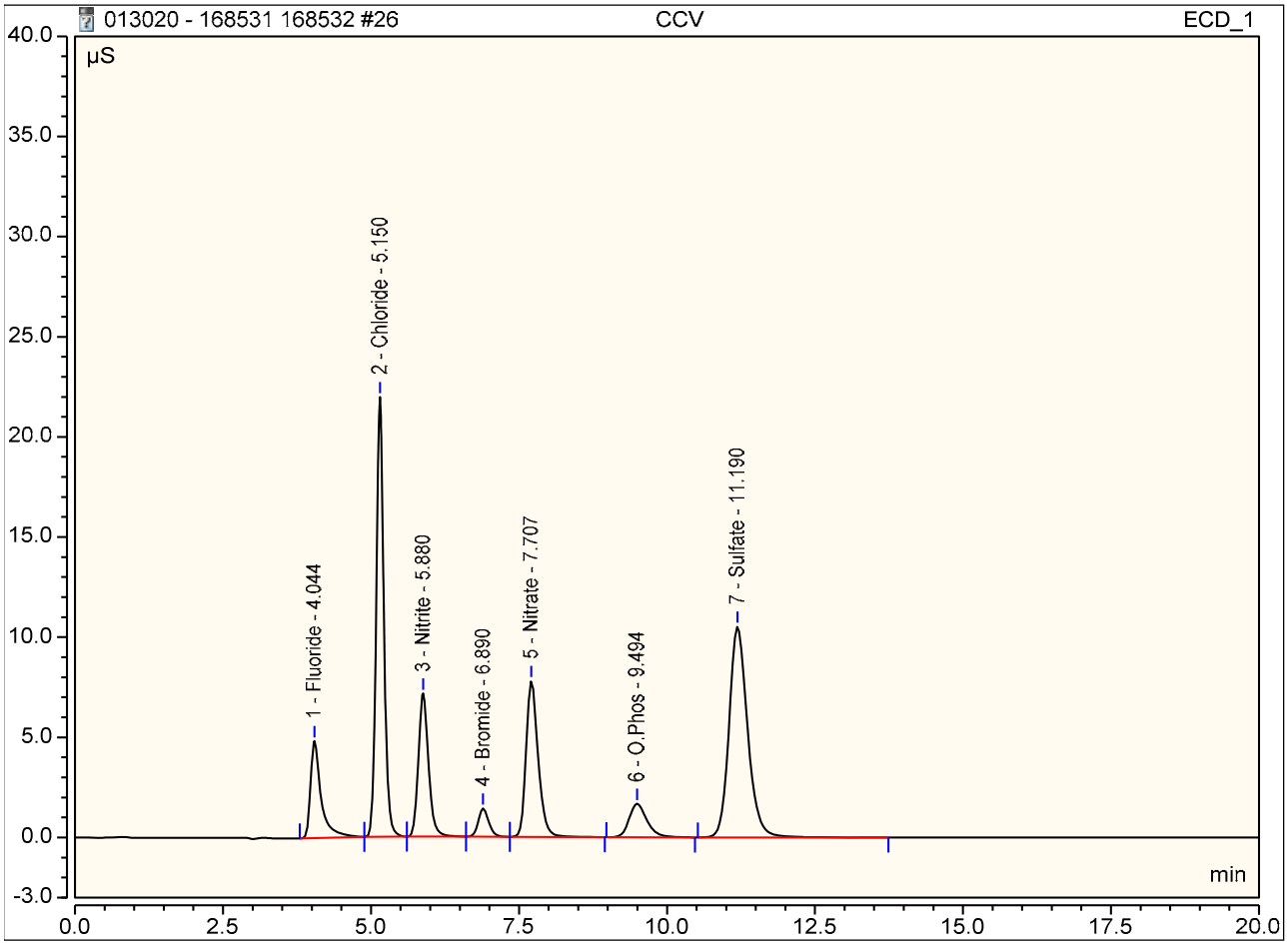
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.064	0.328	0.2420
3	5.18	Chloride	0.278	1.599	1.6697
4	6.95	Bromide	0.001	0.005	0.0179
5	7.76	Nitrate	0.112	0.463	0.2868
6	9.66	O.Phos	0.006	0.014	n.a.
7	11.22	Sulfate	2.511	6.794	16.5100



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 21:00**	*Run Time:*	**20.00**

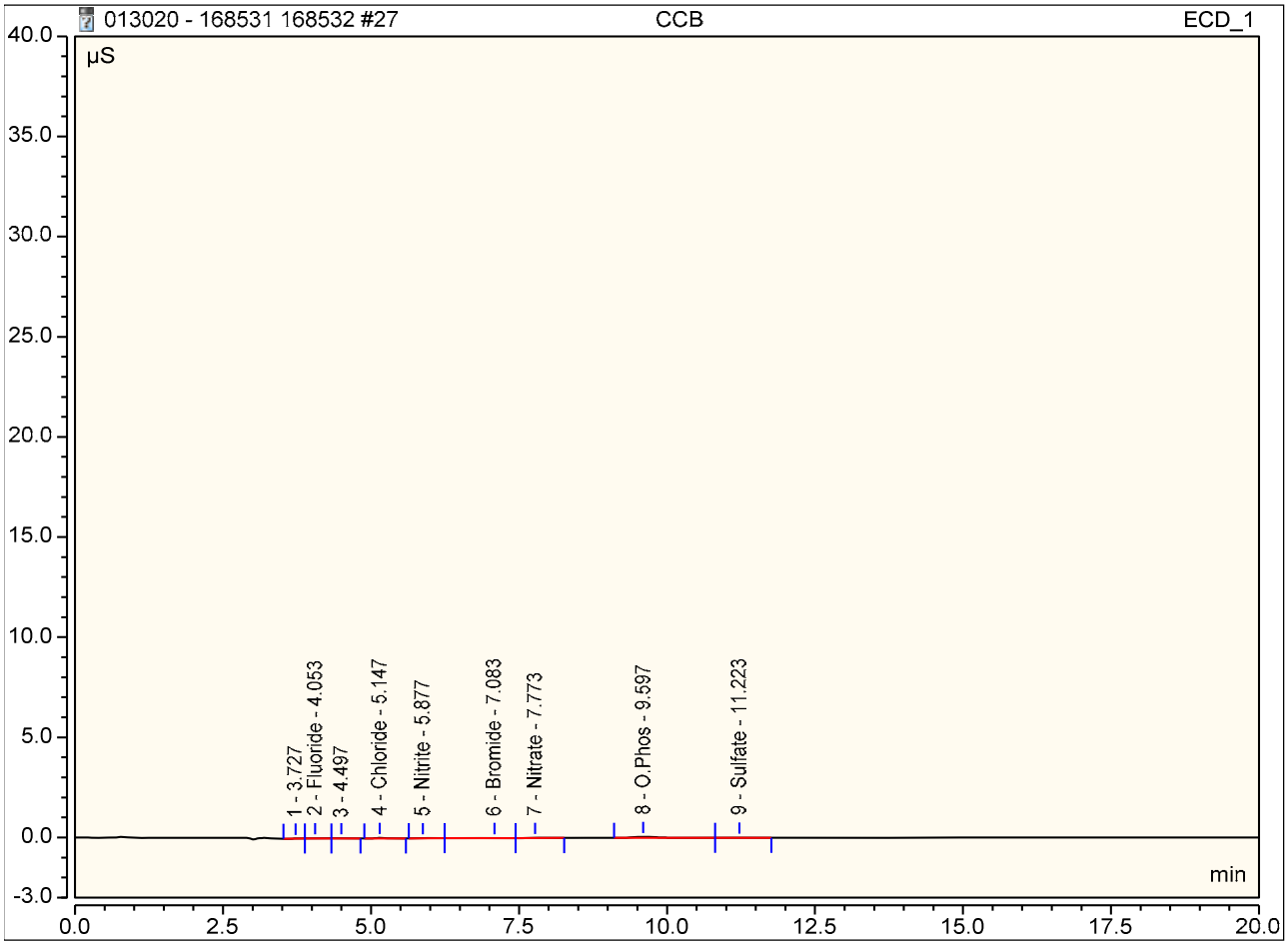
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	1.005	4.842	3.7328
2	5.15	Chloride	3.253	21.958	14.4837
3	5.88	Nitrite	1.413	7.146	3.8221
4	6.89	Bromide	0.291	1.416	3.7316
5	7.71	Nitrate	1.838	7.791	3.6947
6	9.49	O.Phos	0.582	1.670	3.5256
7	11.19	Sulfate	3.832	10.529	24.8686



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**30-Jan-2020 / 21:20**	*Run Time:*	**20.00**

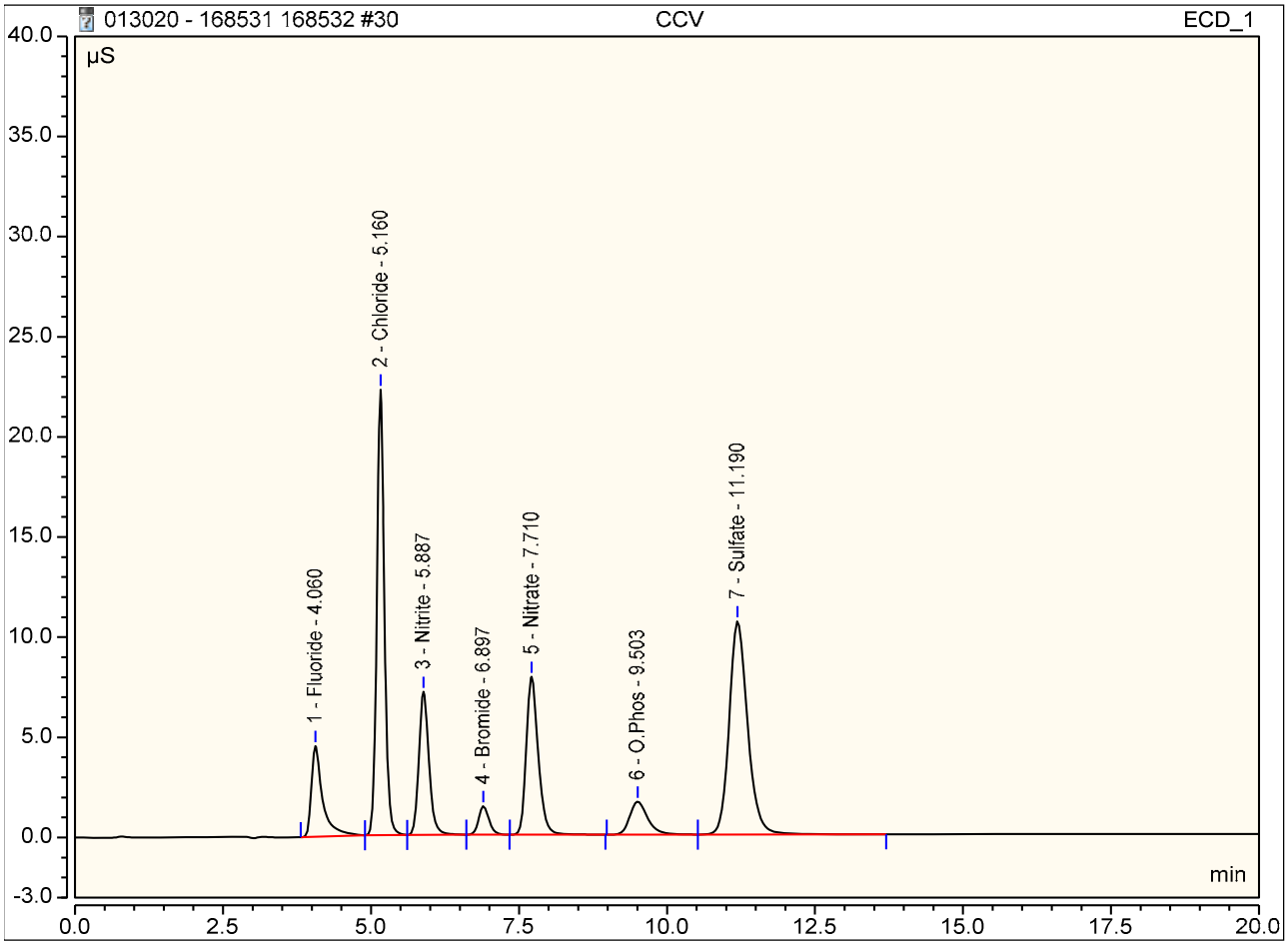
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	4.05	Fluoride	0.003	0.020	0.0192
4	5.15	Chloride	0.004	0.024	0.4895
5	5.88	Nitrite	0.002	0.010	0.0285
6	7.08	Bromide	0.002	0.006	0.0265
7	7.77	Nitrate	0.002	0.010	0.0715
8	9.60	O.Phos	0.024	0.054	0.0788
9	11.22	Sulfate	0.005	0.014	0.6569



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**31-Jan-2020 / 08:03**	*Run Time:*	**20.00**

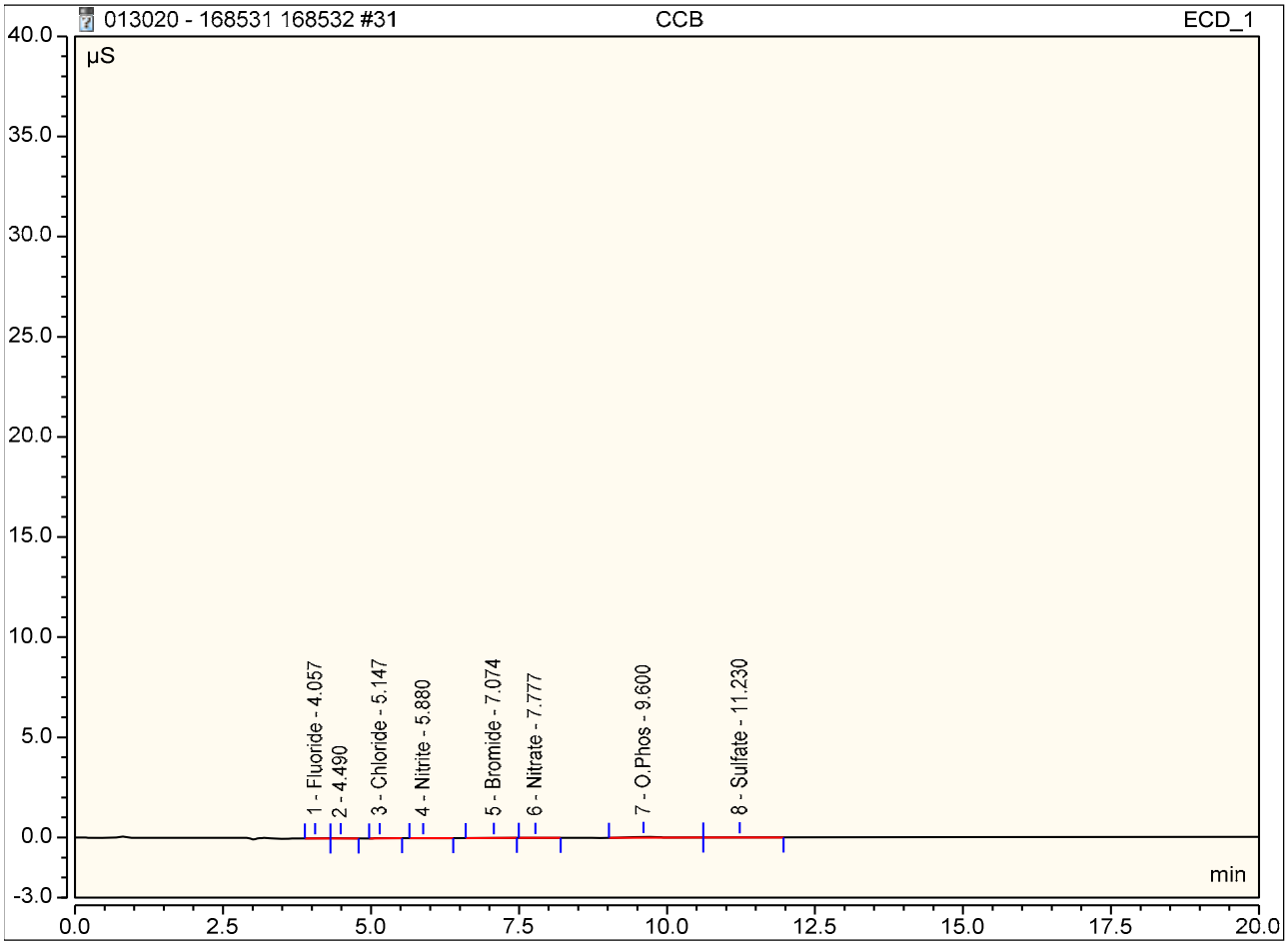
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.994	4.534	3.6911
2	5.16	Chloride	3.277	22.245	14.5904
3	5.89	Nitrite	1.408	7.141	3.8095
4	6.90	Bromide	0.291	1.430	3.7333
5	7.71	Nitrate	1.847	7.892	3.7123
6	9.50	O.Phos	0.580	1.651	3.5137
7	11.19	Sulfate	3.849	10.648	24.9782



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**31-Jan-2020 / 08:23**	*Run Time:*	**20.00**

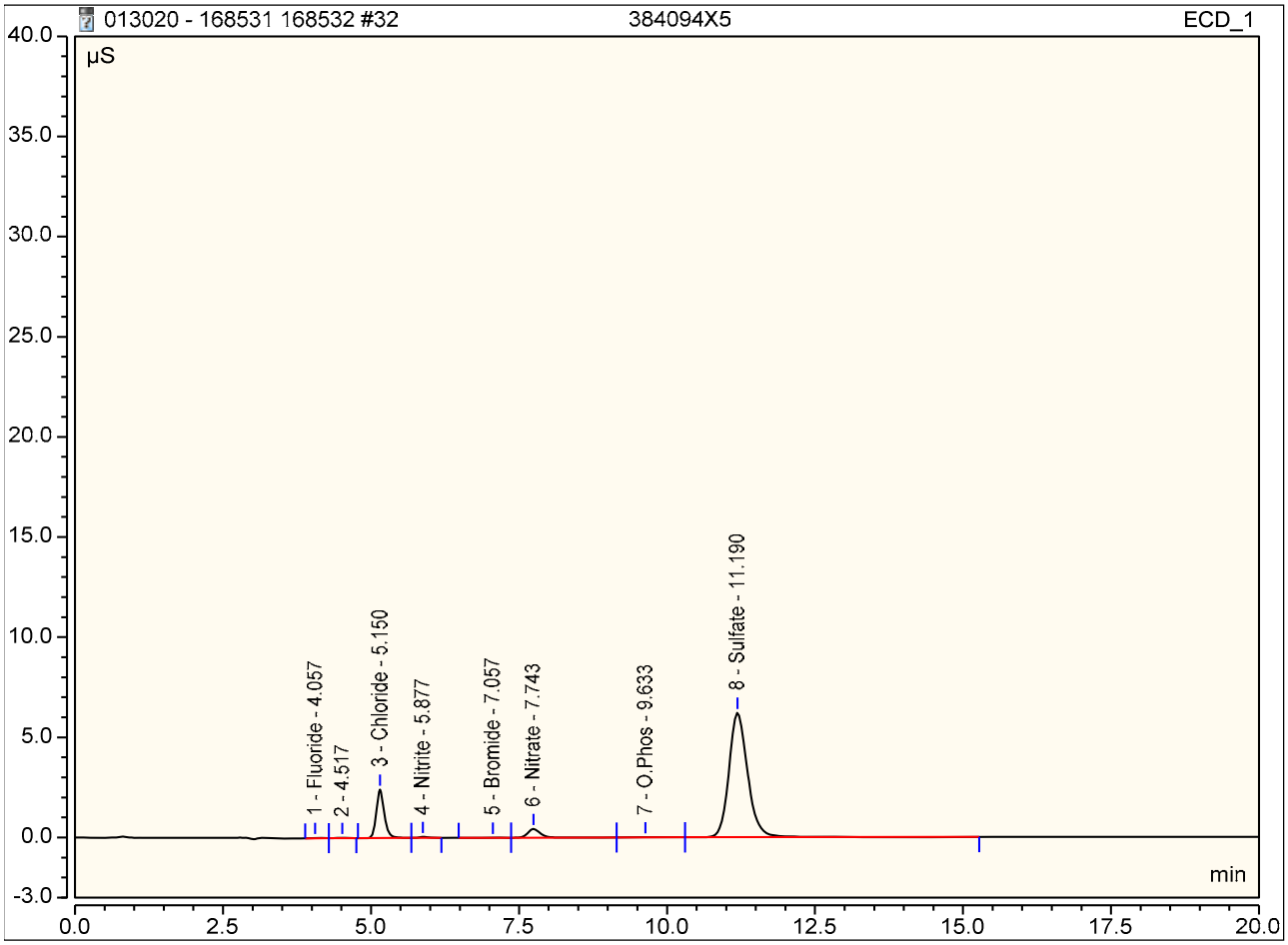
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.003	0.014	0.0159
3	5.15	Chloride	0.002	0.010	0.4798
4	5.88	Nitrite	0.001	0.006	0.0265
5	7.07	Bromide	0.001	0.004	0.0170
6	7.78	Nitrate	0.001	0.004	0.0689
7	9.60	O.Phos	0.020	0.044	0.0551
8	11.23	Sulfate	0.003	0.009	0.6447



Peak Integration Report

Sample Name:	**384094X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**31-Jan-2020 / 08:43**	*Run Time:*	**20.00**

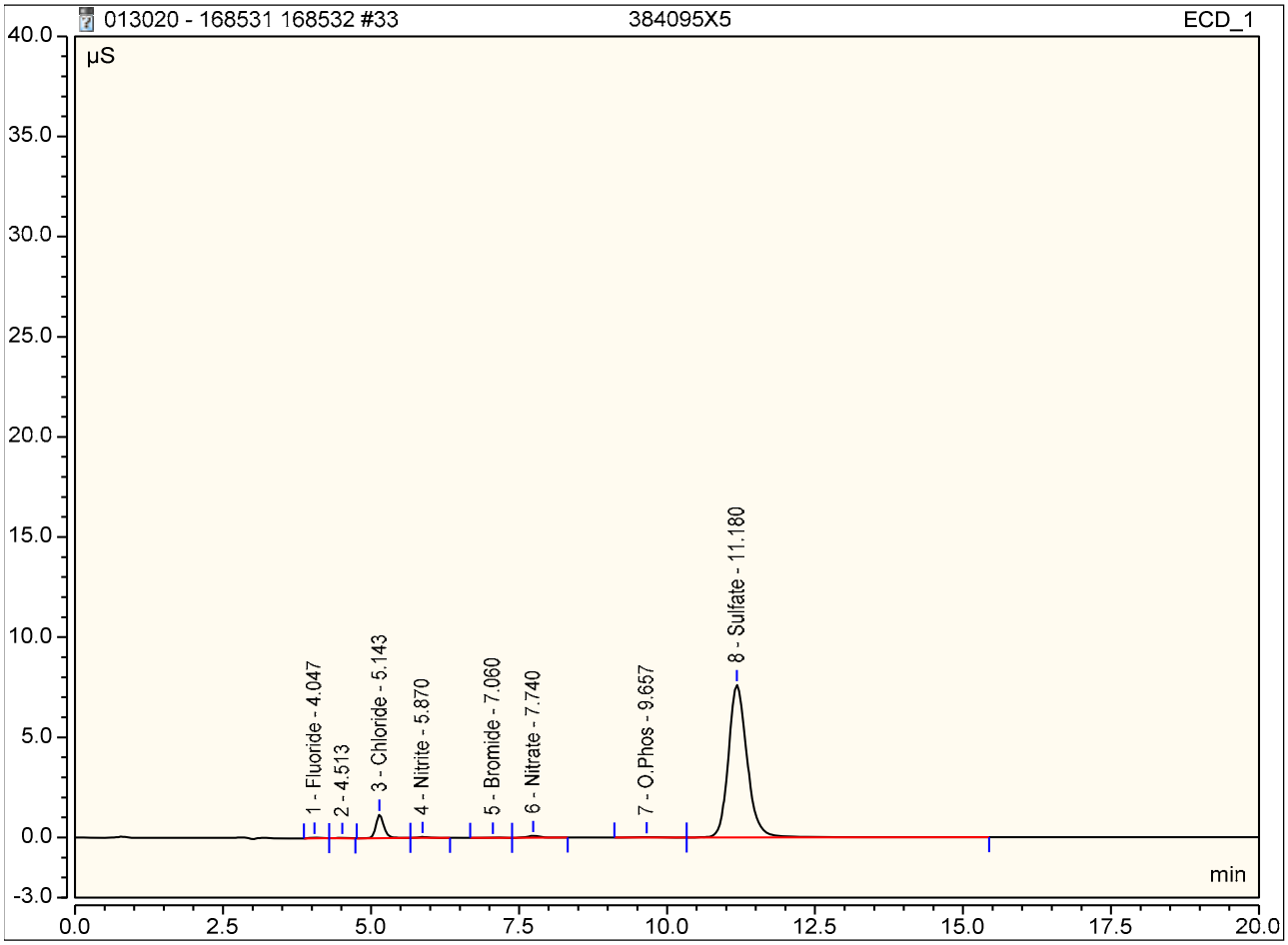
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.003	0.019	0.0185
3	5.15	Chloride	0.377	2.425	2.0970
4	5.88	Nitrite	0.009	0.046	0.0461
5	7.06	Bromide	0.001	0.003	0.0158
6	7.74	Nitrate	0.106	0.434	0.2749
7	9.63	O.Phos	0.008	0.017	n.a.
8	11.19	Sulfate	2.298	6.224	15.1645



Peak Integration Report

Sample Name:	**384095X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**31-Jan-2020 / 09:03**	*Run Time:*	**20.00**

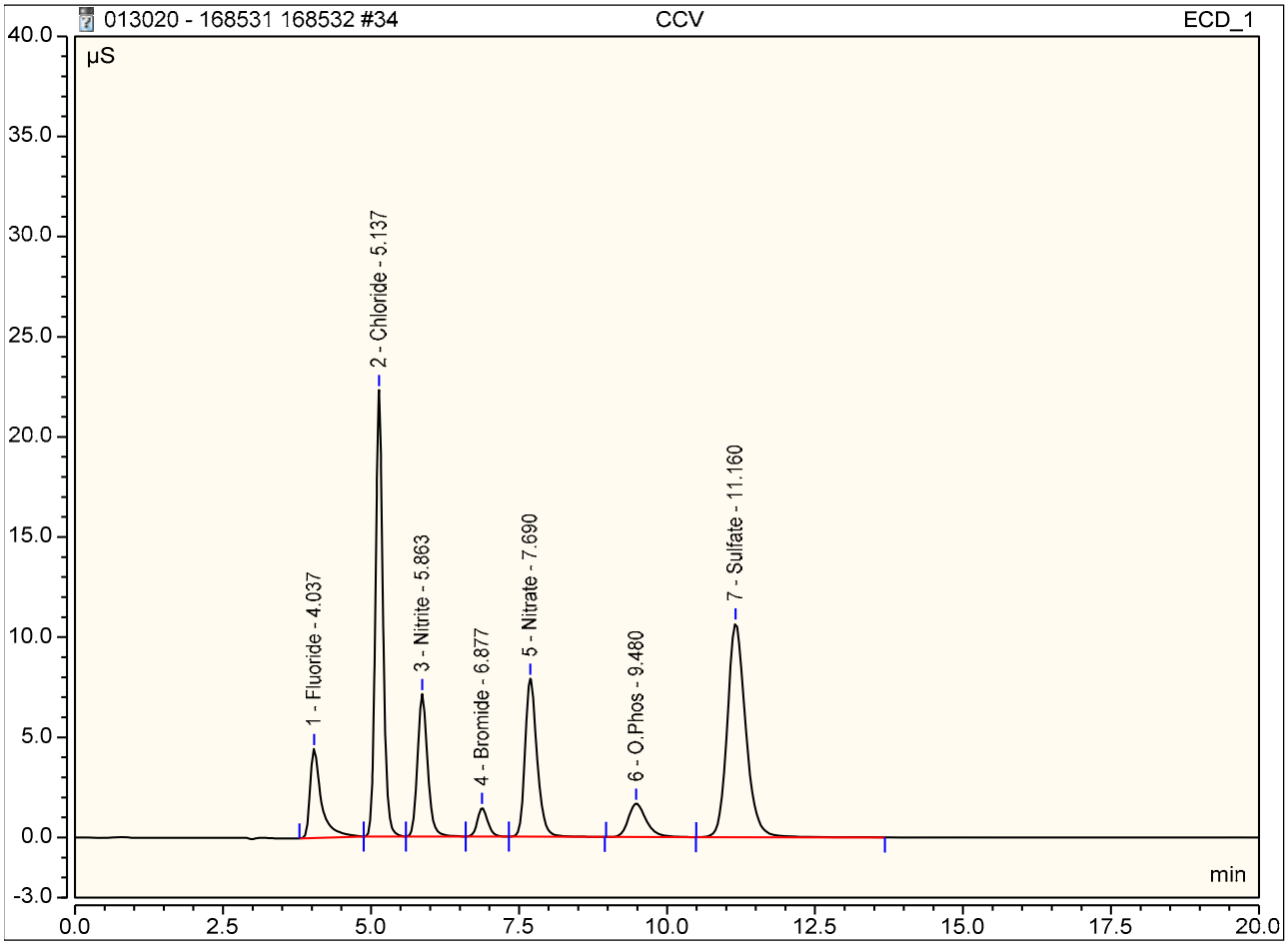
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.006	0.032	0.0270
3	5.14	Chloride	0.185	1.176	1.2682
4	5.87	Nitrite	0.009	0.047	0.0468
5	7.06	Bromide	0.002	0.007	0.0263
6	7.74	Nitrate	0.022	0.093	0.1108
7	9.66	O.Phos	0.006	0.012	n.a.
8	11.18	Sulfate	2.794	7.606	18.3029



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**31-Jan-2020 / 09:23**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	0.987	4.442	3.6657
2	5.14	Chloride	3.281	22.290	14.6050
3	5.86	Nitrite	1.403	7.119	3.7962
4	6.88	Bromide	0.292	1.433	3.7444
5	7.69	Nitrate	1.850	7.895	3.7195
6	9.48	O.Phos	0.588	1.674	3.5570
7	11.16	Sulfate	3.860	10.674	25.0466

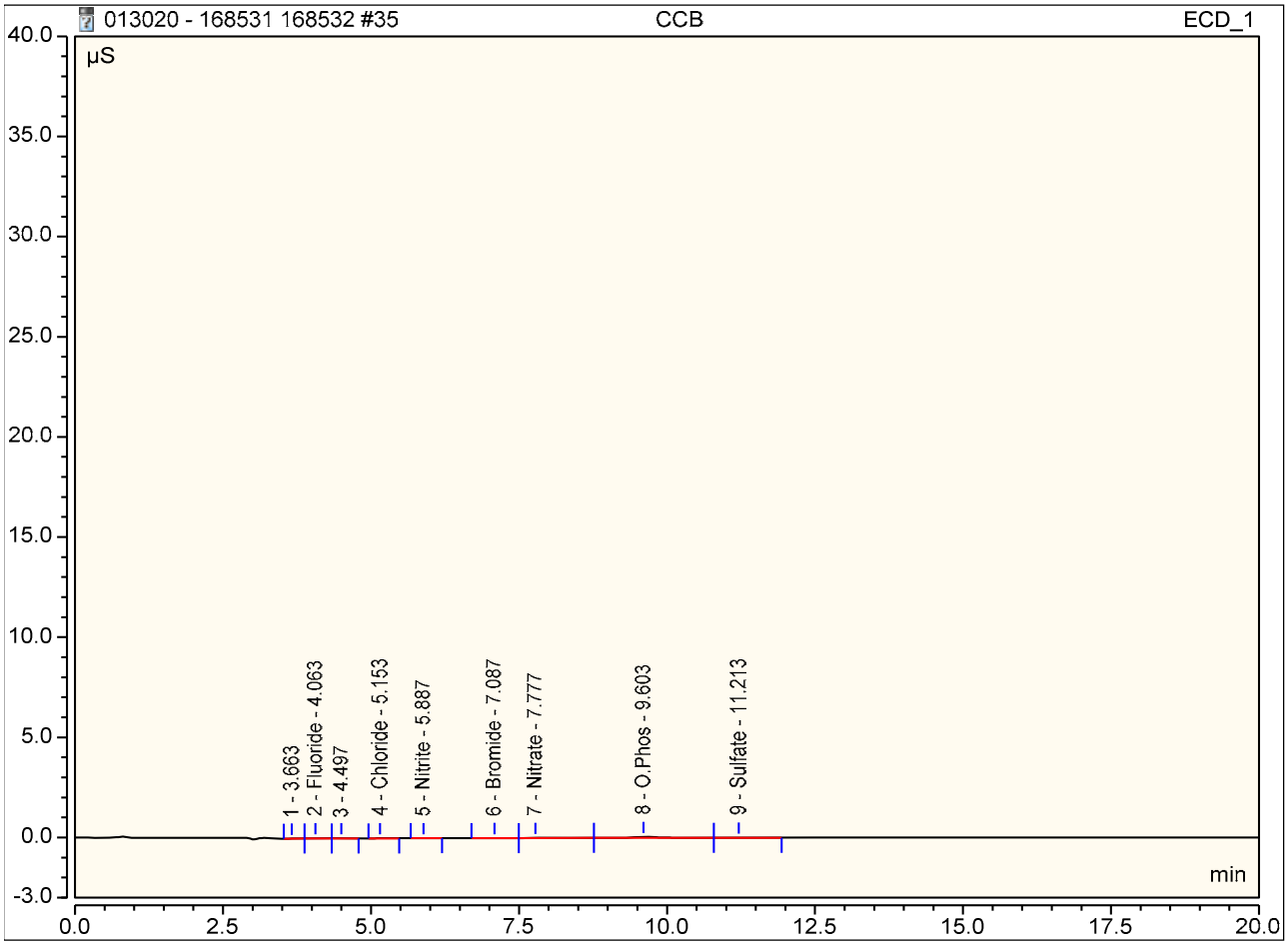


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

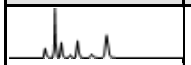
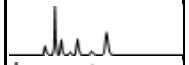
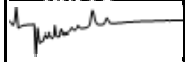
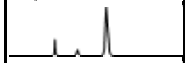
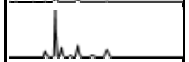
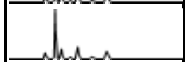
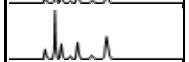
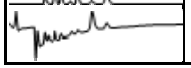
Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**aquion**
Inj. Date / Time:	**31-Jan-2020 / 09:43**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	4.06	Fluoride	0.004	0.020	0.0198
4	5.15	Chloride	0.002	0.013	0.4811
5	5.89	Nitrite	0.001	0.006	0.0264
6	7.09	Bromide	0.001	0.005	0.0186
7	7.78	Nitrate	0.002	0.005	0.0699
8	9.60	O.Phos	0.022	0.048	0.0695
9	11.21	Sulfate	0.004	0.009	0.6458



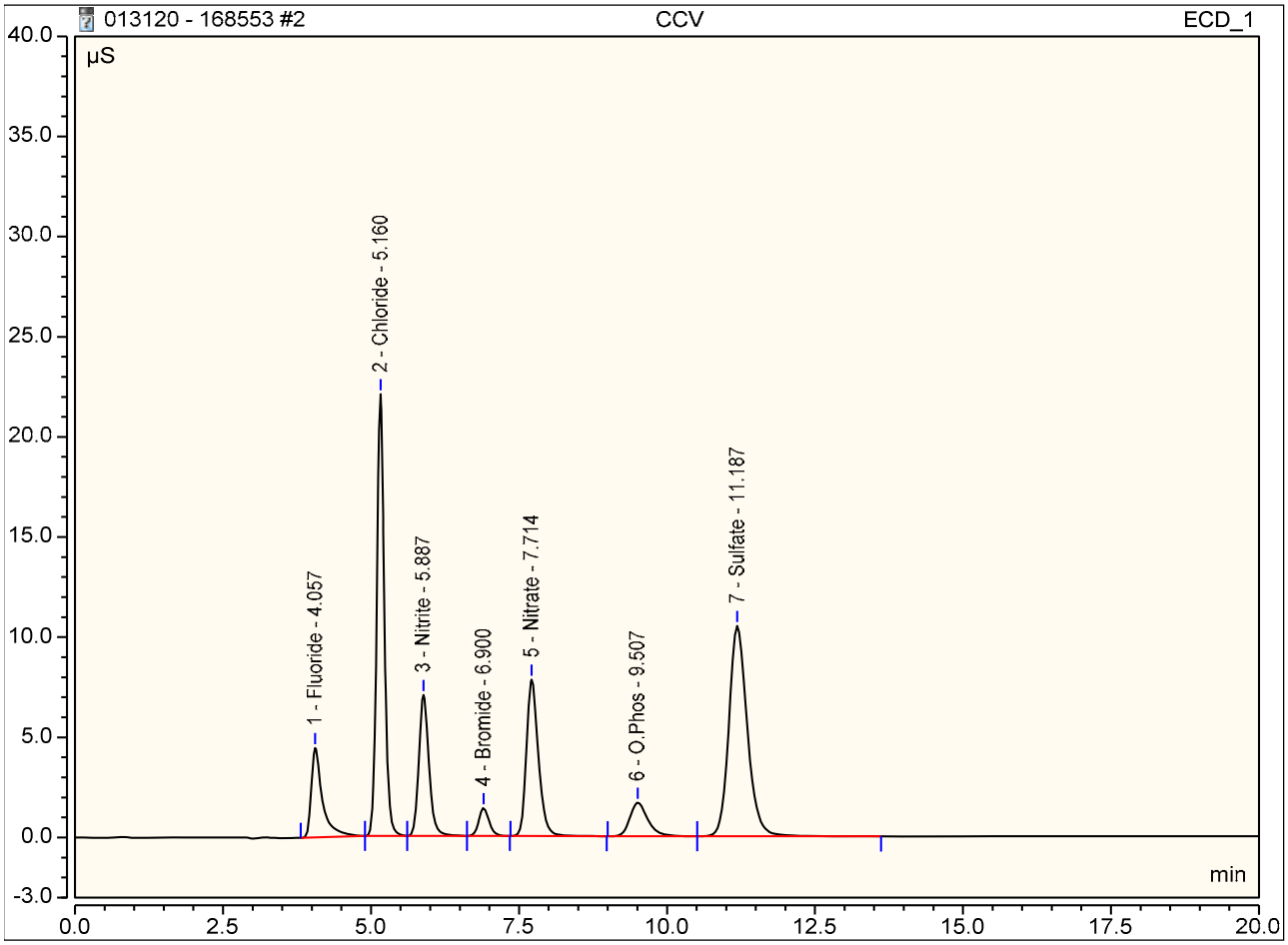
Sequence: 013120 - 168553
Last Update Operator: AQUION

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		2	5000	Anions	IC2732A	Finished
	LCSW	1.0000	Unknown		3	5000	Anions	IC2732A	Finished
	MBW	1.0000	Unknown		4	5000	Anions	IC2732A	Finished
	384610	1.0000	Unknown		5	5000	Anions	IC2732A	Finished
	384613	1.0000	Unknown		6	5000	Anions	IC2732A	Finished
	384614	1.0000	Unknown		7	5000	Anions	IC2732A	Finished
	384615	1.0000	Unknown		8	5000	Anions	IC2732A	Finished
	384616	1.0000	Unknown		9	5000	Anions	IC2732A	Finished
	384617	1.0000	Unknown		10	5000	Anions	IC2732A	Finished
	DUP384613	1.0000	Unknown		11	5000	Anions	IC2732A	Finished
	MSW384613	1.0000	Unknown		12	5000	Anions	IC2732A	Finished
	MSDW384613	1.0000	Unknown		13	5000	Anions	IC2732A	Finished
	CCV	1.0000	Unknown		14	5000	Anions	IC2732A	Finished
	CCB	1.0000	Unknown		15	5000	Anions	IC2732A	Finished

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 11:50**	*Run Time:*	**20.00**

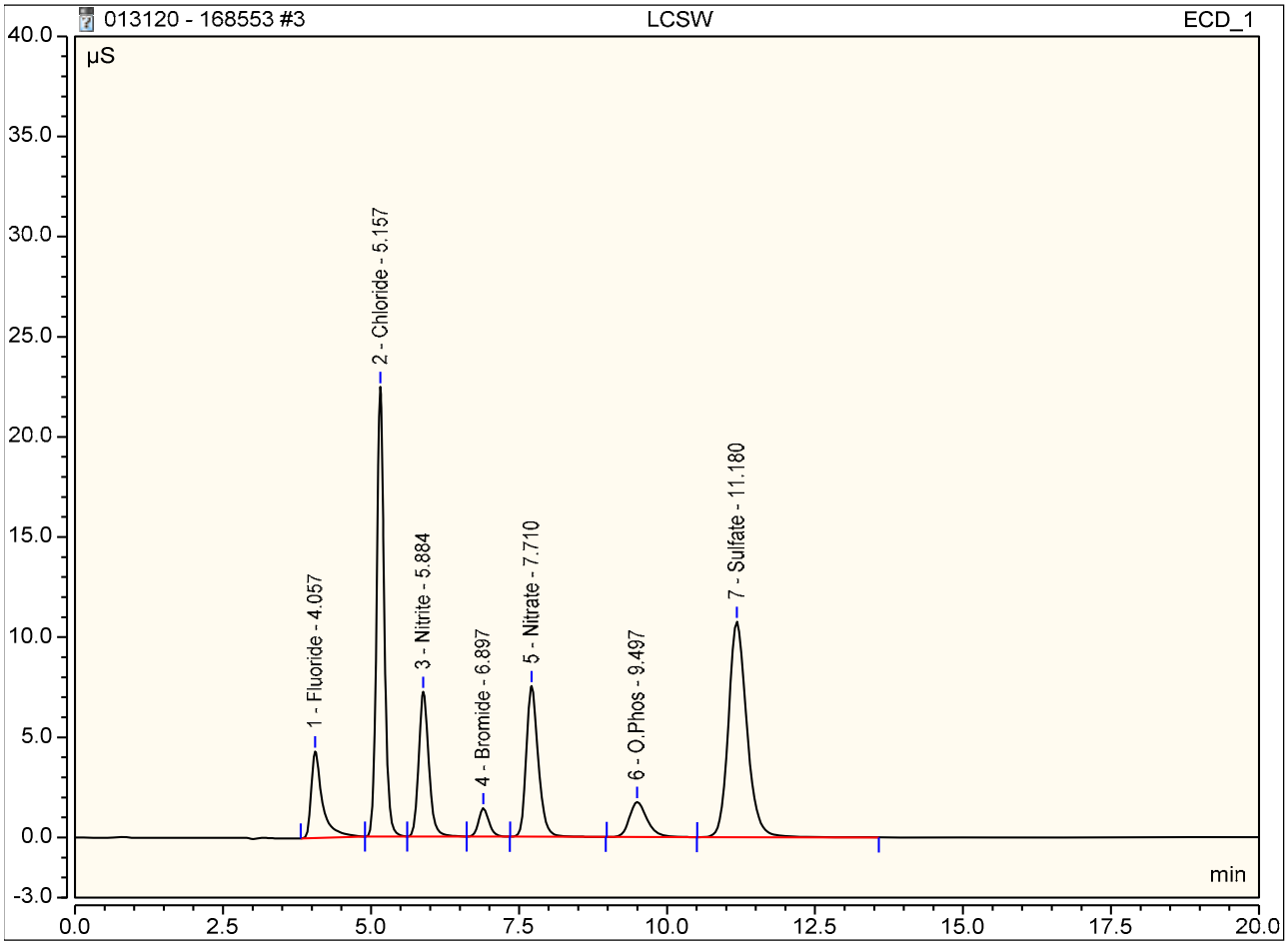
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.980	4.468	3.6411
2	5.16	Chloride	3.255	22.061	14.4950
3	5.89	Nitrite	1.387	7.042	3.7544
4	6.90	Bromide	0.284	1.390	3.6346
5	7.71	Nitrate	1.833	7.812	3.6843
6	9.51	O.Phos	0.589	1.679	3.5675
7	11.19	Sulfate	3.802	10.508	24.6797



Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 12:10**	*Run Time:*	**20.00**

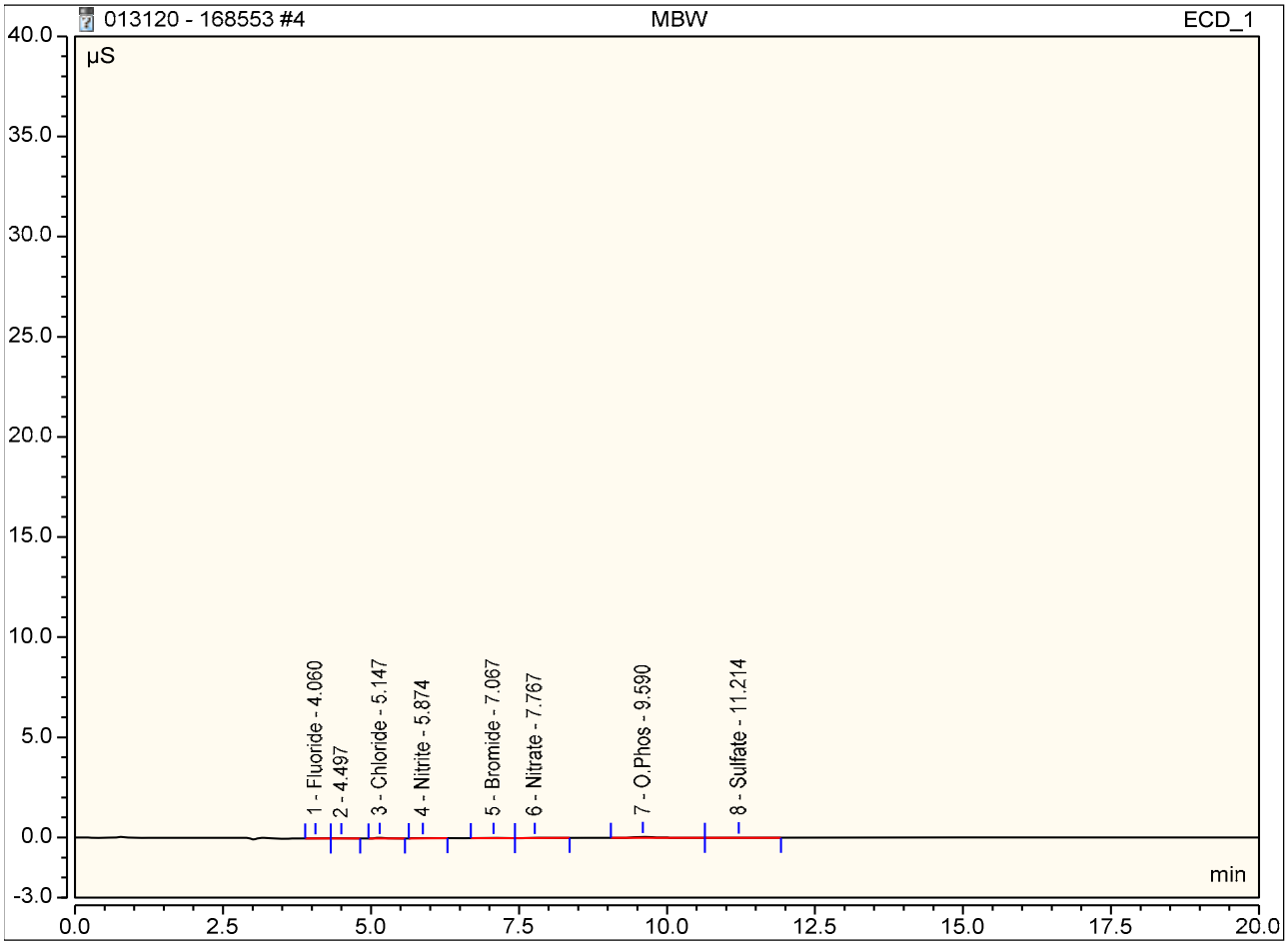
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.950	4.322	3.5279
2	5.16	Chloride	3.312	22.447	14.7384
3	5.88	Nitrite	1.425	7.232	3.8549
4	6.90	Bromide	0.289	1.418	3.7082
5	7.71	Nitrate	1.767	7.531	3.5545
6	9.50	O.Phos	0.610	1.756	3.6955
7	11.18	Sulfate	3.893	10.761	25.2530



Peak Integration Report

Sample Name:	**MBW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 12:30**	*Run Time:*	**20.00**

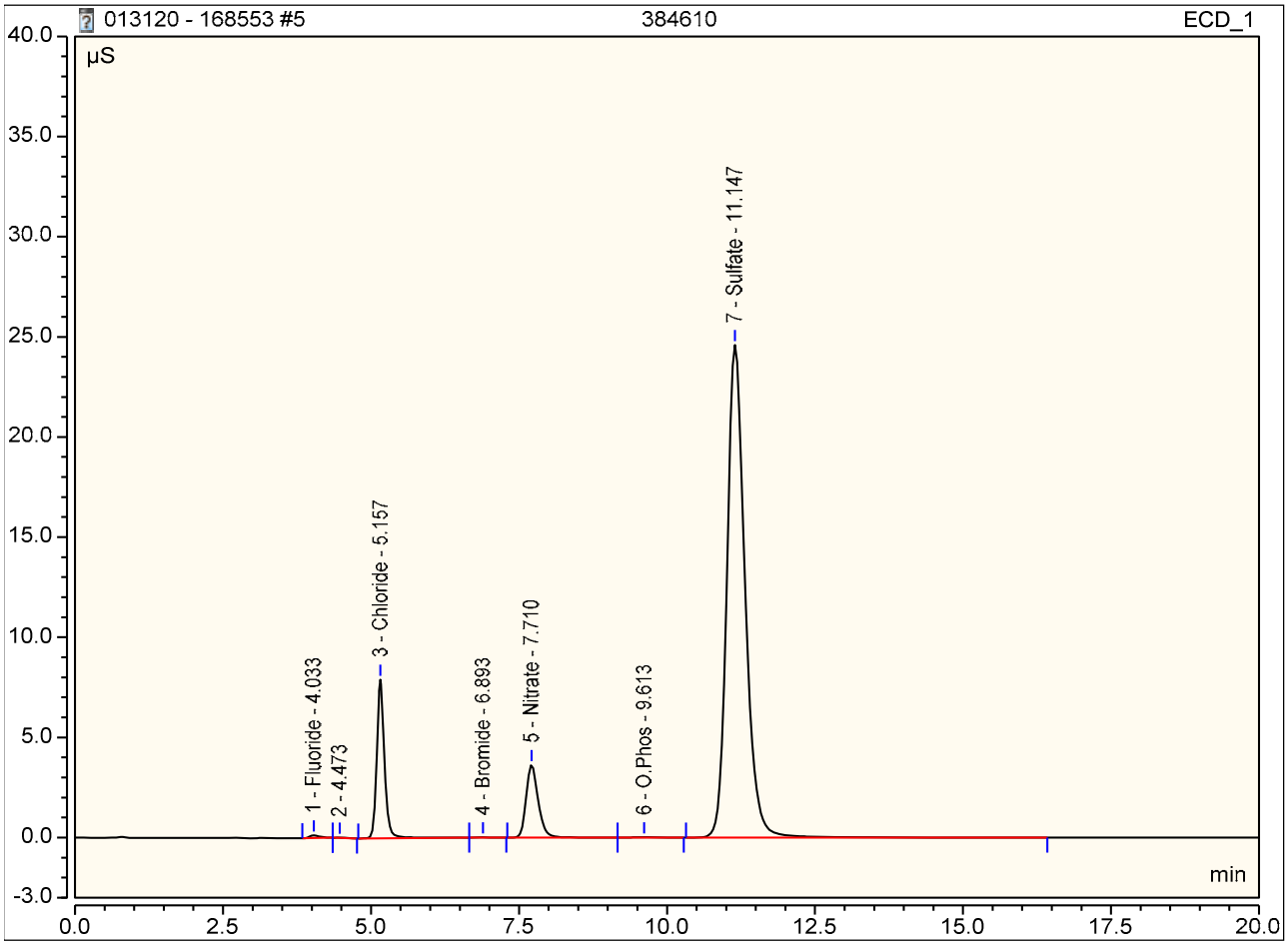
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.002	0.013	0.0152
3	5.15	Chloride	0.005	0.029	0.4925
4	5.87	Nitrite	0.003	0.015	0.0311
5	7.07	Bromide	0.003	0.010	0.0381
6	7.77	Nitrate	0.003	0.012	0.0728
7	9.59	O.Phos	0.020	0.045	0.0575
8	11.21	Sulfate	0.007	0.018	0.6659



Peak Integration Report

Sample Name:	**384610**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 12:50**	*Run Time:*	**20.00**

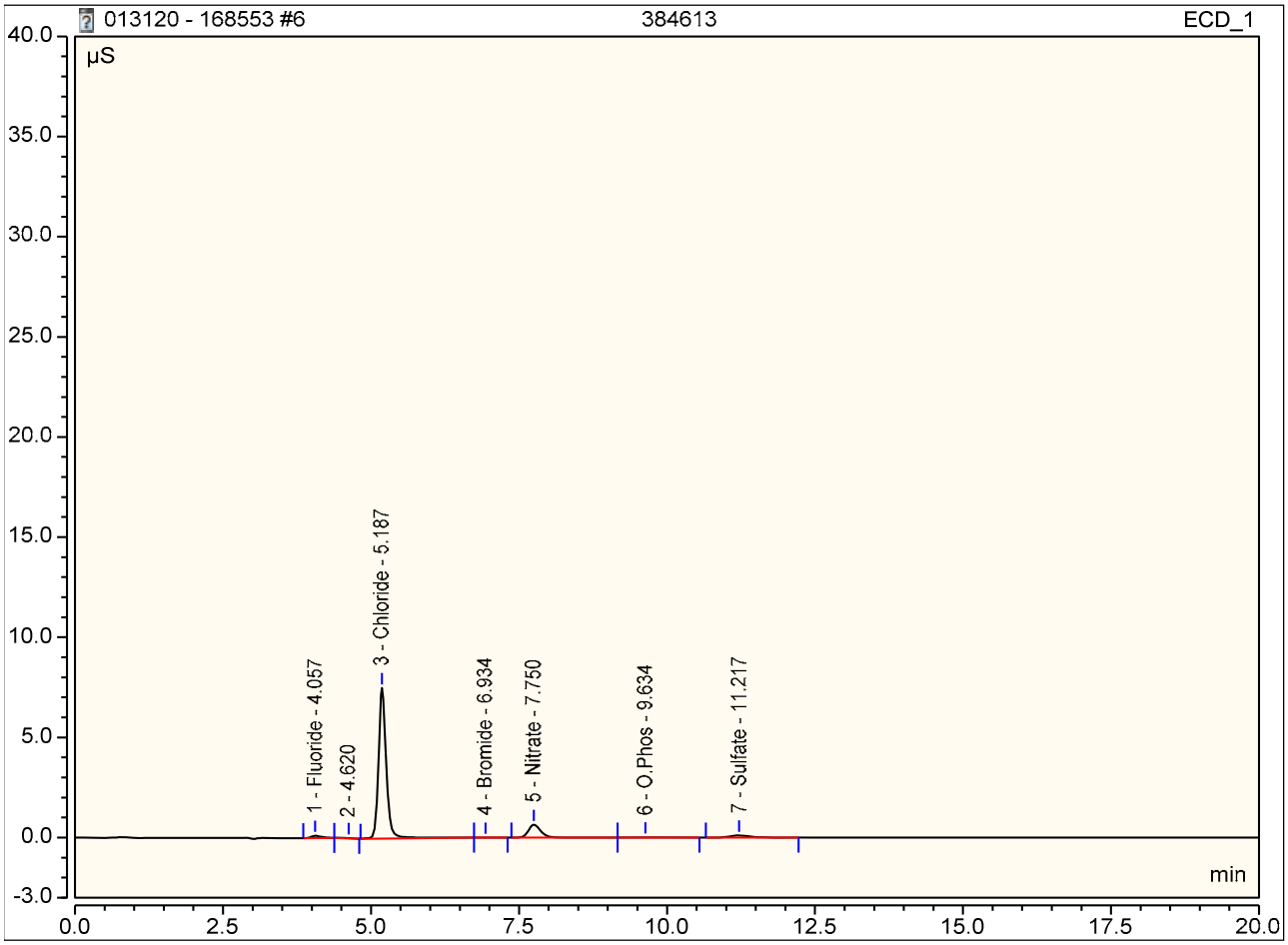
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.03	Fluoride	0.027	0.138	0.1054
3	5.16	Chloride	1.198	7.928	5.6334
4	6.89	Bromide	0.004	0.016	0.0500
5	7.71	Nitrate	0.860	3.628	1.7648
6	9.61	O.Phos	0.009	0.021	n.a.
7	11.15	Sulfate	8.762	24.600	56.0617



Peak Integration Report

Sample Name:	**384613**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 13:10**	*Run Time:*	**20.00**

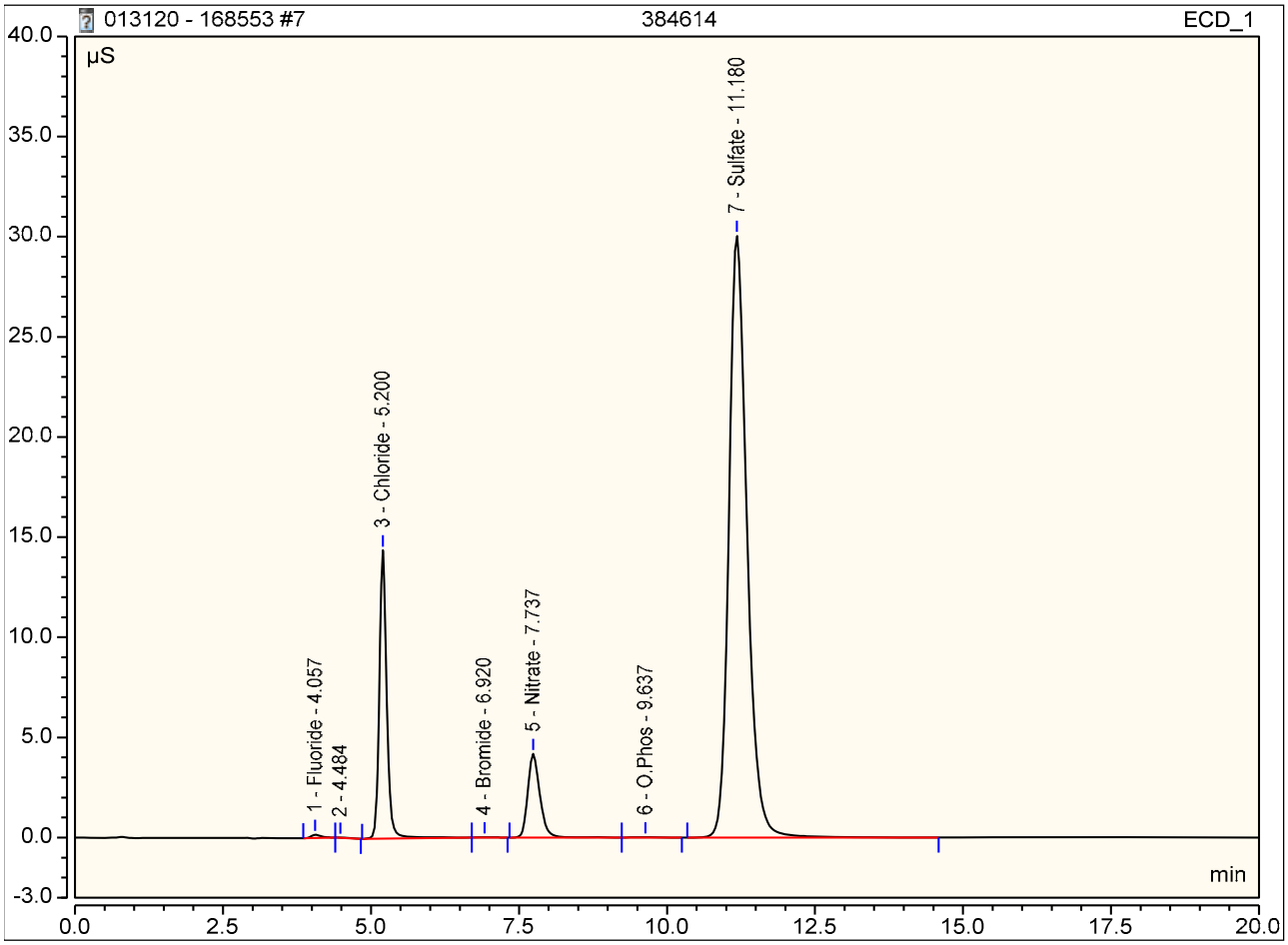
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.023	0.117	0.0916
3	5.19	Chloride	1.140	7.512	5.3824
4	6.93	Bromide	0.002	0.005	0.0203
5	7.75	Nitrate	0.155	0.644	0.3726
6	9.63	O.Phos	0.006	0.013	n.a.
7	11.22	Sulfate	0.041	0.107	0.8828



Peak Integration Report

Sample Name:	**384614**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 13:30**	*Run Time:*	**20.00**

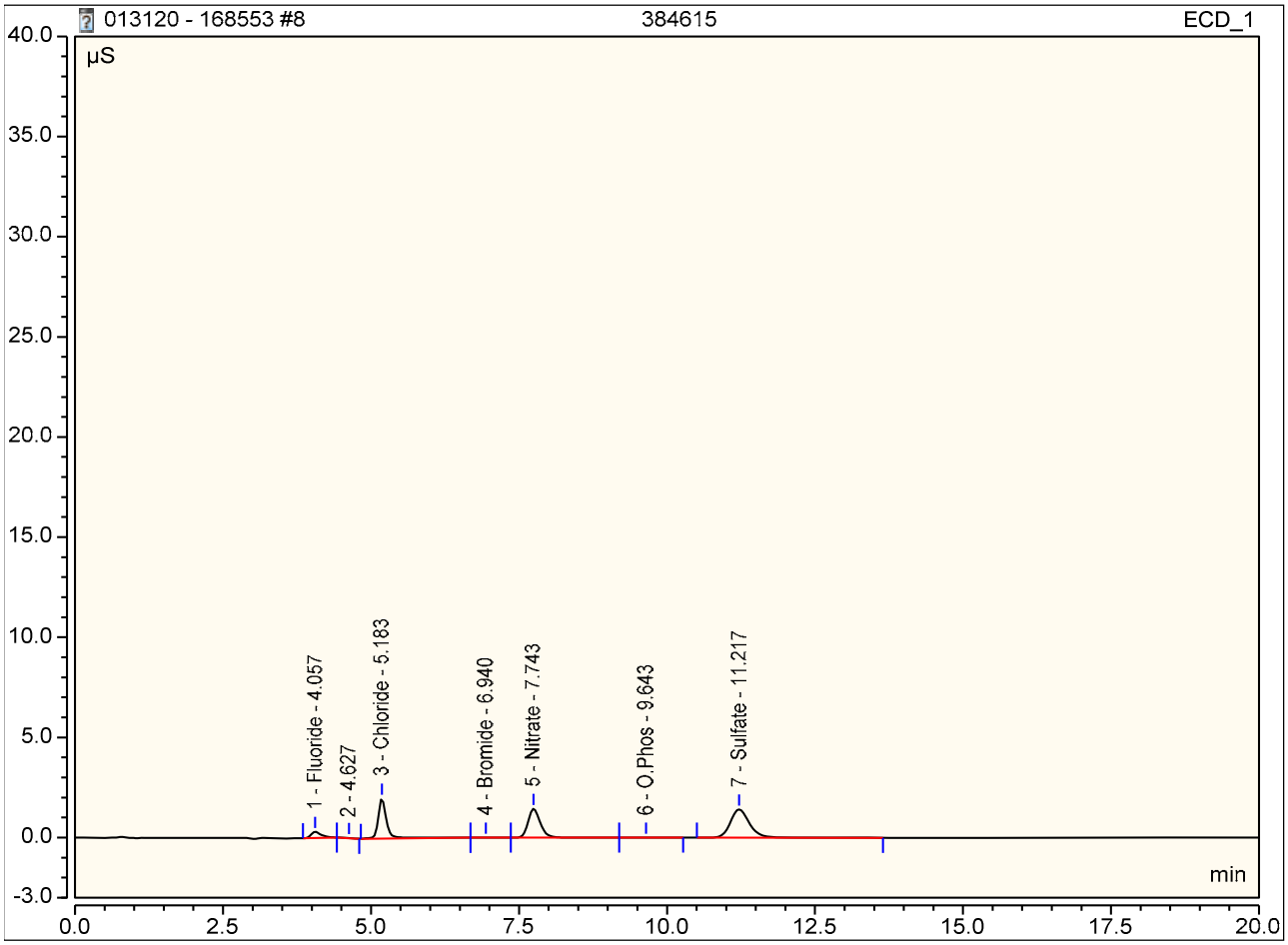
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.033	0.164	0.1273
3	5.20	Chloride	2.090	14.392	9.4766
4	6.92	Bromide	0.004	0.017	0.0525
5	7.74	Nitrate	0.986	4.174	2.0135
6	9.64	O.Phos	0.005	0.013	n.a.
7	11.18	Sulfate	10.652	30.046	68.0193



Peak Integration Report

Sample Name:	**384615**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 13:50**	*Run Time:*	**20.00**

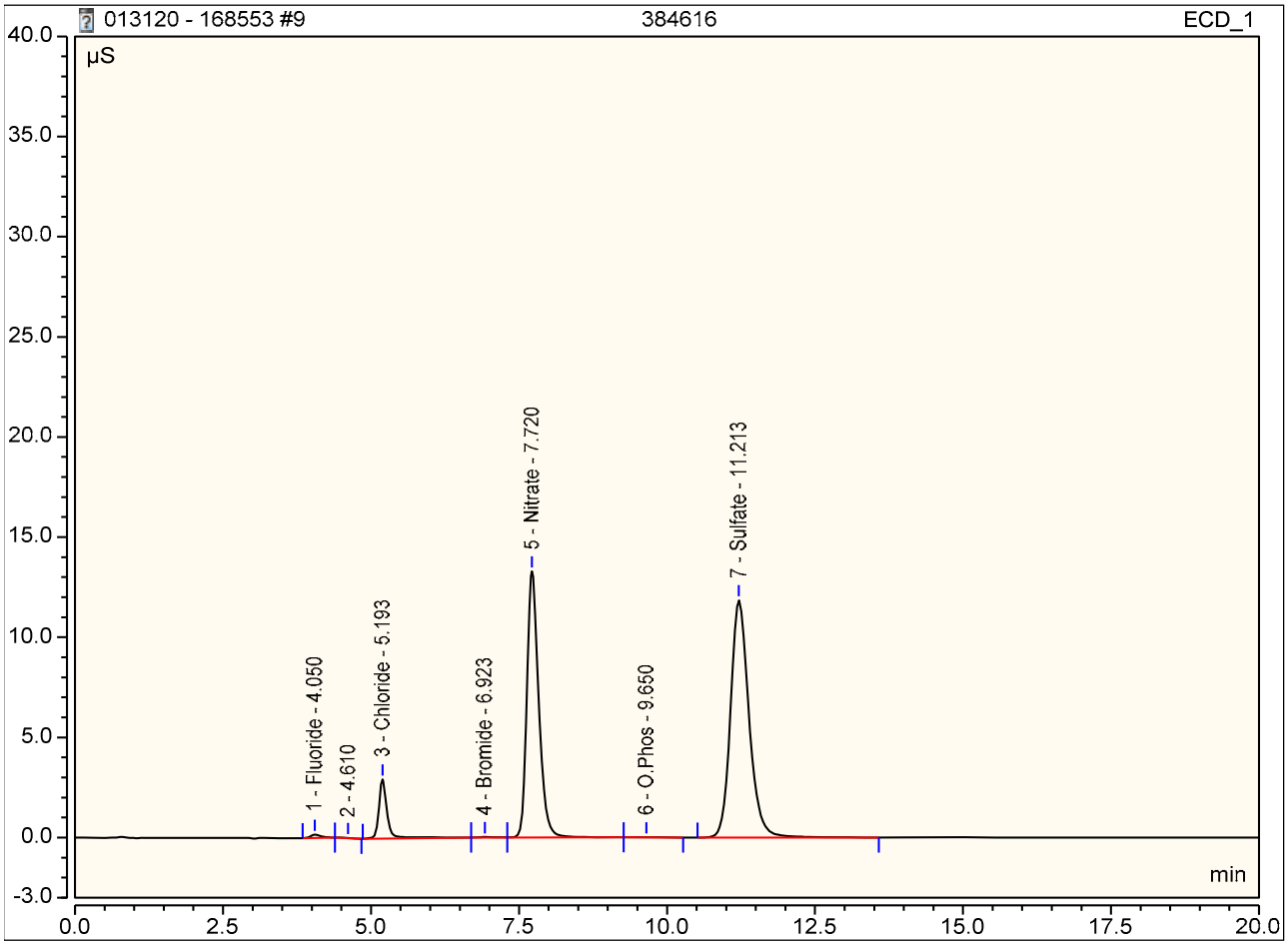
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.063	0.311	0.2385
3	5.18	Chloride	0.337	1.999	1.9230
4	6.94	Bromide	0.002	0.007	0.0286
5	7.74	Nitrate	0.345	1.443	0.7484
6	9.64	O.Phos	0.004	0.010	n.a.
7	11.22	Sulfate	0.535	1.414	4.0069



Peak Integration Report

Sample Name:	**384616**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 14:10**	*Run Time:*	**20.00**

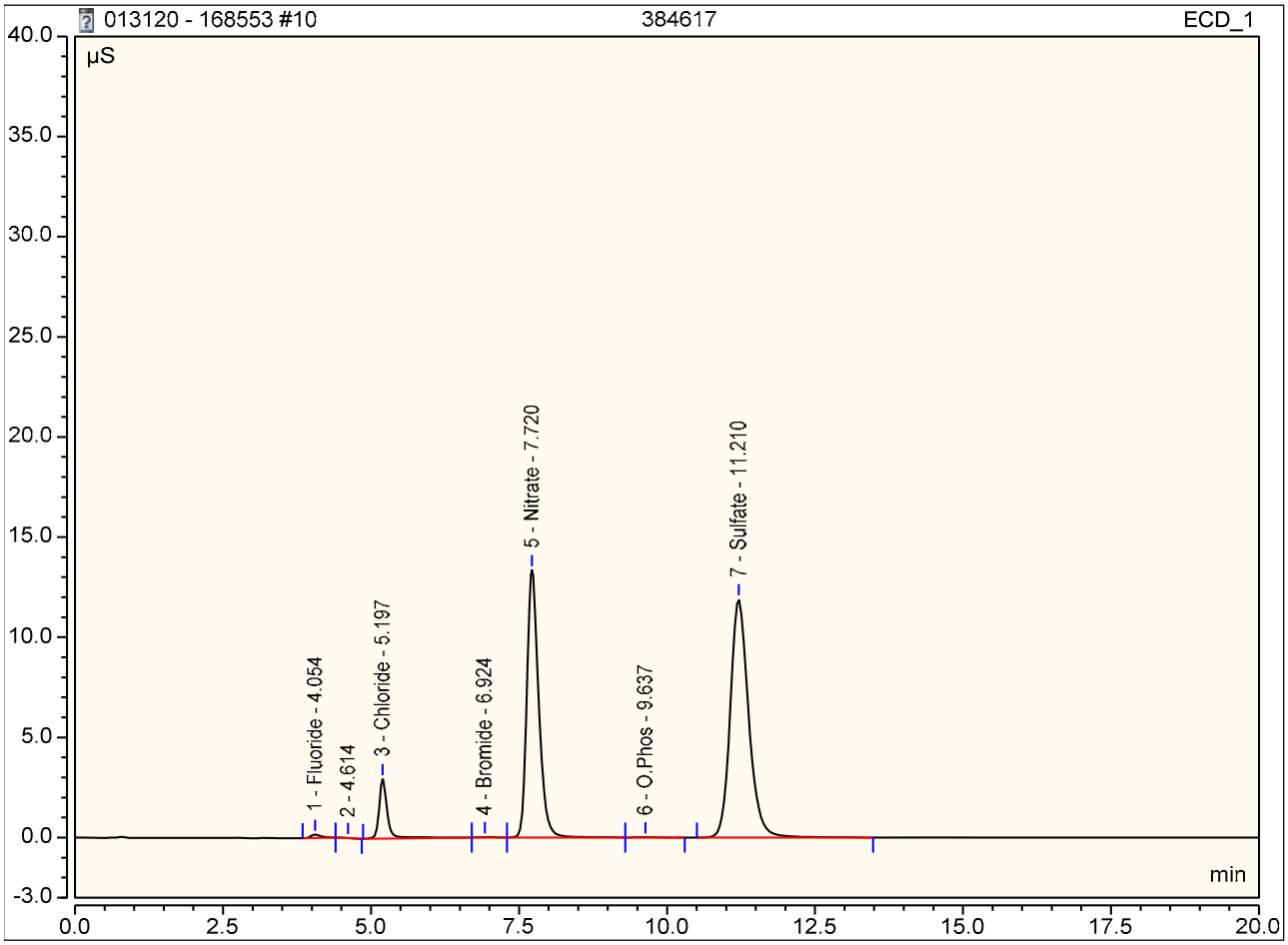
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.034	0.168	0.1315
3	5.19	Chloride	0.487	2.960	2.5692
4	6.92	Bromide	0.005	0.020	0.0591
5	7.72	Nitrate	3.069	13.284	6.1247
6	9.65	O.Phos	0.004	0.010	n.a.
7	11.21	Sulfate	4.297	11.856	27.8109



Peak Integration Report

Sample Name:	**384617**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 14:30**	*Run Time:*	**20.00**

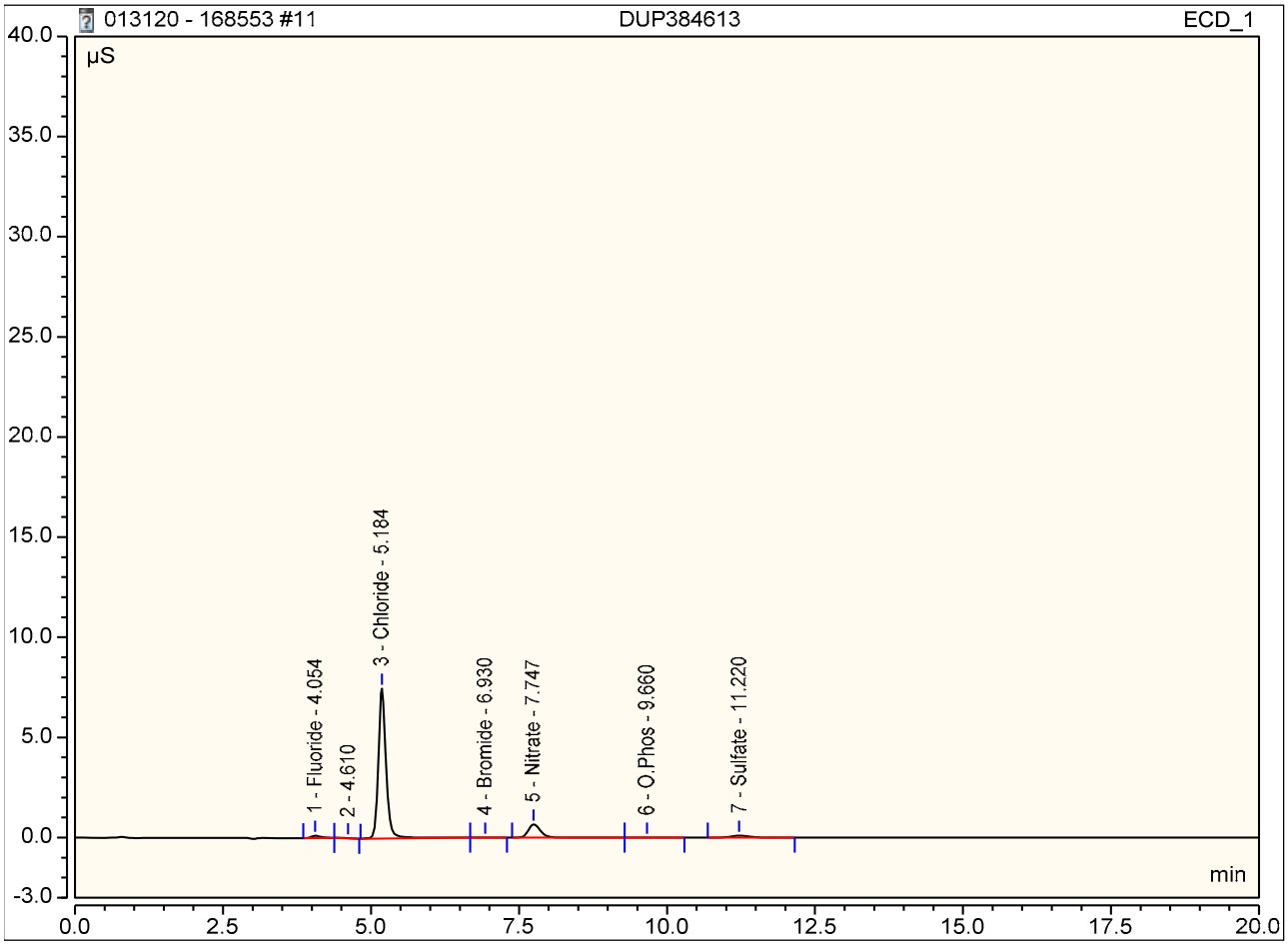
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.034	0.170	0.1323
3	5.20	Chloride	0.489	2.974	2.5776
4	6.92	Bromide	0.005	0.020	0.0605
5	7.72	Nitrate	3.082	13.351	6.1515
6	9.64	O.Phos	0.004	0.010	n.a.
7	11.21	Sulfate	4.304	11.902	27.8537



Peak Integration Report

Sample Name:	**DUP384613**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 14:50**	*Run Time:*	**20.00**

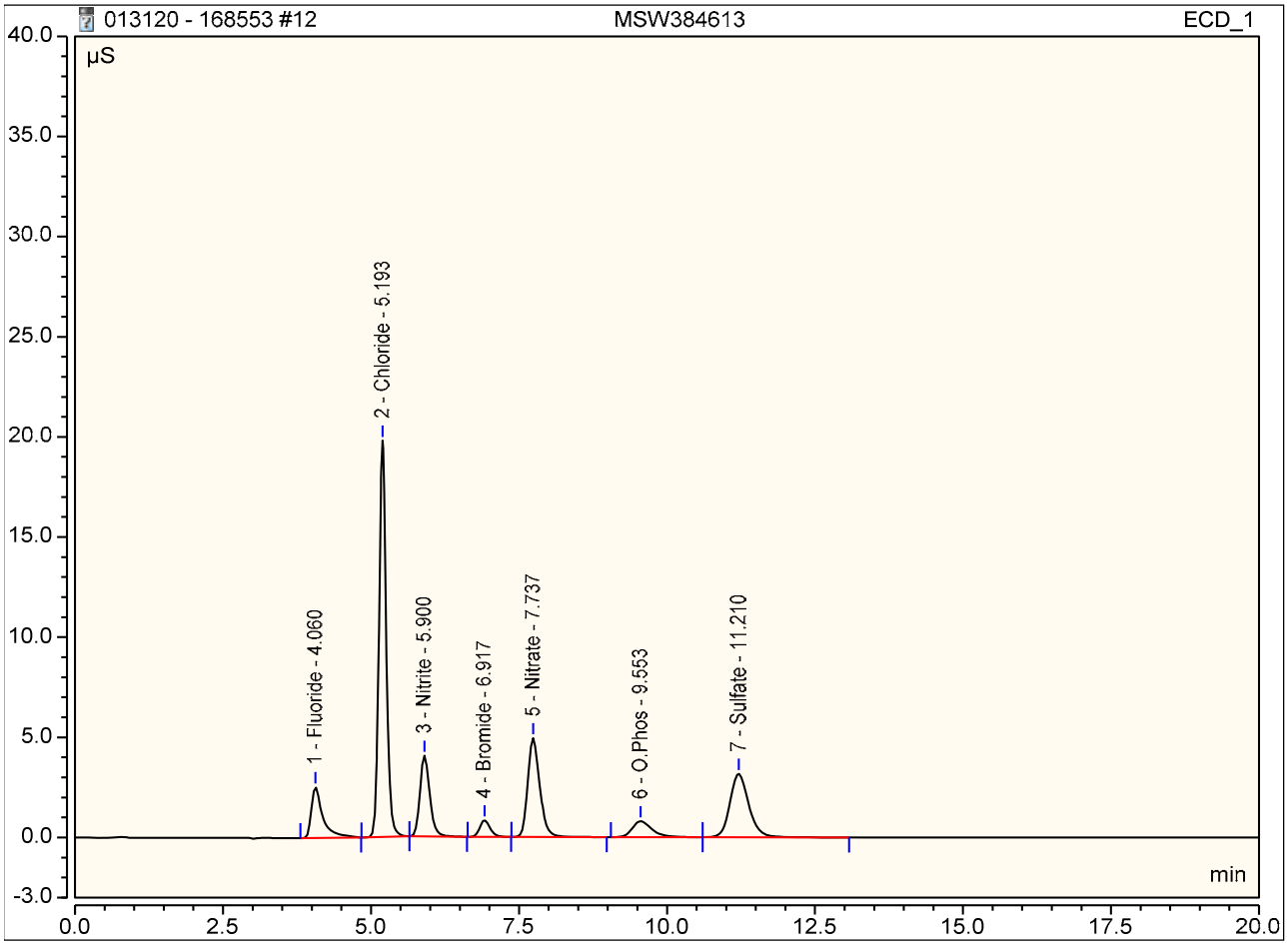
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.023	0.120	0.0925
3	5.18	Chloride	1.136	7.495	5.3669
4	6.93	Bromide	0.001	0.005	0.0187
5	7.75	Nitrate	0.160	0.662	0.3820
6	9.66	O.Phos	0.003	0.007	n.a.
7	11.22	Sulfate	0.039	0.103	0.8707



Peak Integration Report

Sample Name:	**MSW384613**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 15:10**	*Run Time:*	**20.00**

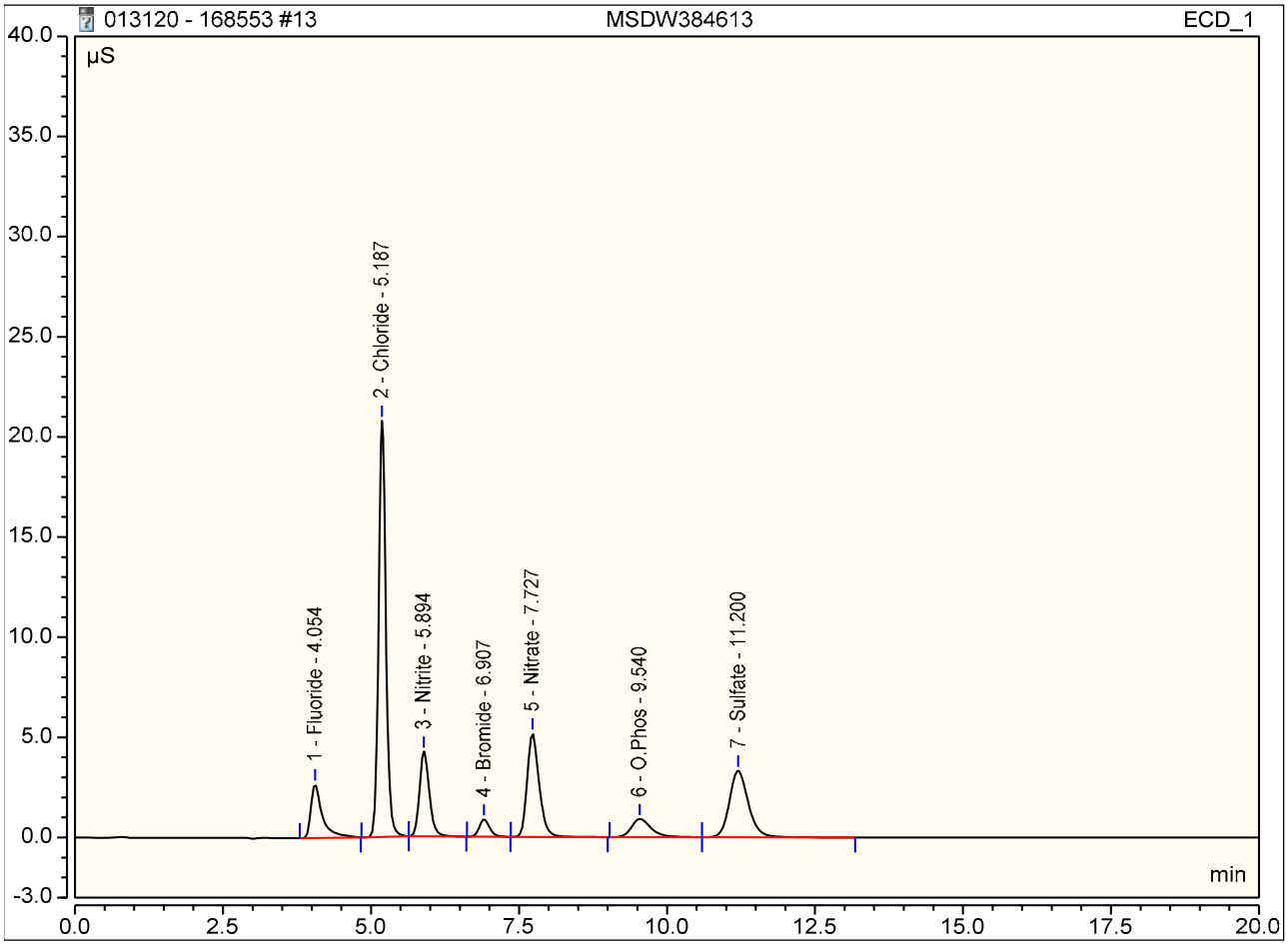
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.575	2.541	2.1387
2	5.19	Chloride	2.805	19.789	12.5553
3	5.90	Nitrite	0.779	4.036	2.1180
4	6.92	Bromide	0.169	0.830	2.1707
5	7.74	Nitrate	1.161	4.937	2.3591
6	9.55	O.Phos	0.310	0.799	1.8442
7	11.21	Sulfate	1.174	3.172	8.0505



Peak Integration Report

Sample Name:	**MSDW384613**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 15:30**	*Run Time:*	**20.00**

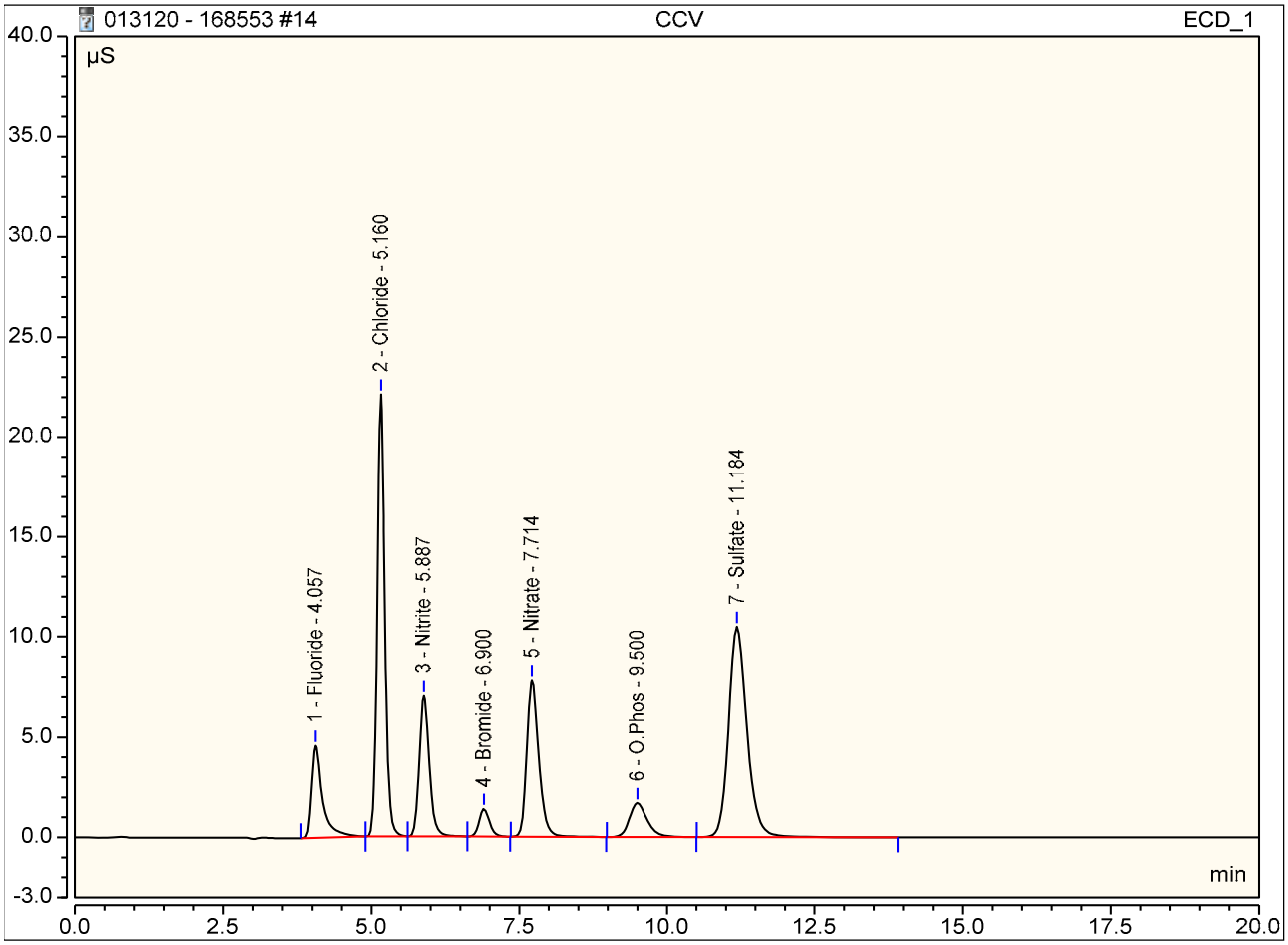
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.05	Fluoride	0.605	2.682	2.2505
2	5.19	Chloride	2.938	20.790	13.1299
3	5.89	Nitrite	0.816	4.242	2.2188
4	6.91	Bromide	0.177	0.868	2.2696
5	7.73	Nitrate	1.216	5.169	2.4666
6	9.54	O.Phos	0.353	0.914	2.1073
7	11.20	Sulfate	1.234	3.334	8.4319



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 15:50**	*Run Time:*	**20.00**

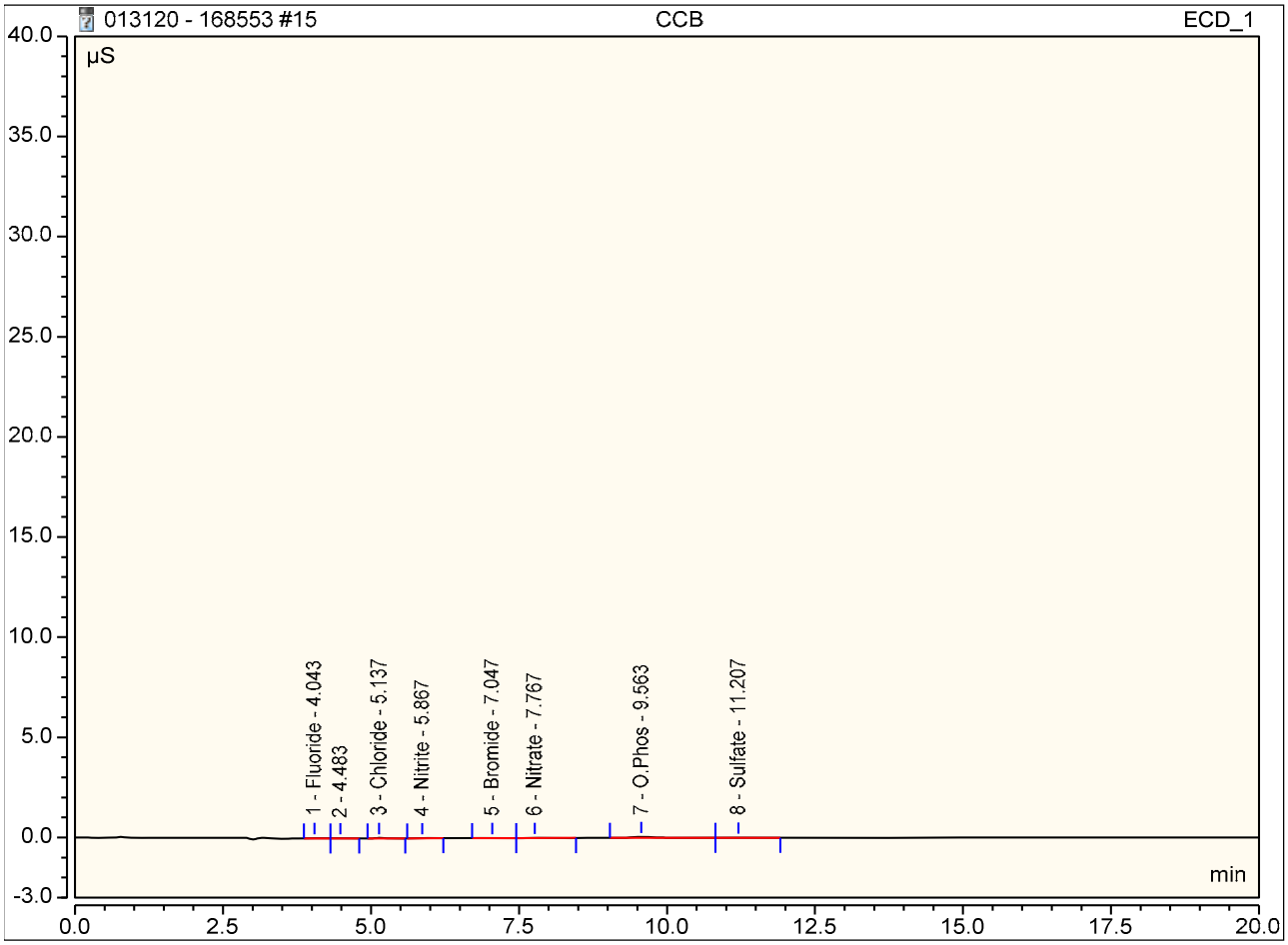
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.06	Fluoride	0.987	4.614	3.6652
2	5.16	Chloride	3.267	22.099	14.5449
3	5.89	Nitrite	1.385	7.022	3.7486
4	6.90	Bromide	0.285	1.391	3.6450
5	7.71	Nitrate	1.837	7.805	3.6926
6	9.50	O.Phos	0.593	1.702	3.5917
7	11.18	Sulfate	3.807	10.488	24.7113



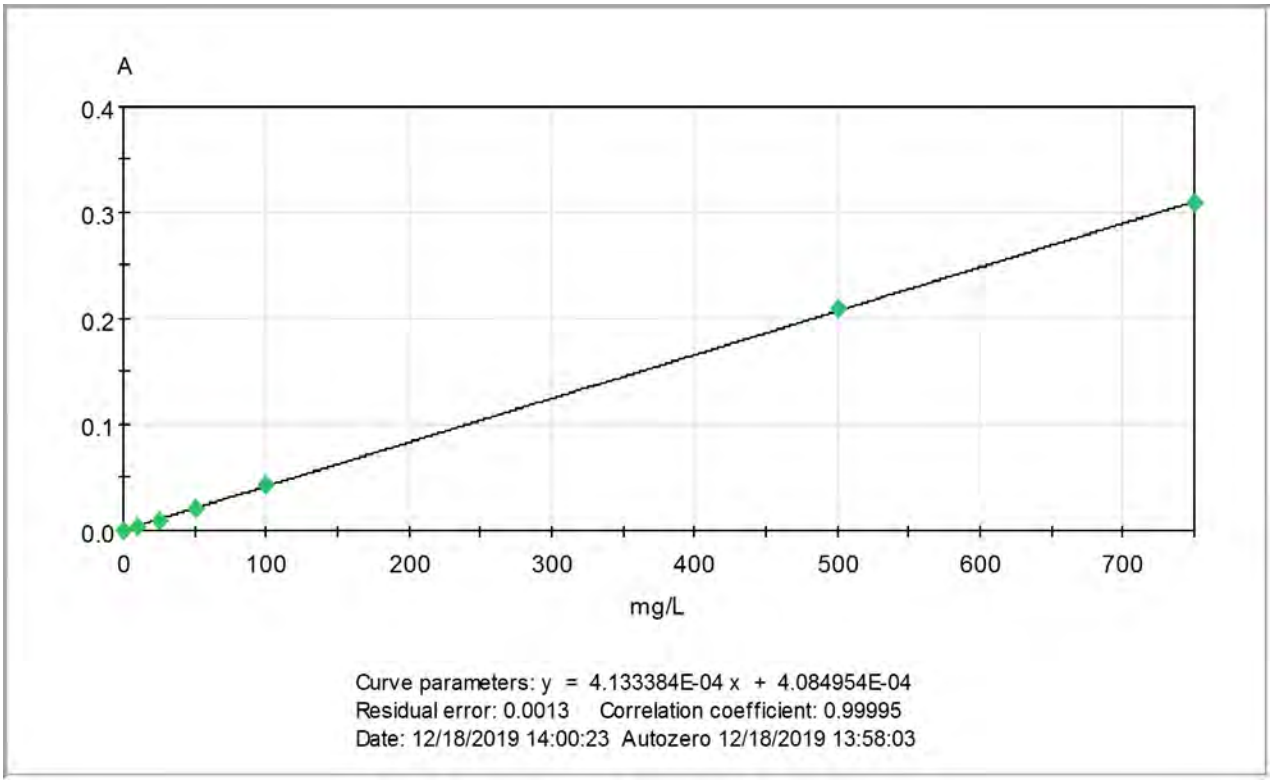
Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**31-Jan-2020 / 16:10**	*Run Time:*	**20.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.04	Fluoride	0.004	0.024	0.0226
3	5.14	Chloride	0.004	0.023	0.4884
4	5.87	Nitrite	0.002	0.012	0.0295
5	7.05	Bromide	0.003	0.010	0.0366
6	7.77	Nitrate	0.003	0.010	0.0722
7	9.56	O.Phos	0.023	0.052	0.0765
8	11.21	Sulfate	0.006	0.015	0.6589



Method: COD W47962.mqa (600 nm)
Last modified: 12/18/2019 14:02:00 by CTLABORATORIES
Spectrophotometer: GENESYS 30
Serial number: 9A1W117104
Firmware: 104
Autozero: 02/11/2020 10:21:21
Measured: 02/11/2020 10:26:48 by CTLABORATORIES
Result filename: 168726727.rqa



Sample	Dilution Factor	Ordinate [A]	Concentration [mg/L]
CCV		0.164	discarded
CCV	1	0.168	405.5
CCB	1	0.003	6.3
386855	1	0.170	410.3
386854	1	0.004	8.7
385245	1	0.008	18.4
MSW385245	1	0.078	187.7
MSDW385245	1	0.077	185.3
385274 (x200)	1	0.134	323.2
385275 (x50)	1	0.208	502.2
385281 (x100)	1	0.247	596.6
385857 (x25)	1	0.035	83.7
385992 (x50)	1	0.241	582.1
CCV	1	0.168	405.5
CCB		0.008	discarded
CCB	1	0.003	6.3

ICV	1	0.169	407.9
ICB	1	0.001	1.4

HL3 12-18-19

386860	1	0.170	410.3
386859	1	0.003	6.3
384619	1	0.055	132.1
DUP384619	1	0.055	132.1
MSW384619		0.121	discarded
MSW384619	1	0.122	294.2
MSDW384619	1	0.122	294.2
CCV	1	0.169	407.9
CCB	1	0.004	8.7

pH - Mettler Toledo Seven Easy

Date:	1-31-2020/14:45	Analyst:	RLB	Lims #:	168555	Slope (%)	98%

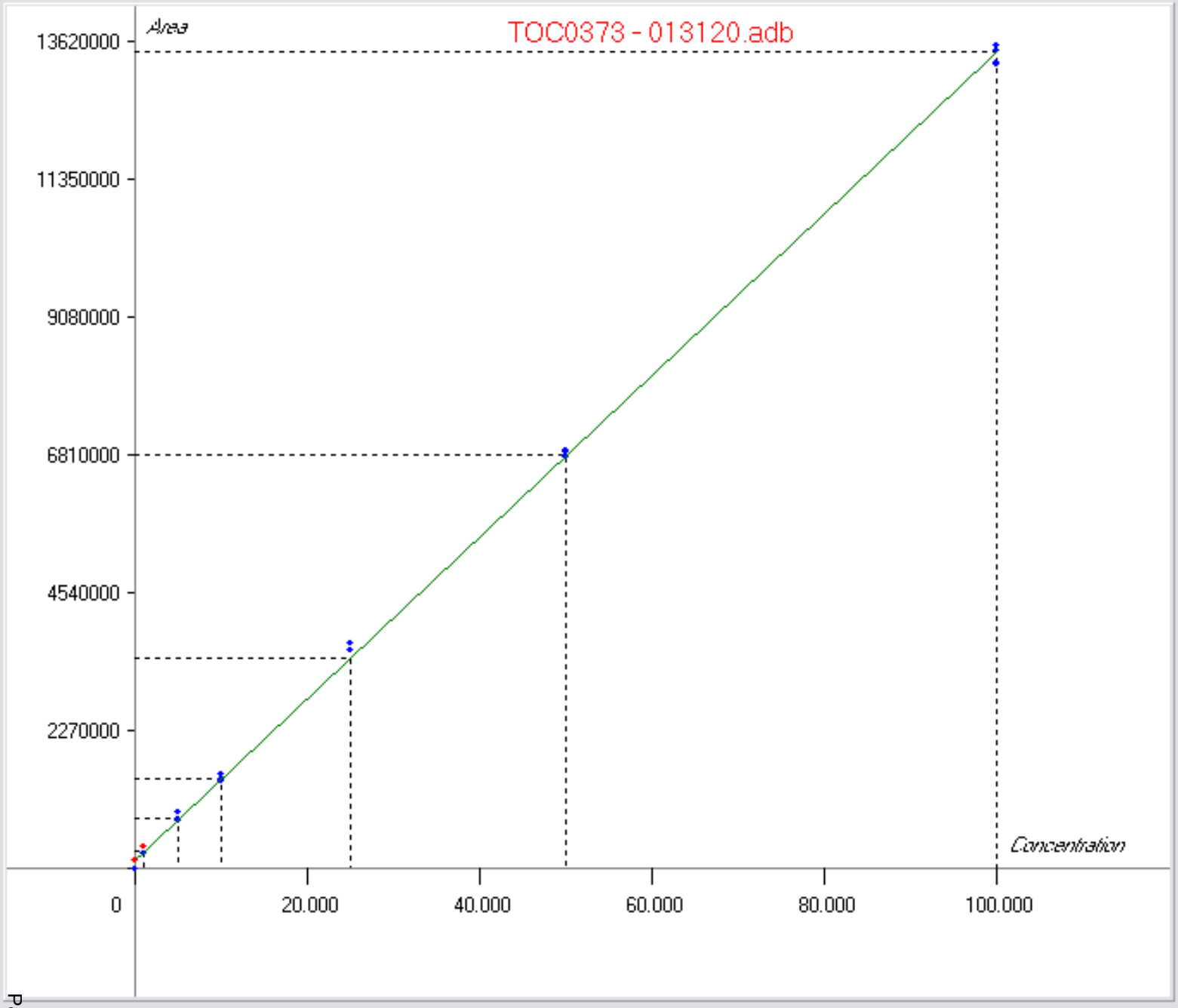
GRP	Sample ID#	Matrix	Temp (°C)*	Result	
1	BUFFER 7	QC	17.6	7.01	
2	384647	WW	15.0	7.39	
3	384682	WW	13.1	4.62	
4	384683	WW	13.0	7.11	
5	384684	WW	13.1	7.73	
6					
7					
8					
9					
10					
11	384685	WW	14.1	8.05	
dup 11	384685	WW	14.0	8.02	
12	BUFFER 7	QC	17.4	7.09	
13					
14					
15					
16					
17					
18					
19					
20					
21					
23	384619	GW	9.0	7.48	
dup 23	384619	GW	9.6	7.62	
24	BUFFER 7	QC	16.4	7.10	
25					
dup 25					
26					
dup 26					

To datacapture: Save CSV file under the TSS datacapture folder.

*Temperature of samples should be room temperature around 25°C

Buffer Standard IDs:

pH 4: WC38 pH 7: W46410 pH 10: W46764



Cursor Position

Concentration	Area
109.600 mg/l	-2043000

A2	0
A1	133104
A0	158667
Correlation	0.99970
Order	1
Volume	100 µl
Conc.	100.00
Area	13571780

☐ Confidence Intervals 95%

☐ Detection/Determination 95%

Conc.	Area	Sel.
0	151176	☐
0	0	☑
0	0	☑
0	0	☑
0	0	☑
1	375613	☐
1	277633	☑
1	265020	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

02/06/2020

Analysis Name TOC0373 - 013120.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator TMG

Date Friday, January 31, 2020
Time 13:56

Start Oven Temp. 717 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL0373 INSTRUMENT:TOCW
CCV0369 LCS0370

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Jan 31 2020, 13:56	13571780	100	1	0.99970	100 µl	Yes
	A2: 0		*A1: 133103.926642796*		*A0: 158666.501603703*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**76042**	**90.32**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 14:07:14	17.43	2478788	1	745	2	-	-
2	1 31 2020 14:11:52	0.06	166804	1	750	2	-	Yes
3	1 31 2020 14:14:34	0.00	0	0	752	2	-	Yes
4	1 31 2020 14:18:35	ZERO !	65189	1	755	2	-	Yes
5	1 31 2020 14:21:04	ZERO !	72178	1	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 14:24:28	0.06	167235	1	757	2	-	-
2	1 31 2020 14:27:40	0.00	0	0	758	2	-	Yes
3	1 31 2020 14:31:41	0.00	0	0	759	2	-	Yes
4	1 31 2020 14:35:42	0.00	0	0	760	2	-	Yes
5	1 31 2020 14:39:43	0.00	0	0	761	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	3	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 14:44:33	0.10	171521	1	760	2	-	-
2	1 31 2020 14:47:39	0.00	0	0	760	2	-	Yes
3	1 31 2020 14:51:41	0.00	0	0	761	2	-	Yes
4	1 31 2020 14:55:43	0.00	0	0	761	2	-	Yes
5	1 31 2020 14:59:44	0.00	0	0	760	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	4	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 15:04:35	0.32	201184	1	759	2	-	-
2	1 31 2020 15:07:45	0.00	0	0	758	2	-	Yes
3	1 31 2020 15:11:46	0.00	0	0	758	2	-	Yes
4	1 31 2020 15:15:48	0.00	0	0	758	2	-	Yes
5	1 31 2020 15:19:49	0.00	0	0	758	2	-	Yes

5 5 Unknown BLANK 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 15:24:39	ZERO !	157474	1	758	2	-	-
2	1 31 2020 15:27:41	0.00	0	0	758	2	-	Yes
3	1 31 2020 15:31:44	0.00	0	0	758	2	-	Yes
4	1 31 2020 15:35:45	0.00	0	0	758	2	-	Yes
5	1 31 2020 15:39:46	0.00	0	0	758	2	-	Yes

---

6 S1 Standard TC Std 0.00 mg/l 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 15:44:38	ZERO !	151176	1	758	2	-	-
2	1 31 2020 15:47:41	0.00	0	1	757	2	-	Yes
3	1 31 2020 15:51:43	0.00	0	1	757	2	-	Yes
4	1 31 2020 15:55:44	0.00	0	1	756	2	-	Yes
5	1 31 2020 15:59:45	0.00	0	1	756	2	-	Yes

---

7 S2 Standard TC Std 1.00 mg/l 1 x

TC **0.81** **266930** **2.94** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 16:04:40	1.63	375613	1	755	2	-	-
2	1 31 2020 16:07:53	0.89	277633	1	755	2	-	Yes
3	1 31 2020 16:10:18	0.80	265020	1	755	2	-	Yes
4	1 31 2020 16:12:41	0.81	266273	1	755	2	-	Yes
5	1 31 2020 16:15:08	0.75	258794	1	754	2	-	Yes

---

8 S3 Standard TC Std. 5.00 mg/l 1 x

TC **5.19** **849487** **7.42** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 16:18:29	5.89	942748	1	755	2	-	Yes
2	1 31 2020 16:21:53	5.06	831956	1	754	2	-	Yes
3	1 31 2020 16:24:32	4.94	816274	1	754	2	-	Yes
4	1 31 2020 16:27:05	4.87	806970	1	754	2	-	Yes

---

9 S4 Standard TC Std. 10.00 mg/l 1 x

TC **10.16** **1510888** **3.39** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 16:30:31	10.71	1584319	1	754	2	-	Yes
2	1 31 2020 16:33:55	10.09	1501178	1	753	2	-	Yes
3	1 31 2020 16:36:50	9.82	1465381	1	753	2	-	Yes
4	1 31 2020 16:39:31	10.02	1492677	1	753	2	-	Yes

---

10 S5 Standard TC Std. 25.00 mg/l 1 x

TC **26.20** **3645235** **1.57** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 16:43:07	26.83	3729530	1	753	2	-	Yes
2	1 31 2020 16:46:42	25.97	3614755	1	753	2	-	Yes
3	1 31 2020 16:49:38	25.89	3605344	1	753	2	-	Yes
4	1 31 2020 16:52:34	26.09	3631314	1	753	2	-	Yes

---

11 S6 Standard TC Std. 50.00 mg/l 1 x

TC **50.32** **6855722** **0.77** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 16:56:26	50.44	6871957	1	753	2	-	Yes
2	1 31 2020 17:00:04	50.81	6921508	1	753	2	-	Yes
3	1 31 2020 17:03:18	49.91	6801222	1	752	2	-	Yes
4	1 31 2020 17:06:18	50.11	6828202	1	752	2	-	Yes

---

12 S7 Standard TC Std. 100.00 mg/l 1 x

TC **99.52** **13405251** **1.11** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 17:10:13	100.77	13571780	1	752	2	-	Yes
2	1 31 2020 17:14:01	100.15	13489657	1	752	2	-	Yes
3	1 31 2020 17:17:10	98.52	13271773	1	752	2	-	Yes

4	1 31 2020 17:20:19	98.64	13287797	1	752	2	-	Yes

13	S8	Unknown	ICV - 50.00 mg/L			1 x		
		TC	**49.63**	**6765047**	**0.81**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 17:24:21	50.22	6843761	1	752	2	-	Yes
2	1 31 2020 17:28:10	49.49	6745962	1	752	2	-	Yes
3	1 31 2020 17:31:07	49.55	6753752	1	752	2	-	Yes
4	1 31 2020 17:34:15	49.27	6716716	1	752	2	-	Yes

14	S9	Unknown	ICB			1 x		
		TC	**0.00**	**0**	**0.00**		**100 µl**	
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	1 31 2020 17:38:09	0.00	159191	1	752	2	-	-
2	1 31 2020 17:41:12	0	0	0	751	2	-	Yes
3	1 31 2020 17:45:13	0	0	0	752	2	-	Yes
4	1 31 2020 17:49:15	0	0	0	752	2	-	Yes
5	1 31 2020 17:53:16	0	0	0	752	2	-	Yes

Analysis Name 020520 - 168628.adb

Template Name 020520 - 168628.tdb
Method Name N / A
Operator TMG

Date Wednesday, February 5, 2020
Time 11:48

Start Oven Temp. 696 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL0373 INSTRUMENT:TOCW
CCV 0374 LCS0375 SPIKE0359

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC0373 - 013120	Jan 31 2020, 13:56	13571780	100	1	0.99970	100 µl	Yes
	A2: 0		*A1: 133103.926642796*		*A0: 158666.501603703*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	IB	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 11:59:14	ZERO !	150094	1	724	2	-	-
2	2 5 2020 12:02:23	0	0	0	728	2	-	Yes
3	2 5 2020 12:06:25	0	0	0	734	2	-	Yes
4	2 5 2020 12:10:27	0	0	0	739	2	-	Yes
5	2 5 2020 12:14:28	0	0	0	743	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	S1	Unknown	CCV	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**50.18**	**6838281**	**1.12**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 12:19:19	50.31	6855404	1	748	2	-	Yes
2	2 5 2020 12:23:02	50.93	6938206	1	750	2	-	Yes
3	2 5 2020 12:26:17	49.86	6795030	1	751	2	-	Yes
4	2 5 2020 12:29:14	49.63	6764484	1	752	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	S5	Unknown	LCSW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**49.14**	**6699687**	**0.28**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 12:33:06	49.20	6707909	1	754	2	-	Yes
2	2 5 2020 12:36:45	49.30	6720617	1	755	2	-	Yes
3	2 5 2020 12:39:45	48.97	6676660	1	755	2	-	Yes
4	2 5 2020 12:42:51	49.10	6693563	1	756	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	2	Unknown	MBW	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 12:46:41	0	0	0	757	2	-	Yes
2	2 5 2020 12:51:18	0	0	0	758	2	-	Yes
3	2 5 2020 12:55:19	0	0	0	758	2	-	Yes
4	2 5 2020 12:59:20	0	0	0	759	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	3	Unknown	383696	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 13:04:12	ZERO !	86254	1	759	2	-	-
2	2 5 2020 13:07:09	0	0	0	758	2	-	Yes
3	2 5 2020 13:11:10	0	0	0	758	2	-	Yes
4	2 5 2020 13:15:12	0	0	0	758	2	-	Yes
5	2 5 2020 13:19:13	0	0	0	758	2	-	Yes

6 4 Unknown 383697 1 x

TC **ZERO !** **114746** **40.58** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 13:24:04	0.19	184030	1	759	2	-	Yes
2	2 5 2020 13:27:13	ZERO !	99482	1	758	2	-	Yes
3	2 5 2020 13:29:33	ZERO !	90349	1	758	2	-	Yes
4	2 5 2020 13:31:50	ZERO !	85124	1	757	2	-	Yes
5	2 5 2020 13:34:04	0	0	0	757	2	-	-

7 5 Unknown 383698 1 x

TC **ZERO !** **56836** **132.13** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 13:38:55	ZERO !	158374	1	757	2	-	Yes
2	2 5 2020 13:42:06	ZERO !	68972	1	756	2	-	Yes
3	2 5 2020 13:44:24	0	0	0	756	2	-	Yes
4	2 5 2020 13:48:26	0	0	0	756	2	-	Yes
5	2 5 2020 13:52:27	0	0	0	756	2	-	-

8 6 Unknown 383699 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 13:57:20	ZERO !	134500	1	756	2	-	-
2	2 5 2020 14:00:23	0	0	0	756	2	-	Yes
3	2 5 2020 14:04:24	0	0	0	755	2	-	Yes
4	2 5 2020 14:08:25	0	0	0	755	2	-	Yes
5	2 5 2020 14:12:27	0	0	0	756	2	-	Yes

9 7 Unknown 383700 1 x

TC **ZERO !** **46768** **119.69** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 14:17:19	ZERO !	111583	1	756	2	-	Yes
2	2 5 2020 14:20:22	0	0	0	756	2	-	Yes
3	2 5 2020 14:24:23	ZERO !	75491	1	755	2	-	Yes
4	2 5 2020 14:26:42	0	0	0	755	2	-	Yes
5	2 5 2020 14:30:43	0	0	0	755	2	-	-

10 8 Unknown 383701 1 x

TC **ZERO !** **133938** **17.23** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 14:35:35	0.07	168036	1	755	2	-	Yes
2	2 5 2020 14:38:37	ZERO !	117004	1	755	2	-	Yes
3	2 5 2020 14:40:51	ZERO !	124665	1	754	2	-	Yes
4	2 5 2020 14:43:09	ZERO !	126049	1	754	2	-	Yes
5	2 5 2020 14:45:29	0	0	0	754	2	-	-

11 9 Unknown 384094 1 x

TC **0.88** **274891** **5.95** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 14:50:21	1.05	298119	1	754	2	-	Yes
2	2 5 2020 14:53:25	0.76	259680	1	754	2	-	Yes
3	2 5 2020 14:55:54	0.85	271526	1	753	2	-	Yes
4	2 5 2020 14:58:19	0.84	270242	1	753	2	-	Yes

12 10 Unknown 384095 1 x

TC **ZERO !** **82947** **79.61** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 15:01:34	0.02	161642	1	754	2	-	Yes
2	2 5 2020 15:04:43	ZERO !	85557	1	753	2	-	Yes

3	2 5 2020 15:07:01	0	0	0	753	2	-	Yes
4	2 5 2020 15:11:03	ZERO !	84592	1	753	2	-	Yes
5	2 5 2020 15:13:19	0	0	0	753	2	-	-

13 11 Unknown 384096 1 x

TC	ZERO !	92523	7.99		100 µl	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 15:18:12	ZERO !	128880	1	753	2	-	-
2	2 5 2020 15:21:07	ZERO !	101196	1	753	2	-	Yes
3	2 5 2020 15:23:26	ZERO !	96067	1	752	2	-	Yes
4	2 5 2020 15:25:40	ZERO !	87294	1	752	2	-	Yes
5	2 5 2020 15:27:58	ZERO !	85536	1	752	2	-	Yes

14 12 Unknown DUP384096 1 x

TC	ZERO !	73754	68.35		100 µl	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 15:31:09	ZERO !	105229	1	753	2	-	Yes
2	2 5 2020 15:34:07	0	0	0	752	2	-	Yes
3	2 5 2020 15:38:10	ZERO !	107133	1	753	2	-	Yes
4	2 5 2020 15:40:34	ZERO !	82655	1	752	2	-	Yes
5	2 5 2020 15:42:46	0	0	0	752	2	-	-

15 S1 Unknown CCV 1 x

TC	49.81	6788539	0.63		100 µl	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 15:47:38	49.61	6761738	1	752	2	-	Yes
2	2 5 2020 15:51:20	49.52	6749870	1	752	2	-	Yes
3	2 5 2020 15:54:20	49.88	6797426	1	752	2	-	Yes
4	2 5 2020 15:57:30	50.23	6845123	1	752	2	-	Yes

16 13 Unknown CCB 1 x

TC	0.00	0	0.00		100 µl	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 16:01:36	0	0	0	752	2	-	Yes
2	2 5 2020 16:06:14	0	0	0	752	2	-	Yes
3	2 5 2020 16:10:15	0	0	0	752	2	-	Yes
4	2 5 2020 16:14:16	0	0	0	752	2	-	Yes

17 14 Unknown MSW384096 1 x

TC	49.48	6743739	1.10		100 µl	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 16:19:09	50.15	6833742	1	752	2	-	Yes
2	2 5 2020 16:22:48	49.31	6721519	1	752	2	-	Yes
3	2 5 2020 16:25:40	48.82	6656958	1	752	2	-	Yes
4	2 5 2020 16:28:33	49.62	6762738	1	752	2	-	Yes

18 15 Unknown MSDW384096 1 x

TC	49.87	6796600	0.30		100 µl	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 16:32:24	49.86	6794764	1	752	2	-	Yes
2	2 5 2020 16:35:57	50.07	6823391	1	752	2	-	Yes
3	2 5 2020 16:38:57	49.86	6794627	1	752	2	-	Yes
4	2 5 2020 16:41:54	49.70	6773620	1	752	2	-	Yes

19 16 Unknown 384097 1 x

TC	ZERO !	35808	115.57		100 µl	

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 16:45:49	ZERO !	69506	1	752	2	-	Yes
2	2 5 2020 16:48:43	0	0	0	751	2	-	Yes
3	2 5 2020 16:52:44	ZERO !	73729	1	752	2	-	Yes
4	2 5 2020 16:55:00	0	0	0	752	2	-	Yes
5	2 5 2020 16:59:01	0	0	0	752	2	-	-

20 17 Unknown 384098 1 x

		TC	**0.00**	**0**		**0.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	2 5 2020 17:03:54	ZERO !	75826	1	752	2	-	-
	2	2 5 2020 17:06:52	0	0	0	752	2	-	Yes
	3	2 5 2020 17:10:53	0	0	0	752	2	-	Yes
	4	2 5 2020 17:14:55	0	0	0	752	2	-	Yes
	5	2 5 2020 17:18:56	0	0	0	752	2	-	Yes

21	18	Unknown	384099					1 x	
		TC	**ZERO !**	**96614**		**13.06**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	2 5 2020 17:23:50	ZERO !	153750	1	752	2	-	-
	2	2 5 2020 17:26:56	ZERO !	97222	1	751	2	-	Yes
	3	2 5 2020 17:29:15	ZERO !	112472	1	751	2	-	Yes
	4	2 5 2020 17:31:34	ZERO !	81653	1	751	2	-	Yes
	5	2 5 2020 17:33:56	ZERO !	95111	1	751	2	-	Yes

22	19	Unknown	384610					1 x	
		TC	**ZERO !**	**43501**		**117.18**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	2 5 2020 17:37:07	ZERO !	97623	1	751	2	-	Yes
	2	2 5 2020 17:39:59	0	0	0	751	2	-	Yes
	3	2 5 2020 17:44:00	ZERO !	76384	1	752	2	-	Yes
	4	2 5 2020 17:46:17	0	0	0	751	2	-	Yes
	5	2 5 2020 17:50:18	0	0	0	752	2	-	-

23	20	Unknown	384613					1 x	
		TC	**ZERO !**	**155185**		**16.99**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	2 5 2020 17:55:12	0.24	190141	1	752	2	-	Yes
	2	2 5 2020 17:58:12	ZERO !	142831	1	751	2	-	Yes
	3	2 5 2020 18:00:30	ZERO !	128782	1	752	2	-	Yes
	4	2 5 2020 18:02:47	0.00	158989	1	751	2	-	Yes
	5	2 5 2020 18:05:08	0	0	0	751	2	-	-

24	21	Unknown	384614					1 x	
		TC	**0.00**	**0**		**0.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	2 5 2020 18:10:02	ZERO !	120968	1	752	2	-	-
	2	2 5 2020 18:13:00	0	0	0	751	2	-	Yes
	3	2 5 2020 18:17:00	0	0	0	752	2	-	Yes
	4	2 5 2020 18:21:01	0	0	0	752	2	-	Yes
	5	2 5 2020 18:25:03	0	0	0	752	2	-	Yes

25	22	Unknown	384615					1 x	
		TC	**ZERO !**	**159501**		**5.94**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	2 5 2020 18:29:57	0.11	173610	1	752	2	-	Yes
	2	2 5 2020 18:33:01	ZERO !	153501	1	751	2	-	Yes
	3	2 5 2020 18:35:21	ZERO !	156276	1	751	2	-	Yes
	4	2 5 2020 18:37:41	ZERO !	154617	1	750	2	-	Yes

26	23	Unknown	384616					1 x	
		TC	**ZERO !**	**165535**		**12.00**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	2 5 2020 18:41:04	0.27	194783	1	750	2	-	Yes
	2	2 5 2020 18:44:07	0.01	159784	1	750	2	-	Yes
	3	2 5 2020 18:46:28	ZERO !	150753	1	750	2	-	Yes
	4	2 5 2020 18:48:53	ZERO !	156821	1	749	2	-	Yes
	5	2 5 2020 18:51:23	ZERO !	97194	1	749	2	-	-

27	S1	Unknown	CCV					1 x	
		TC	**50.56**	**6889179**		**0.74**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.

1	2 5 2020 18:54:33	50.50	6881005	1	749	2	-	Yes
2	2 5 2020 18:58:24	50.18	6837341	1	749	2	-	Yes
3	2 5 2020 19:01:24	51.10	6959993	1	749	2	-	Yes
4	2 5 2020 19:04:21	50.48	6878378	1	749	2	-	Yes

28 24 Unknown CCB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 19:08:16	0	0	0	750	2	-	Yes
2	2 5 2020 19:12:53	0	0	0	751	2	-	Yes
3	2 5 2020 19:16:54	0	0	0	751	2	-	Yes
4	2 5 2020 19:20:55	0	0	0	751	2	-	Yes

29 25 Unknown 384617 1 x

TC **ZERO !** **159152** **11.05** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 19:25:47	0.18	182401	1	752	2	-	Yes
2	2 5 2020 19:28:48	ZERO !	157046	1	752	2	-	Yes
3	2 5 2020 19:31:09	ZERO !	139643	1	752	2	-	Yes
4	2 5 2020 19:33:27	ZERO !	157520	1	751	2	-	Yes
5	2 5 2020 19:35:52	0	0	0	752	2	-	-

30 S2 Unknown CCV 1 x

TC **51.10** **6959804** **0.61** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 19:40:45	51.56	7021777	1	753	2	-	Yes
2	2 5 2020 19:44:46	50.87	6929655	1	753	2	-	Yes
3	2 5 2020 19:47:45	50.92	6936102	1	753	2	-	Yes
4	2 5 2020 19:50:52	51.04	6951685	1	753	2	-	Yes

31 26 Unknown CCB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	2 5 2020 19:54:50	0	0	0	753	2	-	Yes
2	2 5 2020 19:59:28	0	0	0	753	2	-	Yes
3	2 5 2020 20:03:29	0	0	0	753	2	-	Yes
4	2 5 2020 20:07:32	0	0	0	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
168488 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	387268						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	387269						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	384121						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	384120						WANIONS IC QSM 5.0				
		Sulfate		LCSW				0			
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
	384119						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168488 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151051	383696		01/28/2020	0910	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
151051	383697		01/28/2020	1310	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
151051	383698		01/28/2020	1400	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
151051	383699		01/28/2020	1440	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
151051	383700		01/28/2020	1440	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168488 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151051	383701		01/28/2020	1530		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	384131		01/28/2020	0910				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	383696			0			
		Chloride			DUP	383696			0			
		Sulfate			DUP	383696			0			
	384130							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	384129							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
	384128		01/28/2020	0910				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	383696			0			
		Chloride			MSW	383696			0			
		Sulfate			MSW	383696			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168488 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	384237		01/28/2020 0910				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 384128							
		Chloride		MSDW 384128							
		Sulfate		MSDW 384128							
	384127						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	384126						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
	384125						WANIONS IC QSM 5.0				
		Sulfate		CCV				0			
	384124						WANIONS IC QSM 5.0				
		Sulfate		CCB				0			
151051	383699		01/28/2020 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168488 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151051	383700		01/28/2020 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	384123						WANIONS IC QSM 5.0				
		Sulfate		CCV				0			
	384122						WANIONS IC QSM 5.0				
		Sulfate		CCB				0			

64

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: Aquion - System 4

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
168488 168489	01/29/2020	TMG	RLD	01/31/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If No: Affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If No: Affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

WANIONS IC QSM 5.0 Analytical Run
168532 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	385004						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	385003						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	385002						WANIONS IC QSM 5.0				
		Sulfate		MBW				0			
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
	385001						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	385000						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168532 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151081	384094		01/29/2020 0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
151081	384095		01/29/2020 1120		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
151081	384096		01/29/2020 1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride		*							
		Nitrate Nitrogen		*							
		Sulfate		*							
	384999		01/29/2020 1200				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		DUP	384096			0			
		Chloride		DUP	384096			0			
		Sulfate		DUP	384096			0			
	384998		01/29/2020 1200				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSW	384096			0			
		Chloride		MSW	384096			0			
		Sulfate		MSW	384096			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168532 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	385577		01/29/2020	1200				ANIONS IC QSM 5.0				
		Sulfate			MSDW 384998							
		Chloride			MSDW 384998							
		Nitrate Nitrogen			MSDW 384998							
151081	384097		01/29/2020	1420		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
151081	384098		01/29/2020	1435		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
151081	384099		01/29/2020	1540		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	384997							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168532 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	384996						WANIONS IC QSM 5.0				
		Sulfate		CCB				0			
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
	384995						WANIONS IC QSM 5.0				
		Sulfate		CCV				0			
	384994						WANIONS IC QSM 5.0				
		Sulfate		CCB				0			
151081	384094		01/29/2020 0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
151081	384095		01/29/2020 1120		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	384993						WANIONS IC QSM 5.0				
		Sulfate		CCV				0			
	384992						WANIONS IC QSM 5.0				
		Sulfate		CCB				0			

58

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: Aquion - System 4

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
168531 168532	01/30/2020	TMG	RLD	02/05/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If No: Affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If No: Affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

WANIONS IC QSM 5.0 Analytical Run
168553 on 02/05/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	384980							WANIONS IC QSM 5.0				
		Chloride			CCV				0			
		Sulfate			CCV				0			
		Nitrate Nitrogen			CCV				0			
	384979							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	384978							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
151102	384610		01/30/2020	0915		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
151102	384613		01/30/2020	1045		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168553 on 02/05/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151102	384614		01/30/2020	1355		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
151102	384615		01/30/2020	1505		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
151102	384616		01/30/2020	1555		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
151102	384617		01/30/2020	1555		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	384984		01/30/2020	1045				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	384613			0			
		Chloride			DUP	384613			0			
		Sulfate			DUP	384613			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
168553 on 02/05/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	384983		01/30/2020 1045				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSW 384613				0			
		Chloride		MSW 384613				0			
		Sulfate		MSW 384613				0			
	385602		01/30/2020 1045				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 384983							
		Chloride		MSDW 384983							
		Sulfate		MSDW 384983							
	384982						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	384981						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

42

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: Aquion - System 4

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
168553	01/31/2020	TMG	RLD	02/05/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If No: Affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If No: Affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

Aquion Run Log - System 4

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	CCV ID's	LCS ID's	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
01/10/20	11:28	01/13/20	09:40	TMG	168060 168061	IC2732A	011020 -	IC2817 IC2820	IC2818 IC2821	IC2819 IC2822	23.23	810	0.97		
01/14/20	13:02	01/15/20	09:51	TMG	168138 168139	IC2732A	011420 -	IC2817 IC2820	IC2818 IC2821	IC2819 IC2822	22.82	810	0.97		
01/15/20	11:57	01/23/20	10:01	TMG	168169 168171	IC2732A	011520 -	IC2817 IC2820	IC2818 IC2821	IC2819 IC2822	22.25	810	0.97		
01/16/20	12:51	01/17/20	09:47	TMG	168204 168209	IC2732A	011620 -	IC2825 IC2828	IC2826 IC2829	IC2827 IC2830	22.27	811	0.97		
01/17/20	12:30	01/21/20	16:43	TMG	168231 168232 168233	IC2732A	011720 -	IC2825 IC2828	IC2826 IC2829	IC2827 IC2830	21.76	815	0.97		
01/18/20	13:44	01/18/20	18:25	TMG	168241	IC2732A	011820 -	IC2825 IC2828	IC2826 IC2829	IC2827 IC2830	21.51	821	0.97		
01/21/20	10:36	01/21/20	13:19	TMG	168300	IC2732A	012120 -	IC2825 IC2828	IC2826 IC2829	IC2827 IC2830	21.3	817	0.97		
01/22/20	12:21	01/22/20	18:22	TMG	168318 168319	IC2732A	012220 -	IC2825 IC2831	IC2826 IC2832	IC2827 IC2833	21.6	810	0.97		
01/23/20	12:55	01/23/20	17:35	TMG	168347 168349	IC2732A	012320 -	IC2834 IC2837	IC2835 IC2838	IC2836 IC2839	21.56	812	0.97		
01/25/20	13:57	01/25/20	18:17	DGS	168414	IC2732A	012520 -	IC2834 IC2837	IC2835 IC2838	IC2836 IC2839	21.42	815	0.97		
01/28/20	12:12	01/29/20	10:09	TMG	168460 168473	IC2732A	012820 -	IC2834 IC2837	IC2835 IC2838	IC2836 IC2839	21.54	813	0.97		
01/29/20	12:59	01/30/20	10:01	TMG	168488 168489	IC2732A	012920 -	IC2834 IC2837	IC2835 IC2838	IC2836 IC2839	21.6	810	0.97		
01/30/20	12:59	01/31/20	09:43	TMG	168531 168532	IC2732A	013020 -	IC2842 IC2845	IC2843 IC2846	IC2844 IC2847	21.58	817	0.97		
01/31/20	11:00	01/31/20	16:10	TMG	168553	IC2732A	013120 -	IC2842 IC2845	IC2843 IC2846	IC2844 IC2847	21.64	819	0.97		

LPVO3_07_IC

IC-Volatiles Standards Prep Logbook

Logbook Created: 02/18/2019

NOTEBOOK VIEW: LTN_LPVO3_07_IC_Default, NOTEBOOK: LPVO3_07_IC, PAGE: 139
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 021020

Standard Log #:	IC2861	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	02/10/2020	Expiration Date:	02/11/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2862	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	02/10/2020	Expiration Date:	02/11/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2863	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4

Prep Date:	02/10/2020	Expiration Date:	02/11/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2864	Standard:	IC Eluent Dionex
Analyst:	TMG	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	02/10/2020	Expiration Date (1 Year):	02/10/2021
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC2630 and brought to volume with Milli-Q DI H_20.		

1

CT Laboratories, LLC

Standard Log #:	IC2842	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	01/30/2020	Expiration Date:	02/06/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2791) , and 25 ml 1000 mg/L Sulfate (IC2840), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2843	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	01/30/2020	Expiration Date:	02/06/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2844	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	01/30/2020	Expiration Date:	02/06/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2791) and 1000mg/L Sulfate (IC2840), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2845	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2846	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2847	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2848	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/30/2020	Expiration Date (48 Hours):	02/01/2020

Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2650 and brought to volume with Milli-Q DI H_20.

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2848	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2791	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2840	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2850	Standard/Reagent:	Analytical Column
Analyst:	TMG	Final Concentration:	NA
Prep Date:	01/30/2020	Expiration Date:	NA
Prep:	Serial #: 191205322 Lot#: 01914189		

Standard Log #:	IC2851	Standard/Reagent:	Guard Column
Analyst:	TMG	Final Concentration:	NA

Prep Date:	01/30/2020	Expiration Date:	NA
Prep:	Serial #: 191203132 Lot#: 01914183		

Standard Log #:	IC2834	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	01/23/2020	Expiration Date:	01/30/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2791) , and 25 ml 1000 mg/L Sulfate (IC2840), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2835	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	01/23/2020	Expiration Date:	01/30/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2836	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	01/23/2020	Expiration Date:	01/30/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2791) and 1000mg/L Sulfate (IC2840), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2837	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	01/23/2020	Expiration Date:	01/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2838	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/23/2020	Expiration Date:	01/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2839	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/23/2020	Expiration Date:	01/24/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2840	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L SO4
Prep Date:	01/23/2020	Expiration Date:	01/23/2021

Prep:	CAT#: 250-220-701 LOT#:S190913029 exp:01/23/2021

Standard Log #:	IC2841	Standard/Reagent:	Sodium Bicarbonate
Analyst:	TMG	Final Concentration:	na
Prep Date:	01/23/2020	Expiration Date:	05/01/23
Prep:	Rec.11/26/2019 Retest:05/01/2023		

Standard Log #:	IC2831	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	01/22/2020	Expiration Date:	01/23/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2832	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/22/2020	Expiration Date:	01/23/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2833	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/22/2020	Expiration Date:	01/23/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2825	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	01/16/2020	Expiration Date:	01/23/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2791) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2826	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3, PO4 30n
Prep Date:	01/16/2020	Expiration Date:	01/23/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2827	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	01/16/2020	Expiration Date:	01/23/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2791) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2828	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	01/16/2020	Expiration Date:	01/17/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2829	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/16/2020	Expiration Date:	01/17/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2830	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/16/2020	Expiration Date:	01/17/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2817	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	01/09/2020	Expiration Date:	01/16/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2791) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2818	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	01/09/2020	Expiration Date:	01/16/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2819	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	01/09/2020	Expiration Date:	01/16/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2791) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2820	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	01/09/2020	Expiration Date:	01/10/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2821	Standard/Reagent:	LCSW NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/09/2020	Expiration Date:	01/10/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2822	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/09/2020	Expiration Date:	01/10/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2823	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/09/2020	Expiration Date (48 Hours):	01/11/2020

Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2650 and brought to volume with Milli-Q DI H_20.

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2823	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2791	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2733	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2804	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	01/06/2020	Expiration Date:	01/07/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2805	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/06/2020	Expiration Date:	01/07/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2806	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/06/2020	Expiration Date:	01/07/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2807	Standard/Reagent:	AQUION ELUENT
Analyst:	TMG	Final Concentration:	4.5nM CARB

Prep Date:	01/06/2020	Expiration Date:	01/06/2021
Prep:	Into a 20L carboy, pipetted 100mL of Aquion Eluent Concentrate(IC2291) and brought to volume with Milli-Q Di water.		

Standard Log #:	IC2808	Standard/Reagent:	HEX ELUENT
Analyst:	TMG	Final Concentration:	250mM Ammonioum Sulfate
Prep Date:	01/06/2020	Expiration Date:	01/11/2020
Prep:	Dissolve 66g of ammonium sulfate(IC2280) into 1L of DI water and add 13mL of 29% ammonium hydroxide solution(W26415). Dilute to 2.0L with DI water.		

Standard Log #:	IC2809	Standard/Reagent:	HEX PCR
Analyst:	TMG	Final Concentration:	2mM Diphenylcarbazide/10%
Prep Date:	01/06/2020	Expiration Date:	01/11/20200
Prep:	Add 28mL of 98% sulfuric acid to 500mL of DI water in a 1L flask. In a 100mL flaks add 0.5mL of 1,5-diphenylcarbazide(W38500) to 75mL of methanol and sonicate to dissolve. Bring to volume with methanol and add to cooled sulfuric acid solution. Dilute to 1L with DI water.		

Standard Log #:	IC2810	Standard:	IC Eluent Dionex
Analyst:	TMG	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	01/06/2020	Expiration Date (1 Year):	01/06/21

Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC2630 and brought to volume with Milli-Q DI H_20.

Standard Log #:	IC2798	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	01/02/2020	Expiration Date:	01/09/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2791) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2799	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	01/02/2020	Expiration Date:	01/09/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2800	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	01/02/2020	Expiration Date:	01/09/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2791) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2801	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	01/02/2020	Expiration Date:	01/03/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2802	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/02/2020	Expiration Date:	01/03/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2803	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/02/2020	Expiration Date:	01/03/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2791	Standard/Reagent:	Cl Stock
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	12/26/2019	Expiration Date:	12/26/2020
Prep:	CAT#:250-220-371 LOT#:S191015047 EXP:12/26/2019		

Standard Log #:	IC2792	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	12/26/2019	Expiration Date:	01/02/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2791) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2793	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	12/26/2019	Expiration Date:	01/02/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2794	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Standard Log #:	IC2733	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L SO4
Prep Date:	11/21/2019	Expiration Date:	11/21/2020
Prep:	CAT#:250-220-70x LOT#: S190913029 exp:11/21/2020		

Standard Log #:	IC2734	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	11/21/2019	Expiration Date:	11/28/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume Milli-Q DI H20.		

Standard Log #:	IC2735	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	11/21/2019	Expiration Date:	11/28/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2736	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Standard Log #:	IC2731	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	11/19/2019	Expiration Date (48 Hours):	11/21/2019
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2650 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2732	Standard:	IC_Calibration_Dionex_B
Analyst:	TMG	Concentrations:	N/A
Prep Date:	11/19/2019	Expiration Date (48 hours):	11/21/2019

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2731	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2619	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2593	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2700	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5001 mg/L
Prep Date:	11/07/2019	Expiration Date:	11/14/2019
Prep:	Added 0.5001 g of IC2488 (Nitrocellulose Stock Std.-Dried) into a 100 ml volumetric flask and brought to volume with acetone (Chem Pure Brand Chemicals, Cat.# CP-9043, Lot # DU033-US).		

Standard Log #:	IC2701	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	11/07/2019	Expiration Date:	11/14/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20Chloride (IC2619) and 1000mg/L		

Standard Log #:	IC2702	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	11/07/2019	Expiration Date:	11/14/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2703	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Standard Log #:	IC2680	Standard/Reagent:	Ammonium Sulfate
Analyst:	TMG	Final Concentration:	n/a
Prep Date:	10/29/2019	Expiration Date:	10/29/2020
Prep:	lot: 19E2956807 CAS: 7783-20-2		

Standard Log #:	IC2681	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2682	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	10/29/2019	Expiration Date:	10/30/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2683	Standard/Reagent:	SPIKE NO2-P

Standard Log #:	IC2661	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2662	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2663	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2664	Standard/Reagent:	NO2 LCS STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL

Prep Date:	10/17/2019	Expiration Date:	05/30/2020
Prep:	LOT#: 4-167NO2N-2Y CAT#:AS-NO2N9-2Y EXP:05/30/2020		

Standard Log #:	IC2665	Standard/Reagent:	LCSW MIX STOCK
Analyst:	TMG	Final Concentration:	1250ug/mL SO4, 750ug/mL
Prep Date:	10/17/2019	Expiration Date:	09/30/2020
Prep:	LOT#: 15-128JKS CAT#:VCTWI-3-500 EXP:09/30/2020		

Standard Log #:	IC2650	Standard/Reagent:	PO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	10/10/2019	Expiration Date:	10/10/2020
Prep:	LOT#: S190327034 CAT#: 250-220-611 EXP:10/10/2020		

Standard Log #:	IC2651	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2652	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2653	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2654	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2646	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/09/2019	Expiration Date (48 Hours):	10/11/2019
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2245 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2647	Standard:	IC_Calibration_Dionex_B
Analyst:	TMG	Concentrations:	N/A
Prep Date:	10/09/2019	Expiration Date (48 hours):	10/11/2019

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2646	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2619	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2593	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2648	Standard/Reagent:	AS14 DIONEX COLUMN

Analyst:	TMG	Final Concentration:	NA
Prep Date:	10/09/2019	Expiration Date:	NA
Prep:	Dionex As14 IonPac column Product # 046124 Serial #: 190805020 Lot# : 01914032		

Standard Log #:	IC2649	Standard/Reagent:	GUARD COLUMN
Analyst:	TMG	Final Concentration:	NA
Prep Date:	10/09/2019	Expiration Date:	NA
Prep:	SERIAL #: 190812098		

Standard Log #:	IC2629	Standard/Reagent:	Nitrocellulose Spiking Std.
Analyst:	RLD	Final Concentration:	5010 mg/L
Prep Date:	10/02/2019	Expiration Date:	10/09/2019
Prep:	Added 0.5010 g of IC2488 (Nitrocellulose Stock Std.-Dried) into a 100 ml volumetric flask and brought to volume with acetone (Chem Pure Brand Chemicals, Cat.# CP-9043, Lot # DU033-US).		

Standard Log #:	IC2630	Standard/Reagent:	Conc. Eluent Dionix
Analyst:	TMG	Final Concentration:	1.75 M Sodium Carbonate, (
Prep Date:	10/02/2019	Expiration Date:	10/02/2020
Prep:	Into a 2L volumetric flask, dissolved 371g of Sodium Carbonate and 84.0g of Sodium Bicarbonate and brought to volume with Milli-Q DI H2O. (500x concentrate)		

Standard Log #:	IC2619	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L Cl
Prep Date:	09/26/2019	Expiration Date:	09/26/2020
Prep:	LOT #: S190607015 CAT #: 250-220-371 EXP:09/26/2020		

Standard Log #:	IC2620	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	09/26/2019	Expiration Date:	10/03/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2621	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	09/26/2019	Expiration Date:	10/03/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2622	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L

Prep Date:	09/05/2019	Expiration Date:	09/06/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2591	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	09/05/2019	Expiration Date:	09/06/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2237) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2592	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	09/05/2019	Expiration Date:	09/06/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2245) brrought to volume with milli-Q H2O		

Standard Log #:	IC2593	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	09/05/2019	Expiration Date:	09/05/2020

Prep:	CAT#:250-220-701 LOT#:S190322012 Exp:09/05/2019

Standard Log #:	IC2574	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L NO3
Prep Date:	08/29/2019	Expiration Date:	08/29/2020
Prep:	LOT #:S190225004 CAT#:250-220-521 EXP:08/29/2020		

Standard Log #:	IC2575	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2426) , and 25 ml 1000 mg/L Sulfate (IC2427), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2576	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2577	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L

Standard Log #:	IC2535	Standard/Reagent:	FI STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S190129008 Cat #: 250-220-401 Exp: 08/08/2020		

Standard Log #:	IC2536	Standard/Reagent:	Br STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S1920213009 Cat #: 250-220-236 Exp: 08/08/2020		

Standard Log #:	IC2537	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO
Prep Date:	08/08/2019	Expiration Date:	08/09/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:		Standard/Reagent:	

Standard Log #:	IC2423	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	06/12/2019	Expiration Date:	06/19/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC1978) , Bromide (IC1977), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2289) , and 25 ml 1000 mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2424	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	06/12/2019	Expiration Date:	06/19/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2425	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	06/12/2019	Expiration Date:	06/19/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC1978), Bromide (IC1977), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2289) and 1000mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2426	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L

Prep Date:	06/12/2019	Expiration Date:	06/12/2020
Prep:	LOT #:S190214034 CAT #:250-220-37x EXP:06/12/2020		

Standard Log #:	IC2427	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/12/2019	Expiration Date:	06/12/2020
Prep:	LOT #:S190322012 CAT #:250-220-70x EXP:06/12/2020		

Standard Log #:	IC2333	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	04/24/2019	Expiration Date:	05/01/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC1978) , Bromide (IC1977), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2289) , and 25 ml 1000 mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2334	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	04/24/2019	Expiration Date:	05/01/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2104) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2335	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	04/24/2019	Expiration Date:	05/01/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC1978), Bromide (IC1977), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2289) and 1000mg/L Sulfate (IC2290), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2336	Standard/Reagent:	LCS STOCK MIX
Analyst:	TMG	Final Concentration:	175ug/mL Br, F, NO3, PO4

Prep Date:	04/24/2019	Expiration Date:	03/30/2020
Prep:	LOT# 14-65JKS CAT# VCTWI-3-500		

Standard Log #:	IC2337	Standard/Reagent:	LCS NO2 STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	04/24/2019	Expiration Date:	03/30/2020
Prep:	LOT# 4-167NO2N-2Y CAT# AS-NO2N9-2Y		

Standard Log #:	IC2316	Standard/Reagent:	AS14 DIONEX COLUMN
Analyst:	TMG	Final Concentration:	NA
Prep Date:	04/16/2019	Expiration Date:	NA
Prep:	Dionex As14 IonPac column Product # 046124 Serial #: 190215072 Lot# : 01827170		

Standard Log #:	IC2317	Standard/Reagent:	GUARD COLUMN
Analyst:	TMG	Final Concentration:	NA
Prep Date:	04/16/2019	Expiration Date:	NA
Prep:	SERIAL #181004394		

Standard Log #:	IC2318	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	04/16/2019	Expiration Date (48 Hours):	04/18/2019
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC1978, Bromide IC1977, Nitrate IC2118, and Phosphate IC2245 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2319	Standard:	IC_Calibration_Dionex_B

Analyst:	TMG	Concentrations:	N/A
Prep Date:	04/16/2019	Expiration Date (48 hours):	04/18/2019

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2318	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2289	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2290	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2285	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	03/27/2019	Expiration Date:	04/03/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC1978) , Bromide (IC1977), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (2065) , and 25 ml 1000 mg/L Sulfate (IC2132), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2286	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3, PO4 30n
Prep Date:	03/27/2019	Expiration Date:	04/03/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2104) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2287	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	03/27/2019	Expiration Date:	04/03/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC1978), Bromide (IC1977), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2065) and 1000mg/L Sulfate (IC2132), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2288	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L

Prep Date:	03/27/2019	Expiration Date:	03/27/2020
Prep:	CAT #:250-220-55x LOT #:S181129005 exp: 03/27/2020		

Standard Log #:	IC2289	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	03/27/2019	Expiration Date:	03/27/2020
Prep:	CAT #:250-220-37x LOT #:S190214034 exp: 03/27/2020		

Standard Log #:	IC2290	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	03/27/2019	Expiration Date:	03/27/2020
Prep:	CAT #:250-220-70x LOT #:S181005026 exp: 03/27/2020		

Prep Date:	02/27/2019	Expiration Date:	02/28/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC1884) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2243	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	02/27/2019	Expiration Date:	02/28/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2009) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2244	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	02/27/2019	Expiration Date:	02/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC1884) and Phosphate(IC2245) brrought to volume with milli-Q H2O		

Standard Log #:	IC2245	Standard/Reagent:	PO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	02/27/2019	Expiration Date:	02/27/2020

Prep:	LOT #:S180718005 CAT #:250-220-611 EXO:02/27/2020

WCOD QSM Analytical Run
168727 on 02/18/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	389177								WCOD QSM				
					ICV								
	389178								WCOD QSM				
					ICB								
151102	384619		01/30/2020	1640			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	COD QSM		GW	4	
		49IDW								75455			
	386856		01/30/2020	1640					COD QSM				
		49IDW			DUP	384619				75455			
	386857		01/30/2020	1640					COD QSM				
		49IDW			MSW	384619				75455			
	386858		01/30/2020	1640					COD QSM				
		49IDW			MSDW	386857				75455			
	386859								COD QSM				
					MBW					75455			
	386860								COD QSM				
					LCSW					75455			
	388195								WCOD QSM				
					CCV								
	388196								WCOD QSM				
					CCB								
	388377								WCOD QSM				
					CCB								
	388378								WCOD QSM				
					CCV								

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 02/18/2020

Prep Batch **75,455** Date Prepped: 02/10/2020 Prepped By ATJ

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	386859	MBW		COD QSM	LIQUID					
	386860	LCSW		COD QSM	LIQUID					
151102	384619			COD QSM	GROUND WATER				4	
	386856	DUP	384619	COD QSM	GROUND WATER					
	386857	MSW	384619	COD QSM	GROUND WATER					
	386858	MSDW	386857	COD QSM	GROUND WATER					

Notes:_____

PREP WORKSHEET 2
on 02/10/2020

Prep Batch: 75455

Date Prepped: 2-10-2020

Prepped By: ATS

Date Entered: _____

CCV 12

Folder #	Order	QC Type	Link	Test	Client Company Name	Client Sample Description	Matrix	Sample Date / Time		Due Date	SDG Level
	386859	MBW 14	0	COD QSM			LIQUID				
	386860	LCSW 13	0	COD QSM			LIQUID				
151102	384619	15		COD QSM	WESTON SOLUTIONS, INC.	49IDW	GROUND WATER	1/30/20	1640	2/12/20	4
	386856	DUP 16	384619	COD QSM		49IDW	GROUND WATER	1/30/20	1640		
	386857	MSW 17	384619	COD QSM		49IDW	GROUND WATER	1/30/20	1640		
	386858	MSDW 18	386857	COD QSM		49IDW	GROUND WATER	1/30/20	1640		

Control Spike/Control Spike Dup Reference Number: _____ Methanol Supplier/Lot #: _____

Notes: _____

Distibution: C:\LIMSREPS\PREPWRKSHT2.RPT

COD Data Validation Checklist

		Method: Chemical Oxygen Demand EPA 410.4			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
168727	02/13/2020	ATJ	etk	02/14/2020	yes

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Does a digestion sheet accompany the data package?	---	Yes		Yes		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	Yes		Yes		
3. Was a passing calibration test applied to sample analysis?	≥0.995	Yes		Yes		
4. Was a passing ICV analyzed immediately after the calibration?	90-110%	Yes		Yes		
5. Was a passing ICB analyzed immediately after the ICV?	< |LOD|or client/project specific	Yes		Yes		
6. Were CCVs and CCB analyzed at the required frequency?	1 per 10 samples	Yes		Yes		
7. Did analyzed CCVs meet the required acceptance criteria?	90-110%	Yes		Yes		
8. Did analyzed CCBs meet the acceptance criteria?	< |LOD|or client/project specific	Yes		Yes		
9. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	Yes		Yes		
10. Was the method blank within acceptance criteria?	< |LOD|or client/project specific	Yes		Yes		
11. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	Yes		Yes		
12. Did the LCS meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits	Yes		Yes		
13. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	Yes		Yes		
14. Did the MS/ MSD's meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits		No		No	384619 MS/MSD was marginally high, M Flagged

15. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	Yes		Yes		
16. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	Yes		Yes		
17. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	Yes		Yes		
18. Were the samples digested within hold time?	28 days	Yes		Yes		
19. Was the max temperature(s) for reactor(s) documented?	---	Yes		Yes		
20. Was the method specifed temperature reached?		Yes		Yes		
21. Were reagents/standards used before expiration date?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		

CHEMICAL OXYGEN DEMAND REAGENT LOG

Prep Batch(es): 75454 75455
Date/Time/Analyst: 02-10-2020 13:00 atj
Run(s): 168726 727
Date/Time/Analyst:

Reagents:	W #	Exp Date
ICAL Preparation	W47960	03/18/2020
CCV Preparation	W47964	03/13/2020
LCS/ICV Preparation	W47963	03/18/2020
Silver Sulfate Acid	W48027	06/25/2024
Potassium Dichromate Dig Solution	W47821	11/19/2020

Spiked Samples:	W #	Exp Date
Spiking Solution	W47961	03/18/2020

Concentration 2000 mg/L
Volume of Spike Used 0.2 mL
Final Sample Volume 2.5 mL
Final Spike Concentration 148.2 mg/L

Date: 01/04/2020
Time: 09:00

COD DIGESTION BLOCK TEMPS

	A	B
Temperature (Max) 150°C ± 2°C:		

	E	D
Temperature (Max) 150°C ± 2°C:	150.2, 150.3	

GENESYS 30 Instrument Run Logbook

Date	Start Time	End Time	Analyst	Test/Analyte	Calibration Test #	Run #/ Comments	Maintenance	Review
01/27/20	8:30	15:15	ATJ	COD	COD W47962	168418		
02/04/20	7:45	08:16	ATJ	COD	COD W47962	168575 576		
02/11/20	10:00	10:30	ATJ	COD	COD W47963	168726 727		
02/18/20	8:00	08:13	ATJ	COD	COD W47963	168864		

LPWC01_15
WetChem Reagent Prep Logbook
Logbook Created: 11/21/2019

NOTEBOOK VIEW: LTN_LPWC01_15_Default, NOTEBOOK: LPWC01_15, PAGE: 15
Page is Locked
Author: hbeckel on: 1/2/2020 8:17:51 AM
Page is not Witnessed
Project: Unassigned
Page Title: 123119

Standard Log #:	W48027	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	HLB	Concentration:	N/A
Prep Date:	12-31-19	Expiration Date (1 Year):	12-31-20
PREP		Standards/Reagents Used	
Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).		(1) WC39 (2) WC22	

1

CT Laboratories, LLC

Standard Log #:	W47960	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	HLB	Concentration:	1,000 mg/L
Prep Date:	12-18-19	Expiration Date (3 Months):	3-18-20
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W33269

Standard Log #:	W47961	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	HLB	Concentration:	2,000 mg/L
Prep Date:	12-18-19	Expiration Date (3 Months):	3-18-20
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W39424

Standard Log #:	W47962	Standard/Reagent:	COD ICAL
Analyst:	HLB	Concentration:	N/A
Prep Date:	12-18-19	Expiration Date (3 Months):	3-18-20

PREP	Standards/Reagents Used
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)	(1) W47960

Standard Log #:	W47963	Standard/Reagent:	COD LCS
Analyst:	HLB	Concentration:	400 mg/L
Prep Date:	12-18-19	Expiration Date (3 Months):	3-18-20

PREP	Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.	(1) W47961

Standard Log #:	W47964	Standard/Reagent:	COD CCV
Analyst:	HLB	Concentration:	400 mg/L
		Expiration Date	

Prep Date:	12-18-19	(3 Months):	3-18-20
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.			(1) W47960

Standard Log #:	W47821	Standard/Reagent:	Dichromate Digestion Solution
Analyst:	GMJ	Concentration:	N/A
Prep Date:	11/19/19	Expiration Date (1 Year):	11/19/20

PREP	Standards/Reagents Used
Into a 2L volumetric flask, dissolved 66.6g of Mercuric sulfate (1) in about 500 mL of DI water. Volumetrically added 334 mL of Sulfuric acid (2) and dissolved 20.42g of Potassium dichromate (3) and then filled to volume with DI water.	(1) W46750 (2) WC13 (3) W46749

Standard Log #:	W46749	Chemical:	Potassium Dichromate
Analyst:	SAW	Vendor:	JT Baker (VWR)
Date Received:	2/22/19	Catalog #:	3090-01
Expiration Date (if any):	3/6/25	Lot #:	0000213858
Comments:	Opened 4/29/19		

Standard Log #:	W46750	Chemical:	mERCURY (II) SULFATE
Analyst:	SAW	Vendor:	BTC
Date Received:	3/11/19	Catalog #:	212940-100G
Expiration Date (if any):	4/29/20	Lot #:	50004425
Comments:	Opened 4/29/19		

Standard Log #:	W39424	Chemical:	Potassium hydrogen phthalate
Analyst:	SAW	Vendor:	ACROS
Date Received:	7/1/16	Catalog #:	424061000
Expiration Date (if any):	N/A	Lot #:	A0365830
Comments:			

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypochlorite: Into a 500mL vol. volumetrically combined 30mL W33266 & filled to mark w/ DI H_2O. exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W32416 & filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bms 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 01/07/14 AGK — TOCW CCV Sto: Into a 100mL vol pipetted 50mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Sto: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

1/9/14 CS
Signed — Date — Signed — Date

Standard Log #:	WC39	Chemical:	Sulfuric Acid ACS 2.5L
Analyst:	HLB	Vendor:	EMD
Date Received:	6-27-19	Catalog #:	SX1244-5
Expiration Date (if any):		Lot #:	58351
Comments:			

Standard Log #:	WC22	Chemical:	Silver Sulfate ACS 98%
Analyst:	HLB	Vendor:	Alfa Aesar/Thermo Fisher
Date Received:	12-2-19	Catalog #:	11417
Expiration Date (if any):	12-2-24	Lot #:	W04F005
Comments:			

Standard Log #:	WC13	Chemical:	SULFURIC ACID
Analyst:	GMJ	Vendor:	EMD MILIPORE CORPORATION
Date Received:	8/27/19	Catalog #:	SX1244-5
Expiration Date (if any):	NA	Lot #:	58346
Comments:	OPENED 11/19/19		

WPH Analytical Run
168555 on 02/04/2020

Date Analyzed

Date Reviewed:

Date Entered:

Date Validated:

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
151102	384619		01/30/2020 1640		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	PH		GW	**4**	
		49IDW									
	384647		01/29/2020 1100				PH SM4500H+B		WW		
		FINAL									
	384682		01/30/2020 0700				PH SM4500H+B		WW	**1**	
		PLANT 2									
	384683		01/30/2020 0700				PH SM4500H+B		WW	**1**	
		PLANT 4									
	384684		01/30/2020 1600				PH SM4500H+B		WW		
		DE-RO REJECT									
	384685		01/30/2020 1630				PH SM4500H+B		WW		
		DM-RO REJECT									
	385294		01/30/2020 1630				PH SM4500H+B				
		DM-RO REJECT		DUP 384685							
	385295		01/30/2020 1640				PH				
		49IDW		DUP 384619							

8 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

pH Data Validation Checklist

		Method: pH EPA 150.1, SM 4500-H+B, EPA 9040C, EPA 9045D			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
168555	01/31/2020	RLB	ETK	02/11/2020	yes

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Was the calibration slope recorded on the bench sheet?	95-110%	Yes		Yes		
2. Were reagents/standards used before expiration date?	---	Yes		Yes		
3. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	Yes		Yes		
4. Were the duplicates within acceptable limits?	Differ by $\leq$ 0.10 pH units		No		No	385295 FAILED DUP - Y flagged
5. Are all samples on the job lists accounted for?	---	Yes		Yes		
6. Were SM 4500-H+B samples bracketed by calibration buffer 7?	Every 10 samples, Differ by $\leq$ 0.10 pH units	Yes		Yes		

Mettler Toledo (Easy Seven) pH Calibration & Maintenance Run Logbook

		pH Buffer Reference ID #			3 Point Calibration						
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope (95-110%)	Temp ° C	Comments	Review
01/08/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.4		
01/09/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	18.8		
01/10/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.05	97%	21.2		
01/13/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.1		
01/14/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	96%	19.3		
01/15/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.6		
01/16/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	98%	18.9		
01/17/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.08	98%	18.6		
01/20/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	98%	18.8		
01/21/20	HLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	96%	18.5		
01/22/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	20		
01/23/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	19.6		
01/24/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.7	98%	19.1		
01/27/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	98%	19.2		
01/28/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.4		
01/29/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.3		
01/30/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.05	97%	20.9		
01/31/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	98%	20.2		
02/03/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.6		
02/04/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.6		
02/05/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	19.8		
02/06/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	98%	19.1		
02/07/20	RLB	W46410 EX: 3/5/20	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.3		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date	Start Time	End Time	Analyst	Analyte	Lims Run #(s)	Comments
11/25/19	13:00	13:30	ATJ	PH	166981	
11/26/19	14:00	14:45	GMJ	PH	167026	
11/27/19	13:30	14:00	SRW	PH	167052	
12/03/19	15:05	15:15	CLB	PH	167150	
12/04/19	15:15	16:30	HLB/SRW	PH	167,196,197,198,199	
12/05/19	14:15	14:30	CLB	PH	167257	
12/06/19	14:15	15:00	HLB	PH	167293	
12/09/19	14:30	15:00	HLB	PH	167322	
12/10/19					NO PH TESTED	
12/11/19	16:30	16:50	HLB	PH	167409	
12/12/19	15:15	15:30	SRW	PH	167460	
12/13/19	14:20	14:44	SRW	PH	167504	
12/16/19	14:35	15:05	SRW/RLB	PH	167546	
12/17/19	13:30	14:00	ATJ	PH	167588	
12/18/19	15:00	16:30	HLB	PH	167641 167642	
12/19/19	14:30	15:00	HLB	PH	167696	
12/20/19	15:00	15:15	HLB	PH	167728	
12/23/19	13:30	13:50	HLB	PH	167778	
12/24/19	13:45	14:00	SRW/RLB	PH	167807	
12/27/19	15:30	15:45	SRW	PH	167871	
12/30/19	13:00	13:10	ATJ	PH	167889	
12/31/19	15:40	13:50	HLB	PH	167907	
01/02/20	14:50	15:20	RLB	PH	167923	
01/03/20	14:50	15:30	RLB	PH	167942	
01/06/19	14:50	14:59	ATJ	PH	167955	
01/07/20	14:40	15:10	RLB	PH	167983	
01/08/20	14:45	15:15	HLB	PH	168013	
01/09/20	14:30	15:30	HLB	PH	168040	
01/10/20	15:00	16:00	SRW	PH	168082	
01/13/20	14:45	15:00	HLB	PH	168119	
01/14/20	14:35	14:50	RLB	PH	168146	
01/15/20	14:15	14:30	HLB	PH	168185	
01/16/20	14:15	14:30	HLB	PH	168208	
01/17/20	15:30	16:00	SRW	PH	168240	
01/20/20	15:30	15:40	ATJ	PH	168289	
01/21/20	14:25	14:50	HLB	PH	168302	
01/22/20	14:45	15:00	HLB	PH	168327	
01/23/20	14:30	15:15	HLB	PH	168355	
01/24/20	13:00	14:00	SRW	PH	168406	
01/27/20	15:30	15:45	HLB	PH	168440	
01/28/20	15:30	15:58	ATJ	PH	168475	
01/29/20	16:15	16:45	SRW	PH	168497	
01/30/20	14:00	14:30	HLB	PH	168535	
01/31/20	15:45	15:25	RLB	PH	168555	
02/03/20	14:45	15:00	SRW	PH	168593	
02/04/20	14:00	14:30	ATJ	PH	168614	

WC_StdLog_01
Wet Chem Chemical Logbook
Logbook Created: 10/22/2019

NOTEBOOK VIEW: LTN_WC_StdLog_01_Default, NOTEBOOK: WC_StdLog_01, PAGE: 22
Page is Locked
Author: swachter on: 1/7/2020 9:37:47 AM
Page is not Witnessed
Project: Unassigned
Page Title: 123019

Standard Log #:	WC38	Chemical:	pH 4 Calibration Std 4L
Analyst:	HLB	Vendor:	Inorganic Ventures
Date Received:	12-30-19	Catalog #:	PHRED-4-4L
Expiration Date (if any):	12-30-20	Lot #:	P2-WCS680743
Comments:			

Standard Log #:	W46764	Chemical:	PH BUFFER 10
Analyst:	LJS	Vendor:	INORGANIC VENTURES
Date Received:	5/2/19	Catalog #:	PHBLUE-10-4L
Expiration Date (if any):	5/2/20	Lot #:	P2-WCS675599
Comments:			

Standard Log #:	W46410	Chemical:	PH 7 BUFFER
Analyst:	MEZ	Vendor:	INORGANICS VENTURES
Date Received:	2/12/19	Catalog #:	PHYELLOW-7
Expiration Date (if any):	3/5/2020	Lot #:	N2-WCS674708
Comments:	Opened 3/5/2019. Expires 1 year from open date.		

WORGANIC CARBON QSM 5.0 Analytical Run
168628 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	387273						WORGANIC CARBON QSM 5.0				
				ICV							
	387274						WORGANIC CARBON QSM 5.0				
				ICB							
	385805						WORGANIC CARBON QSM 5.0				
				CCV				0			
	385806						WORGANIC CARBON QSM 5.0				
				LCSW				0			
	385807						WORGANIC CARBON QSM 5.0				
				MBW				0			
151051	383696		01/28/2020 0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW07									
151051	383697		01/28/2020 1310		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW5									
151051	383698		01/28/2020 1400		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW4									
151051	383699		01/28/2020 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW3									
151051	383700		01/28/2020 1440		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13TW3									
151051	383701		01/28/2020 1530		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW04									
151081	384094		01/29/2020 0910		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW06									
151081	384095		01/29/2020 1120		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW05									
151081	384096		01/29/2020 1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW2		Designated MS/MSD							
	385808		01/29/2020 1200				ORGAN CARBON T QSM 5.0				
		13MW2		DUP 384096				0			
	385809						WORGANIC CARBON QSM 5.0				
				CCV				0			
	385810						WORGANIC CARBON QSM 5.0				
				CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
168628 on 02/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	385811		01/29/2020	1200					ORGAN CARBON T QSM 5.0				
		13MW2			MSW	384096				0			
	385812		01/29/2020	1200					ORGAN CARBON T QSM 5.0				
		13MW2			MSDW	385811				0			
151081	384097		01/29/2020	1420			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW03											
151081	384098		01/29/2020	1435			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49EQB-49MW03											
151081	384099		01/29/2020	1540			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW02											
151102	384610		01/30/2020	0915			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW1											
151102	384613		01/30/2020	1045			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW01											
151102	384614		01/30/2020	1355			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		50MW02											
151102	384615		01/30/2020	1505			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW2											
151102	384616		01/30/2020	1555			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		48MW3											
	385813								WORGANIC CARBON QSM 5.0				
					CCV					0			
	385814								WORGANIC CARBON QSM 5.0				
					CCB					0			
151102	384617		01/30/2020	1555			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU 49	ORGAN CARBON T QSM 5.0		GW	**4**	
		48TW3											
	385815								WORGANIC CARBON QSM 5.0				
					CCV					0			
	385816								WORGANIC CARBON QSM 5.0				
					CCB					0			

32 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist	Instrument: TOCW

LIMS Run #(s)	Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)
168628	02/05/2020	TMG	RLD	02/07/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		
4. Were the ICV and ICB analyzed?	---	Yes		Yes		
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		
20. Are all samples on the job lists accounted for?	---	Yes		Yes		
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
1/14/2020	9:40	01/14/2020	15:41	TMG	168094, 168096RR	W	0368	MDL
1/15/2020	9:34	01/15/2020	20:30	TMG	168165, 168167	W	0368	MDL
1/16/2020	10:12	01/16/2020	21:46	TMG	168166, 168159	W	0368	MDL
1/20/2020	10:34	01/20/2020	22:38	TMG	168242, 168243	W	0368	MDL
1/22/2020	9:49	01/22/2020	23:21	TMG	168312, 168313, 168314	W	0368	
1/24/2020	9:49	1/24/2020	16:44	TMG	MDL	S	0318	MDL
1/24/2020	12:09	1/24/2020	18:42	TMG	168397, 168398	W	0368	
1/27/2020	9:19	1/27/2020	10:16	TMG	MDL	S	0318	MDL
1/28/2020	9:28	1/28/2020	10:32	TMG	168443, MDL	S	0318	MDL
1/31/2020	14:07	1/31/2020	17:53	TMG	TOC0373	W	0373	
2/3/2020	8:04	2/3/2020	10:45	TMG	168547	W	0373	TIC
2/4/2020	12:10	2/4/2020	18:53	TMG	168603, 168604, 168605	W	0373	
2/5/2020	11:59	2/5/2020	20:07	TMG	168628	W	0373	

Reviewed By:_____

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 193
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 020520

Standard Log #:	TOC0374	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	02/05/2020	Expiration Date (1 Month):	03/05/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0375	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	02/05/2020	Expiration Date (1 Month):	03/05/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0376	Standard/Reagent:	CCV STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	02/05/2020	Expiration Date:	08/31/2021
Prep:	LOT: 0006475816 EXP:08/31/2021		

1

CT Laboratories, LLC

Standard Log #:	TOC0373	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	01/31/2020	Expiration Date (1 Month):	02/29/2020

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0258 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0369	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	01/13/2020	Expiration Date (1 Month):	02/13/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0370	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	01/13/2020	Expiration Date (1 Month):	02/13/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0367	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	12/18/2019	Expiration Date (1 Month):	01/18/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0368A	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	12/18/2019	Expiration Date (1 Month):	01/18/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0368	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	11/26/2019	Expiration Date (1 Month):	12/26/2019
	Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0258 and brought to volume with Milli-Q H_2O:		

Prep:

volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0364	Standard/Reagent:	25%PHOSPHORIC ACID
Analyst:	TMG	Final Concentration:	25%
Prep Date:	11/12/2019	Expiration Date:	11/12/2020
Prep:	Into a 500ml vol. flask add 125ml phosphoric acid (W38600) and bring to volume with DI water.		

Content below was appended to locked page by tgrundahl on 12/19/2019 10:52:42 AM

Standard Log #:	TOC0364A	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	11/26/2019	Expiration Date (1 Month):	12/26/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0365A	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	11/26/2019	Expiration Date (1 Month):	12/26/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0359	Standard/Reagent:	LCS TOC STOCK STD
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	10/28/2019	Expiration Date:	09/01/2021
Prep:			

Standard Log #:	TOC0360	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0361	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0357	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/16/2019	Expiration Date (1 Month):	11/16/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0358	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/16/2019	Expiration Date (1 Month):	11/16/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0355	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/02/2019	Expiration Date (1 Month):	11/02/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0356	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/02/2019	Expiration Date (1 Month):	11/02/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 181
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 090919

Standard Log #:	TOC0352	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	09/09/2019	Expiration Date (1 Month):	10/09/2019

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0258 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

1

Standard Log #:	TOC0350	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	09/04/2019	Expiration Date (1 Month):	10/04/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0351	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	09/04/2019	Expiration Date (1 Month):	10/04/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0332	Standard:	TOCW LOD Check
Analyst:	TMG	Concentration:	1.5 mg/L
Prep Date:	06/05/2019	Expiration Date (1 Month):	07/05/2019
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0333	Standard:	TOCW LOQ Check
Analyst:	TMG	Concentration:	3.0 mg/L
Prep Date:	06/05/2019	Expiration Date (1 Month):	07/05/2019
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0258	Standard/Reagent:	TOC CCV STOCK STD
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/05/2018	Expiration Date:	02/28/2020
Prep:	Ultra Scientific TOC standard @ 1000 or - 5 ug/mL Lot # CS-0215		

Standard Log #:	TOC0259	Standard/Reagent:	TOC LCS STOCK STD
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/05/2018	Expiration Date:	11/01/2019
Prep:	CAT# 250-250-05X LOT# S171123022		

Standard Log #:	TOC0260	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	06/05/2018	Expiration Date (1 Month):	07/05/2018
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0261	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	06/05/2018	Expiration Date (1 Month):	07/05/2018
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0206 and brought to volume with Milli-Q DI H_2O.		

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Weston Solutions, Inc.
Project Contact: Tony Pace
Telephone: 757-819-5310
Project Name: Radford AAP SWMU 49
Project #:
Location: Radford, VA
Sampled By: W. Bounds/P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 151051
Company: WESTON SOLUTIONS.
Project RADFORD AAP
Logged By JLS PM BM

Program:
RCRA SDWA NPDES
Waste Other _____

Report To:
EMAIL: Tony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St., Ste. 603 Hampton, VA 23669

Invoice To:* Same as above
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOCs 8260C	MEE RSK-175	Anions 9056A	TOC 9060A	Total # Containers	Designated MS/MSD
							2 HCl					
1/28/20	—	GW	G		TB-1 (Trip Blank)	N	3				3	
1/28/20	0910	GW	G		49MW07	N	3	2	1	1	7	
1/28/20	1310	GW	G		13MW5	N	3	2	1	1	7	
1/28/20	1400	GW	G		13MW4	N	3	2	1	1	7	
1/28/20	1440	GW	G		13MW3	N	3	2	1	1	7	
1/28/20	1440	GW	G		13TW3	N	3	2	1	1	7	
1/28/20	1530	GW	G		49MW04	N	3	2	1	1	7	

ANALYSES REQUESTED — Fill in Spaces with Bottles per Test

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

CT Lab ID # *Lab use only*
T 383695
383696
383697
383698
383699
383700
383701

Relinquished By:	Date/Time	Received By:	Date/Time
	1/28/2020 1730	FedEx	1/28/2020 1730
Received By:	Date/Time	Received for Laboratory by:	Date/Time
	1/29/2020 1020		1/29/2020 1051

Lab Use Only
Ice Present (Yes) No
Temp 2.2 IR Gun 28
Cooler # 6177

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.2

IR Gun # 28

Initials [illegible]

Date 1/29/2020 Time 1020

Cooler #: 6177

ORIGIN ID:WALA (770) 855-6275
PAUL I TAYLOR
WESTON SOLUTIONS INC
5555 PEACHTREE PKWY STE 150

PEACHTREE CORNERS, GA 30092
UNITED STATES US

SHIP DATE: 28JAN20
ACTWGT: 39.70 LB
CAD: 6995155/SSFE2021
DIMS: 24x13x13 IN

BILL THIRD PARTY

TO CT LAB
CT LAB
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760
INV:
PO:

REF: 03886.552.500.2120(SWMU 49)
DEPT:

FedEx Express

TRK# 0201 7799 5123 1470

WED - 29 JAN 10:30A
PRIORITY OVERNIGHT

XH MSNA

53913
WI-US MSN

CUSTODY SEAL
DATE 1/28/2020
SIGNATURE [illegible]
QEC Quality Environmental Containers 800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 1/28/2020
SIGNATURE [illegible]
QEC Quality Environmental Containers 800-255-3950 • www.qecusa.com

Szymanski, Brett M

From: Pace, Anthony <pacea@WestonSolutions.com>
Sent: 01/29/2020 18:53
To: Szymanski, Brett M
Cc: Bounds, William
Subject: RE: Radford AAP Sample ID Discrepancy

48MW07 is correct.

Tony Pace
Principal Project Manager
Weston Solutions, Inc
2 Eaton Street, Suite 603
Hampton, VA 23669
(757) 819-5310 (office)
(757) 362-2461 (cell)
Anthony.Pace@westonsolutions.com

From: Szymanski, Brett M [mailto:BSzymanski@ctlaboratories.com]
Sent: Wednesday, January 29, 2020 1:08 PM
To: Pace, Anthony <pacea@WestonSolutions.com>
Cc: Bounds, William <Bill.Bounds@WestonSolutions.com>
Subject: Radford AAP Sample ID Discrepancy

**** External Email ****
Hello Tony,

Our sample receiving group noticed a sample ID discrepancy on the Radford AAP samples that we received today. The sample collected 01/28/2020 at 09:10 was listed as 49MW07 on the COC; however, all of the corresponding sample labels indicate 4**8**MW07. Can you please confirm whether we should log this sample per the COC or per the sample labels? Looking back at previous sampling events, I believe that 48MW07 is the correct ID.

Thanks,

Brett Szymanski
Project Manager
CT Laboratories, LLC
1230 Lange Court
Baraboo, WI 53913
Phone: 608-356-2760
Fax: 608-356-2766
www.ctlaboratories.com

Let us know how we're doing. Click Here to take our Customer Survey.

Confidentiality: The information contained within this e-mail is considered proprietary for the exclusive reading and use of the individual(s) named in the header information. If this transmission has been received in error, please inform CT Laboratories of the error and destroy the attached document. CT Laboratories assumes no liability for any document or attachment once the transmission has been completed from our facility.

This email was scanned by Bitdefender **WARNING: External Email: This email originated outside of Weston Solutions. DO NOT CLICK on any links or attachments unless you recognize the sender and are expecting the email.**

CONFIDENTIALITY: This email and attachments may contain information which is confidential and proprietary. Disclosure or use of any such confidential or proprietary information without the written permission of Weston Solutions, Inc. is strictly prohibited. If you received this email in error, please notify the sender by return e-mail and delete this email from your system. Thank you.

This email was scanned by Bitdefender

Folder #: 151051

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU 49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 151690

Project Manager: *BMS* **Date Received:** 01/29/20 **Log Date:** 01/29/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 2.2 oC

SAMPLE #: 383695 DESCR: TB-1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED: 01/28/2020**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/11/2020	02/10/2020		Logged

SAMPLE #: 383696 DESCR: 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 01/28/2020 Time: 0910**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/11/2020	02/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/11/2020	02/10/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/30/2020	02/10/2020		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 151051 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 383696 **DESCR:** 48MW07 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/25/2020	02/10/2020		Logged

SAMPLE #: 383697 **DESCR:** 13MW5 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 1310

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/11/2020	02/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/11/2020	02/10/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/30/2020	02/10/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/25/2020	02/10/2020		Logged

SAMPLE #: 383698 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 1400

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/11/2020	02/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/11/2020	02/10/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/30/2020	02/10/2020		Logged
			Chloride						

Folder #: 151051 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 383698 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 1400

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/25/2020	02/10/2020		Logged

SAMPLE #: 383699 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/11/2020	02/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/11/2020	02/10/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/30/2020	02/10/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/25/2020	02/10/2020		Logged

SAMPLE #: 383700 **DESCR:** 13TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/11/2020	02/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/11/2020	02/10/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/30/2020	02/10/2020		Logged

Folder #: 151051 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 383700 **DESCR:** 13TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 1440

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/25/2020	02/10/2020		Logged

SAMPLE #: 383701 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/28/2020 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/11/2020	02/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/11/2020	02/10/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/30/2020	02/10/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/25/2020	02/10/2020		Logged

Folder #: 151051 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

Invoice Number: 151690 **Preliminary Invoice Estimate:** $ 1,092.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 12.00	0.00	$ 72.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 12.00	0.00	$ 72.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 12.00	0.00	$ 72.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	6	$ 16.00	0.00	$ 96.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	6	$ 16.00	0.00	$ 96.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	6	$ 16.00	0.00	$ 96.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 28.00	0.00	$ 168.00
VOC 8260 QSM 5.0	GROUND WATER	6	$ 60.00	0.00	$ 360.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**6**	TOC
UNPRES PL	**6**	Anions
VOA HCL	**32**	VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 151051
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 01/29/2020 10:52
Received Date / Time / By: 01/29/2020 10:20 JLS

Project Name: RADFORD AAP SWMU 49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 01/29/2020 10:51 JLS
Project #: PM: BMS

Coolers: 6177
Custody Seals Present : **Y**

Temperature: 2.2 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 779951231470
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 1/28/2020 AND SIGNED.

THERE WAS A DISCREPANCY BETWEEN THE COC AND THE SAMPLE LABELS FOR THE SAMPLE COLLECTED 01/28/2020 @ 09:10: THE COC INDICATED 49MW07 WHILE THE SAMPLE LABELS INDICATED 48MW07. THE CLIENT CONFIRMED VIA E-MAIL THAT THE CORRECT ID IS 48MW07.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
383695 TB-1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type (*VOA HCL*) = 2			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
383696 48MW07				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
383696 48MW07				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type (*VOA HCL*) = 5			
383696 48MW07				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type (*H2SO4 PL*) = 1			
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
383697 13MW5				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type (*UNPRES PL*) = 1			
383697 13MW5				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC

	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 5**		

383697 13MW5

	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

383698 13MW4

	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

383698 13MW4

	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 5**		

383698 13MW4

	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

383699 13MW3

	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

383699 13MW3

	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 5**		

383699 13MW3

	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

383700 13TW3

	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		

383700 13TW3

	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 5**		

383700 13TW3

	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

151051

383701	49MW04					
		UNPRES PL	1		/	Anions
		Total # of Containers of Type		(***UNPRES PL***) =	**1**	
383701	49MW04					
		VOA HCL	1		/	GAS,VOC
		VOA HCL	1		/	GAS,VOC
		VOA HCL	1		/	GAS,VOC
		VOA HCL	1		/	GAS,VOC
		VOA HCL	1		/	GAS,VOC
		Total # of Containers of Type		(***VOA HCL***) =	**5**	
383701	49MW04					
		H2SO4 PL	1	Y	/	TOC
		Total # of Containers of Type		(***H2SO4 PL***) =	**1**	

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Weston Solutions, Inc.
Project Contact: Tony Pace
Telephone: 757-819-5310
Project Name: Radford AAP SWMU
Project #:
Location: Radford, VA
Sampled By: W. Bounds/P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 151081
Company: WESTON SOLUTIONS
Project: RADFORD AAP
Logged By: EKB PM: BM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____
PO #

Report To:
EMAIL: Tony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St. Ste. 603
Hampton, VA 23669

Invoice To:*
EMAIL:
Company: Same as above
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y(N)	VOCs 8260C	MEE RSK-175	Anions 9056A	TOC 9060A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
1/29/20	—	GW	G		TB-2 (Trip Blnk)	N	2				2		384093
1/29/20	0910	GW	G		48MW06	N	3	2	1	1	7		384094
1/29/20	1120	GW	G		49MW05	N	3	2	1	1	7		384095
1/29/20	1200	GW	G		13MW2	N	9	6	3	3	21	X	384096
1/29/20	1420	GW	G		49MW03	N	3	2	1	1	7		384097
1/29/20	1435	GW	G		49EQB-49MW03	N	3	2	1	1	7		384098
1/29/20	1540	GW	G		49MW02	N	3	2	1	1	7		384099

Relinquished By:	Date/Time	Received By:	Date/Time
	1/29/2020 1730	Fedex	1/29/2020 1730
Received by:	Date/Time	Received for Laboratory by:	Date/Time
ekb	1-30-2020 10:45	ekb	1-30-2020 11:21

Lab Use Only
Ice Present (Yes) No
Temp 0.8 IR Gun 27
Cooler # XXX

Cooler Receipt Form

Ice Present (YES) NO

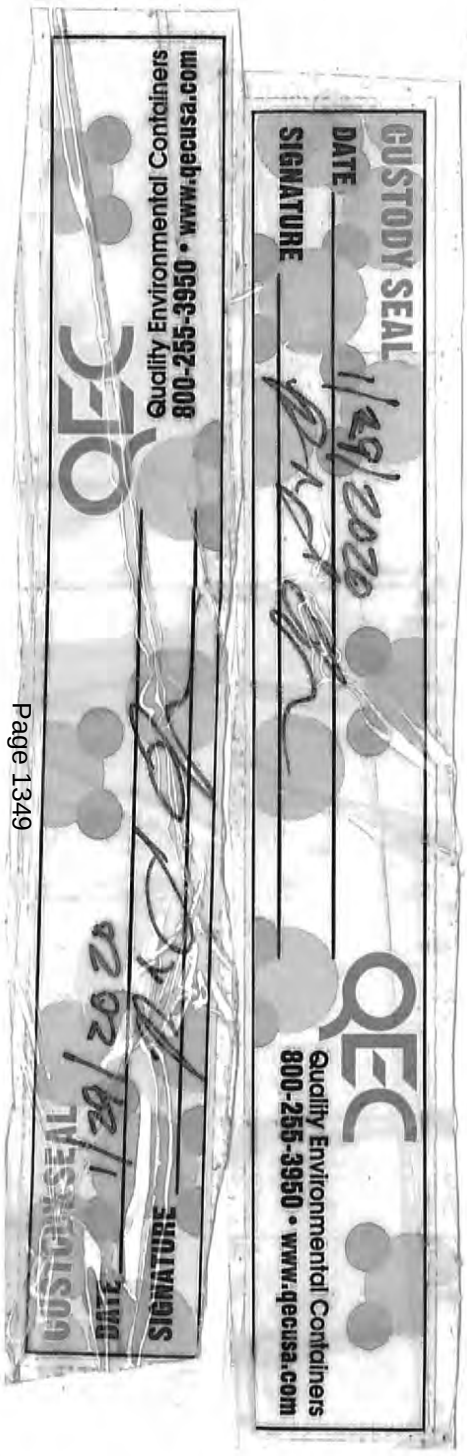
Temperature 0.3

IR Gun # 27

Initials elb

Date 1-30-2020 Time 10:45

Cooler #: XXXX



Folder #: 151081

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU 49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 151721

Project Manager: *BMS* **Date Received:** 01/30/20 **Log Date:** 01/30/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 0.8 oC

SAMPLE #: 384093 DESCR: TB-2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED: 01/29/2020**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/12/2020	02/11/2020		Logged

SAMPLE #: 384094 DESCR: 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 01/29/2020 Time: 0910**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/12/2020	02/11/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/12/2020	02/11/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/31/2020	02/11/2020		Logged
			Chloride						
			Nitrate Nitrogen						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 151081 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 384094 **DESCR:** 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 0910

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				02/26/2020	02/11/2020		Logged

SAMPLE #: 384095 **DESCR:** 49MW05 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 1120

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/12/2020	02/11/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/12/2020	02/11/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/31/2020	02/11/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				02/26/2020	02/11/2020		Logged

SAMPLE #: 384096 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y* ***DESIGNATED MATRIX SPIKE***	02/12/2020	02/11/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***	02/12/2020	02/11/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	01/31/2020	02/11/2020		Logged
			Chloride						

Folder #: 151081 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 384096 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)			***DESIGNATED MATRIX SPIKE***	02/26/2020	02/11/2020		Logged

SAMPLE #: 384097 **DESCR:** 49MW03 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 1420

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***	02/12/2020	02/11/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/12/2020	02/11/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/31/2020	02/11/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/26/2020	02/11/2020		Logged

SAMPLE #: 384098 **DESCR:** 49EQB-49MW03 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 1435

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			***Y***	02/12/2020	02/11/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/12/2020	02/11/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/31/2020	02/11/2020		Logged

Folder #: 151081 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 384098 **DESCR:** 49EQB-49MW03 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 1435

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				02/26/2020	02/11/2020		Logged

SAMPLE #: 384099 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/29/2020 **Time:** 1540

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/12/2020	02/11/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/12/2020	02/11/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				01/31/2020	02/11/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				02/26/2020	02/11/2020		Logged

Folder #: 151081 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

Invoice Number: 151721 **Preliminary Invoice Estimate:** $ 1,436.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	8	$ 12.00	0.00	$ 96.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	8	$ 12.00	0.00	$ 96.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	8	$ 12.00	0.00	$ 96.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	8	$ 16.00	0.00	$ 128.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	8	$ 16.00	0.00	$ 128.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	8	$ 16.00	0.00	$ 128.00
ORGAN CARBON T QSM 5.0	GROUND WATER	8	$ 28.00	0.00	$ 224.00
VOC 8260 QSM 5.0	GROUND WATER	8	$ 60.00	0.00	$ 480.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**8**	TOC
UNPRES PL	**8**	Anions
VOA HCL	**43**	VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 151081
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 01/30/2020 11:29
Received Date / Time / By: 01/30/2020 10:45 EKB

Project Name: RADFORD AAP SWMU 49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 01/30/2020 11:25 EKB
Project #: PM: BMS

Coolers: XXXX
Custody Seals Present : **Y**

Temperature: 0.8 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED & SIGNED
Tracking Number: 390022654887
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 1/29/2020 & SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
384093 TB-2				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	(***VOA HCL***) = **2**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
384094 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
384094 48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
384094 48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
384095 49MW05				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
384095 49MW05				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		

384095	49MW05				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

384096	13MW2				
		UNPRES PL	1	/	Anions
		UNPRES PL	1	/	Anions
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 3**		
384096	13MW2				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 15**		
384096	13MW2				
		H2SO4 PL	1	Y /	TOC
		H2SO4 PL	1	Y /	TOC
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 3**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

384097	49MW03				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
384097	49MW03				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) = 5**		
384097	49MW03				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) = 1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

384098	49EQB-49MW03				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) = 1**		
384098	49EQB-49MW03				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC

151081

		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	(***VOA HCL***) = **5**		
384098	49EQB-49MW03				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
384099 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
384099 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **6**		
384099 49MW02				
	H2SO4 PL	1	/	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Weston Solutions, Inc.
Project Contact: Tony Pace
Telephone: 757-819-5310
Project Name: Radford AAP Sample 49
Project #:
Location: Radford, VA
Sampled By: W. Bounds / P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 151102
Company: WESTON SOLUTIONS.
Project: RADFORD AAP
Logged By: EKB PM: BM

am:
RCRA SDWA NPDES
Waste Other _____

Report To:
EMAIL: Tony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St., St. 603 Hampton, VA 23669

Invoice To:*
EMAIL:
Company: Same as above
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOCs 8260C	MEE RSK-175	Anions 9056A	TOC 9060A	COD 410.4	pH 9040C	Total Metals 6020B 7470A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test									
1/30/20	—	GW	G		TB-3 (Trip Blank)	N	2							2		384609
1/30/20	0915	GW	G		48MW1	N	3	2	1	1				7		384610
1/30/20	1045	GW	G		49MW01	N	3	2	1	1				7		384613
1/30/20	1355	GW	G		50MW02	N	3	2	1	1				7		384614
1/30/20	1505	GW	G		48MW2	N	3	2	1	1				7		384615
1/30/20	1555	GW	G		48MW3	N	3	2	1	1				7		384616
1/30/20	1555	GW	G		48TW3	N	3	2	1	1				7		384617
1/30/20	1640	GW	G		49 IDW	N					1	1	1	3		384619

Relinquished By:	Date/Time	Received By:	Date/Time
[signature]	1/30/2020 1800	Fedex	1/30/2020 1800
Received by: [signature]	Date/Time 1-31-2020 10:01	Received for Laboratory by: [signature]	Date/Time 1-31-2020 10:41

Lab Use Only
Ice Present (Yes) No
Temp 0.6 IR Gun 24
Cooler # 5543

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified.
(b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.
1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.
1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.
1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.
1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.
1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).
1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.
3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.
3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.
4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.
4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.
4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.
4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.
4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.
4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.
5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.
5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.
5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.
5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.
5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

Temperature 0.6

IR Gun # 24

Initials ELS

Date 1-31-2020 Time 10:01

Cooler #: 5543

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 1/30/2020
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 1/30/2020
SIGNATURE

ORIGIN ID:WALA (770) 855-6275
PAUL I TAYLOR
WESTON SOLUTIONS INC
5655 PEACHTREE PKWY STE 150

PEACHTREE CORNERS, GA 30092
UNITED STATES US

SHIP DATE: 30JAN20
ACTWGT: 41.90 LB
CAD: 6995155/SSFE2021
DIMS: 24x13x14 IN

BILL THIRD PARTY

TO CT LABS
CT LABS
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF: 03886.552.500.2120
DEPT:

FedEx Express

FRI - 31 JAN 10:30A
PRIORITY OVERNIGHT

TRK# 0201 3900 4951 6478

XH MSNA

53913
WI-US MSN

Folder #: 151102

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU 49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 151743

Project Manager: *BMS* **Date Received:** 01/31/20 **Log Date:** 01/31/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 0.6 oC

SAMPLE #: 384609 DESCR: TB-3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED: 01/30/2020**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/13/2020	02/12/2020		Logged

SAMPLE #: 384610 DESCR: 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 01/30/2020 Time: 0915**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/13/2020	02/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/13/2020	02/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				02/01/2020	02/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 151102 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 384610 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 0915

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/27/2020	02/12/2020		Logged

SAMPLE #: 384613 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1045

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/13/2020	02/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/13/2020	02/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				02/01/2020	02/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/27/2020	02/12/2020		Logged

SAMPLE #: 384614 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1355

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/13/2020	02/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/13/2020	02/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				02/01/2020	02/12/2020		Logged
			Chloride						

Folder #: 151102 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 384614 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1355

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/27/2020	02/12/2020		Logged

SAMPLE #: 384615 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1505

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/13/2020	02/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/13/2020	02/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				02/01/2020	02/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/27/2020	02/12/2020		Logged

SAMPLE #: 384616 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1555

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/13/2020	02/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/13/2020	02/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				02/01/2020	02/12/2020		Logged

Folder #: 151102 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 384616 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1555

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/27/2020	02/12/2020		Logged

SAMPLE #: 384617 **DESCR:** 48TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1555

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	02/13/2020	02/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				02/13/2020	02/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				02/01/2020	02/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				02/27/2020	02/12/2020		Logged

SAMPLE #: 384619 **DESCR:** 49IDW **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1640

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					02/12/2020		Logged
989	COD QSM	(EPA 410.4)				02/27/2020	02/12/2020		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				07/28/2020	02/12/2020		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				07/28/2020	02/12/2020		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				07/28/2020	02/12/2020		NeedPrep

Folder #: 151102 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

SAMPLE #: 384619 **DESCR:** 49IDW **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 01/30/2020 **Time:** 1640

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0(EPA 7470A)					02/27/2020	02/12/2020		NeedPrep

Folder #: 151102 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU 49

Invoice Number: 151743 **Preliminary Invoice Estimate:** $ 1,220.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 12.00	0.00	$ 72.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 12.00	0.00	$ 72.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 12.00	0.00	$ 72.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.50	0.00	$ 3.50
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.00	0.00	$ 23.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	6	$ 16.00	0.00	$ 96.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	6	$ 16.00	0.00	$ 96.00

METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	6	$ 16.00	0.00	$ 96.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 28.00	0.00	$ 168.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	6	$ 60.00	0.00	$ 360.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**7**	TOC
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**7**	Anions
VOA HCL	**32**	VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 151102
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 01/31/2020 10:41
Received Date / Time / By: 01/31/2020 10:01 EKB

Project Name: RADFORD AAP SWMU 49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 01/31/2020 10:41 EKB
Project #: PM: BMS

Coolers: 5543
Custody Seals Present : **Y**

Temperature: 0.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED & SIGNED
Tracking Number: 390049516478
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 1/30/2020 & SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
384609 TB-3				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	(***VOA HCL***) = **2**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
384610 48MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
384610 48MW1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
384610 48MW1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
384613 49MW01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
384613 49MW01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		

384613	49MW01				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

384614	50MW02				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
384614	50MW02				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) =**	**5**	
384614	50MW02				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

384615	48MW2				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
384615	48MW2				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) =**	**5**	
384615	48MW2				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

384616	48MW3				
		UNPRES PL	1	/	Anions
		Total # of Containers of Type	**(*UNPRES PL*) =**	**1**	
384616	48MW3				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	**(*VOA HCL*) =**	**5**	
384616	48MW3				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	**(*H2SO4 PL*) =**	**1**	

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

384617	48TW3				
		UNPRES PL	1	/	Anions

		Total # of Containers of Type	(***UNPRES PL***) =	**1**	
384617	48TW3				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	(***VOA HCL***) =	**5**	
384617	48TW3				
		H2SO4 PL	1 Y	/	TOC
		Total # of Containers of Type	(***H2SO4 PL***) =	**1**	

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
384619 49IDW				
	HNO3	1 Y	/	HG,ICP,K,NA
	Total # of Containers of Type	(***HNO3***) =	**1**	
384619 49IDW				
	UNPRES PL	1	/	pH
	Total # of Containers of Type	(***UNPRES PL***) =	**1**	
384619 49IDW				
	H2SO4 PL	1 Y	/	TOC
	Total # of Containers of Type	(***H2SO4 PL***) =	**1**	

Condition Code	*Condition Description*
1	Sample Received OK

CT LABORATORIES

delivering more than data from your environmental analyses

ANALYTICAL RESULTS FOR:

ANTHONY PACE
WESTON SOLUTIONS, INC.
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

PROJECT SITE:	RFAAP SWMU-49; RADFORD, VA
DOD CONTRACT #:	
PROJECT #:	
SDG:	***152873***
FOLDERS:	152873, 152924, 152962
PREPARED:	May 21, 2020
TOTAL # OF PAGES:	1466

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents

Section	Page
Cover Page	1
Table of Contents	2
Case Narrative and Summary of Detects (if applicable)	3
Data Qualifier Sheet	7
Sample Delivery Group Summary	9
QC Batch Cross Reference	10
VOC QC Summary Documents	13
VOC Sample Data Documents	120
VOC ICAL Documents	231
VOC CCV Documents	309
VOC QC Documents	354
VOC Logbook Documents	387
Metals CLP Forms Documents	427
Metals Raw Data Documents	504
Metals Logbook Documents	793
Inorganic CLP Forms Documents	1122
Inorganic Raw Data Documents	1217
Inorganic Logbook Documents	1325
Chain of Custody, PM Confirmation and Sample Condition Forms	1436

CT LABORATORIES

delivering more than data from your environmental analyses

Case Narrative

Client: Bering Sea Environmental
Project: RFAAP SWMU-49, Radford, VA
Sample Receipt Dates: 04/28/2020, 04/30/2020, 05/01/2020
SDG #: *152873* (Folder #'s 152873, 152924, & 152962)

Fifteen water samples were received and analyzed for a variety of parameters, including: VOCs, Dissolved Gases, Metals, pH, COD, Anions, and TOC. Three Trip Blanks were included with the VOCs. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.1 requirements.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C (VOC) and RSK-175 (Dissolved Gases). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

VOC (8260C) Water Analysis

Analytical Run # 170774

CCV1 had a low recovery outside of specified limits for 1,4-dioxane. This compound was qualified with a "Z" flag in the associated samples.

The Laboratory Control Sample (LCS) had a low recovery for 1,4-dioxane. This compound was qualified with a "Q" flag in the associated samples.

The Matrix Spike (MS) for sample # 412563 had a low recovery for bromomethane. The Matrix Spike Duplicate (MSD) for this sample had low recoveries for cis-1,3-dichloropropene and methyl acetate. The parent sample results for these compounds were qualified with an "M" flag. The Relative Percent Difference (RPD) limits between the spikes were exceeded for 1,2-dibromo-3-chloropropane, 2-butanone, 4-methyl-2-pentanone, and bromomethane. The parent sample results for these compounds were qualified with a "Y" flag.

Analytical Run # 170842

CCV1 had a low recovery outside of specified limits for 1,4-dioxane. This compound was qualified with a "Z" flag in the associated samples.

CCVF1 had a low recovery outside of specified limits for 1,4-dioxane. This compound was qualified with a "Z" flag in the associated samples.

The LCS and/or the Laboratory Control Sample Duplicate (LCSD) had low recoveries for bromomethane and 1,4-dioxane. These compounds were qualified with a "Q" flag in the associated samples. The RPD limits between the LCS and the LCSD were exceeded for bromomethane and 1,4-dioxane. These compounds were qualified with a "Y" flag in the associated samples.

Dissolved Gases (RSK-175) Analysis

Analytical Run # 170734

All analytical results for this run met the method/project specified quality control criteria.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 170875

Arsenic, beryllium, copper, and selenium were detected in the Method Blank (MB) greater than the Method Detection Limit (MDL) but less than ½ the Reporting Limit (RL). The sample was reported and qualified with a "B" flag when the MB results were greater than 1/10th of the sample results.

The MS and MSD for sample # 413975 had recoveries outside of acceptable limits for aluminum, barium, cadmium, calcium, copper, iron, lead, magnesium, manganese, thallium, and vanadium. A Serial Dilution (L) was analyzed and was not applicable for cadmium, copper, lead, thallium, and vanadium because the parent sample raw results were less than 50 times the Limit of Quantitation (LOQ). The L was not acceptable for aluminum, calcium, iron, magnesium, and manganese because the results exceeded the RPD limit. A Post Digestion Spike (PDS) was analyzed and was unacceptable for iron and manganese. The parent sample was reported and qualified with an "M" flag for the failing elements. The parent sample was reported and not qualified for barium because the L was acceptable.

The Duplicate (DUP) for sample # 413975 was not applicable for antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc because the parent sample results were less than five times the LOQ. A MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

ICP Sodium & Potassium (6010C) Water Analysis

Analytical Run # 170876

All analytical results for this run met the method/project specified quality control criteria.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 170961

The sample QC was performed on a sample from SDG # 152892.

All analytical results for this run met the method/project specified quality control criteria.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC), 9040C (pH), 410.4 (COD) and 9056A (Anions). All samples were analyzed within the holding time unless noted below. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Water Analysis

Analytical Run # 170726

The MS and the MSD for sample # 412563 had a low recovery for sulfate. The parent sample result for this analyte was qualified with an "M" flag.

Analytical Run # 170809

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 170840

The MS and the MSD for sample # 413974 had a low recovery for sulfate. The parent sample result for this analyte was qualified with an "M" flag.

COD (410.4) Water Analysis

Analytical Run # 170802

The matrix spikes for this run were performed on a sample form a different SDG (SDG # 152892).

pH (9040C) Water Analysis

Analytical Run # 170848

All analytical results for this run met the method/project specified quality control criteria.

TOC (9060A) Water Analysis

Analytical Run # 170892

All analytical results for this run met the method/project specified quality control criteria.

The DUP for sample # 412563 was considered invalid (result <LOD). The parent sample result was not qualified.

CT LABORATORIES

delivering more than data from your environmental analyses

Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

CT LABORATORIES

delivering more than data from your environmental analyses

MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sample Delivery Group

152873

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name: RADFORD AAP SWMU-49
Project #:

	CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
1	412552	152873		TB-1	TRIP BLANK	04/27/2020	04/28/2020
2	412553	152873		13MW4	GROUND WATER	04/27/2020	04/28/2020
3	412558	152873		13MW3	GROUND WATER	04/27/2020	04/28/2020
4	412559	152873		13TW3	GROUND WATER	04/27/2020	04/28/2020
5	412562	152873		49MW04	GROUND WATER	04/27/2020	04/28/2020
6	412563	152873		13MW2	GROUND WATER	04/27/2020	04/28/2020
7	413571	152924		48MW06	GROUND WATER	04/29/2020	04/30/2020
8	413572	152924		49EQB-48MW06	GROUND WATER	04/29/2020	04/30/2020
9	413573	152924		TB-2	TRIP BLANK	04/29/2020	04/30/2020
10	413574	152924		48MW1	GROUND WATER	04/29/2020	04/30/2020
11	413575	152924		49MW01	GROUND WATER	04/29/2020	04/30/2020
12	413576	152924		48MW2	GROUND WATER	04/29/2020	04/30/2020
13	413970	152962		TB-3	TRIP BLANK	04/30/2020	05/01/2020
14	413971	152962		50MW02	GROUND WATER	04/30/2020	05/01/2020
15	413972	152962		48MW3	GROUND WATER	04/30/2020	05/01/2020
16	413973	152962		48TW3	GROUND WATER	04/30/2020	05/01/2020
17	413974	152962		49MW02	GROUND WATER	04/30/2020	05/01/2020
18	413975	152962		49IDW	GROUND WATER	04/30/2020	05/01/2020

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

QC Batch Cross Reference Summary

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name: RADFORD AAP SWMU-49
Project #:
Report Date: 05/20/2020
Date Received: 05/01/2020
SDG #: 152873

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
413975	pH	EPA 9040C	GROUND WATER		170848

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
413975	COD QSM	EPA 410.4	GROUND WATER	76294	170862

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
412553	Anions QSM 5.0	EPA 9056A	GROUND WATER		170726
412558	Anions QSM 5.0	EPA 9056A	GROUND WATER		170726
412559	Anions QSM 5.0	EPA 9056A	GROUND WATER		170726
412562	Anions QSM 5.0	EPA 9056A	GROUND WATER		170726
412563	Anions QSM 5.0	EPA 9056A	GROUND WATER		170726
413571	Anions QSM 5.0	EPA 9056A	GROUND WATER		170809
413572	Anions QSM 5.0	EPA 9056A	GROUND WATER		170809
413574	Anions QSM 5.0	EPA 9056A	GROUND WATER		170809
413575	Anions QSM 5.0	EPA 9056A	GROUND WATER		170809
413576	Anions QSM 5.0	EPA 9056A	GROUND WATER		170809
413971	Anions QSM 5.0	EPA 9056A	GROUND WATER		170840
413972	Anions QSM 5.0	EPA 9056A	GROUND WATER		170840
413973	Anions QSM 5.0	EPA 9056A	GROUND WATER		170840
413974	Anions QSM 5.0	EPA 9056A	GROUND WATER		170840
412558	Anions QSM 5.0	EPA 9056A	GROUND WATER		170726
412559	Anions QSM 5.0	EPA 9056A	GROUND WATER		170726
413571	Anions QSM 5.0	EPA 9056A	GROUND WATER		170809

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
412553	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
412558	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
412559	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
412562	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU-49
Project #:
SDG #: 152873

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
412563	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413571	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413572	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413574	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413575	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413576	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413971	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413972	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413973	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892
413974	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		170892

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
413975	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	76290	170876

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
413975	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	76290	170876

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
413975	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	76290	170875

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
413975	Mercury, Total QSM	EPA 7470A	GROUND WATER	76285	170961

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
412552	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		170774
412553	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
412558	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
412559	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
412562	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
412563	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
413571	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
413572	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
413573	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		170774
413574	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU-49
Project #:
SDG #: 152873

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
413575	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
413576	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170774
413970	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		170842
413971	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170842
413972	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170842
413973	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170842
413974	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		170842

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
412553	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
412558	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
412559	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
412562	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
412563	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413571	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413572	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413574	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413575	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413576	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413971	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413972	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413973	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734
413974	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	76239	170734

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	412563
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:41	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412563
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Y	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U Y	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U Y	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U M,Y	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412563
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.33	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U M	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U M	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412563
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	412558
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:26	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412558
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412558
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	3.5		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.37	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412558
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.66	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	412553
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:17	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412553
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412553
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412553
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 12:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.56	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	412559
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412559
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412559
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	4.4		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.43	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412559
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.85	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413571
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.73		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413571
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.84	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	5.2		0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	2.4		0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413571
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	8.3		0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.82	J	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413571
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	5.4		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413574
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:10	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413574
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.79	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413574
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.58	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413574
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:29	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.5		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413576
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:25	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	1.1		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413576
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 16:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413576
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 16:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	33		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	3.6		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413576
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 16:28	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.9		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413972
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413972
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.62	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q,Y	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Q,Y	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413972
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	64		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	12		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413972
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	12		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413973
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:45	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413973
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.57	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q,Y	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Q,Y	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413973
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	63		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	12		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413973
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	12		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413572
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413572
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	9.7	J	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413572
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.30	J	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EQB-48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413572
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 14:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413575
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413575
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413575
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	3.1		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.39	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	0.80	J	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413575
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 15:59	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413974
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 12:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.37	J	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413974
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q,Y	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Q,Y	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413974
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413974
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	412562
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:35	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412562
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412562
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.40	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412562
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 13:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	413971
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 11:36	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	2.6		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413971
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.35	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q,Y	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Q,Y	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413971
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.68	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.50	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413971
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 13:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.4		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412552
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412552
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	0.95	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	412552
% Solids:		Date Received:	04/28/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:01	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413573
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Q,Z	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413573
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413573
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170774	Dilution Factor:	1.00
Date & Time Analyzed:	05/01/2020 / 11:30	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413970
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q,Y	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Q,Y	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413970
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.1	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413970
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	170842	Dilution Factor:	1.00
Date & Time Analyzed:	05/04/2020 / 10:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

METHOD BLANK

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	20.5 (g/mL)	CTL Sample ID:	412923
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	20.5 (mL)	Date/Time Prepared:	05/04/2020 / 09:00
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	76239
Analytical Run #:	170734	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	05/04/2020	10:05	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	05/04/2020	10:05	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	05/04/2020	10:05	0.3	U	0.3	0.7	***0.4***

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

METHOD BLANK

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413968
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170774	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	05/01/2020	10:30	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
79-00-5	1,1,2-Trichloroethane	05/01/2020	10:30	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
75-35-4	1,1-Dichloroethene	05/01/2020	10:30	0.4	U	0.4	2.0	***1.0***
87-61-6	1,2,3-Trichlorobenzene	05/01/2020	10:30	0.23	U	0.23	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	05/01/2020	10:30	0.28	U	0.28	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	05/01/2020	10:30	0.25	U	0.25	1.00	***0.50***
106-93-4	1,2-Dibromoethane	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
107-06-2	1,2-Dichloroethane	05/01/2020	10:30	0.24	U	0.24	1.00	***0.50***
78-87-5	1,2-Dichloropropane	05/01/2020	10:30	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	05/01/2020	10:30	0.26	U	0.26	1.00	***0.50***
123-91-1	1,4-Dioxane	05/01/2020	10:30	34	U	34	100	***50***
78-93-3	2-Butanone	05/01/2020	10:30	2.6	U	2.6	10.0	***5.0***
591-78-6	2-Hexanone	05/01/2020	10:30	3	U	3	10	***5***
108-10-1	4-Methyl-2-pentanone	05/01/2020	10:30	2.2	U	2.2	10.0	***5.0***
67-64-1	Acetone	05/01/2020	10:30	4	U	4	20	***10***
71-43-2	Benzene	05/01/2020	10:30	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
75-27-4	Bromodichloromethane	05/01/2020	10:30	0.29	U	0.29	1.00	***0.50***
75-25-2	Bromoform	05/01/2020	10:30	0.4	U	0.4	2.0	***1.0***
74-83-9	Bromomethane	05/01/2020	10:30	0.9	U	0.9	4.0	***2.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413968
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170774	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
75-15-0	Carbon disulfide	05/01/2020	10:30	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
108-90-7	Chlorobenzene	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
75-00-3	Chloroethane	05/01/2020	10:30	0.5	U	0.5	2.0	***1.0***
67-66-3	Chloroform	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	05/01/2020	10:30	0.6	U	0.6	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	05/01/2020	10:30	0.3	U	0.3	1.00	***0.5***
10061-01-5	cis-1,3-Dichloropropene	05/01/2020	10:30	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
124-48-1	Dibromochloromethane	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
75-71-8	Dichlorodifluoromethane	05/01/2020	10:30	0.4	U	0.4	2.0	***1.0***
100-41-4	Ethylbenzene	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
76-13-1	Freon 113	05/01/2020	10:30	0.7	U	0.7	4.0	***2.0***
98-82-8	Isopropylbenzene	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
179601-23-1	m & p-Xylene	05/01/2020	10:30	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	05/01/2020	10:30	0.5	U	0.5	2.0	***1.0***
1634-04-4	Methyl tert-butyl ether	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
108-87-2	Methylcyclohexane	05/01/2020	10:30	0.26	U	0.26	1.00	***0.50***
75-09-2	Methylene chloride	05/01/2020	10:30	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	05/01/2020	10:30	0.26	U	0.26	1.00	***0.50***
100-42-5	Styrene	05/01/2020	10:30	0.29	U	0.29	1.00	***0.50***
127-18-4	Tetrachloroethene	05/01/2020	10:30	0.27	U	0.27	1.00	***0.50***
108-88-3	Toluene	05/01/2020	10:30	0.21	U	0.21	1.00	***0.50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	413968
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170774	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
156-60-5	trans-1,2-Dichloroethene	05/01/2020	10:30	0.3	U	0.3	1.0	***0.50***
10061-02-6	trans-1,3-Dichloropropene	05/01/2020	10:30	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	05/01/2020	10:30	0.3	U	0.3	1.0	***0.5***
75-69-4	Trichlorofluoromethane	05/01/2020	10:30	0.4	U	0.4	2.0	***1.0***
75-01-4	Vinyl chloride	05/01/2020	10:30	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	414470
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170842	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	05/04/2020	09:52	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
79-00-5	1,1,2-Trichloroethane	05/04/2020	09:52	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
75-35-4	1,1-Dichloroethene	05/04/2020	09:52	0.4	U	0.4	2.0	***1.0***
87-61-6	1,2,3-Trichlorobenzene	05/04/2020	09:52	0.23	U	0.23	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	05/04/2020	09:52	0.28	U	0.28	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	05/04/2020	09:52	0.25	U	0.25	1.00	***0.50***
106-93-4	1,2-Dibromoethane	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
107-06-2	1,2-Dichloroethane	05/04/2020	09:52	0.24	U	0.24	1.00	***0.50***
78-87-5	1,2-Dichloropropane	05/04/2020	09:52	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	05/04/2020	09:52	0.26	U	0.26	1.00	***0.50***
123-91-1	1,4-Dioxane	05/04/2020	09:52	34	U	34	100	***50***
78-93-3	2-Butanone	05/04/2020	09:52	2.6	U	2.6	10.0	***5.0***
591-78-6	2-Hexanone	05/04/2020	09:52	3	U	3	10	***5***
108-10-1	4-Methyl-2-pentanone	05/04/2020	09:52	2.2	U	2.2	10.0	***5.0***
67-64-1	Acetone	05/04/2020	09:52	4	U	4	20	***10***
71-43-2	Benzene	05/04/2020	09:52	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
75-27-4	Bromodichloromethane	05/04/2020	09:52	0.29	U	0.29	1.00	***0.50***
75-25-2	Bromoform	05/04/2020	09:52	0.4	U	0.4	2.0	***1.0***
74-83-9	Bromomethane	05/04/2020	09:52	0.9	U	0.9	4.0	***2.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	414470
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170842	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
75-15-0	Carbon disulfide	05/04/2020	09:52	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
108-90-7	Chlorobenzene	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
75-00-3	Chloroethane	05/04/2020	09:52	0.5	U	0.5	2.0	***1.0***
67-66-3	Chloroform	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	05/04/2020	09:52	0.6	U	0.6	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	05/04/2020	09:52	0.3	U	0.3	1.00	***0.5***
10061-01-5	cis-1,3-Dichloropropene	05/04/2020	09:52	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
124-48-1	Dibromochloromethane	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
75-71-8	Dichlorodifluoromethane	05/04/2020	09:52	0.4	U	0.4	2.0	***1.0***
100-41-4	Ethylbenzene	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
76-13-1	Freon 113	05/04/2020	09:52	0.7	U	0.7	4.0	***2.0***
98-82-8	Isopropylbenzene	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
179601-23-1	m & p-Xylene	05/04/2020	09:52	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	05/04/2020	09:52	0.5	U	0.5	2.0	***1.0***
1634-04-4	Methyl tert-butyl ether	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
108-87-2	Methylcyclohexane	05/04/2020	09:52	0.26	U	0.26	1.00	***0.50***
75-09-2	Methylene chloride	05/04/2020	09:52	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	05/04/2020	09:52	0.26	U	0.26	1.00	***0.50***
100-42-5	Styrene	05/04/2020	09:52	0.29	U	0.29	1.00	***0.50***
127-18-4	Tetrachloroethene	05/04/2020	09:52	0.27	U	0.27	1.00	***0.50***
108-88-3	Toluene	05/04/2020	09:52	0.21	U	0.21	1.00	***0.50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	414470
% Solids:		Date Received:	05/01/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170842	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
156-60-5	trans-1,2-Dichloroethene	05/04/2020	09:52	0.3	U	0.3	1.0	***0.50***
10061-02-6	trans-1,3-Dichloropropene	05/04/2020	09:52	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	05/04/2020	09:52	0.3	U	0.3	1.0	***0.5***
75-69-4	Trichlorofluoromethane	05/04/2020	09:52	0.4	U	0.4	2.0	***1.0***
75-01-4	Vinyl chloride	05/04/2020	09:52	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

CCB

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	416735
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170774	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
630-20-6	1,1,1,2-Tetrachloroethane	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
71-55-6	1,1,1-Trichloroethane	05/08/2020	11:32	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
79-00-5	1,1,2-Trichloroethane	05/08/2020	11:32	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
75-35-4	1,1-Dichloroethene	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
563-58-6	1,1-Dichloropropene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
87-61-6	1,2,3-Trichlorobenzene	05/08/2020	11:32	0.23	U	0.23	1.0	***0.5***
96-18-4	1,2,3-Trichloropropane	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	05/08/2020	11:32	0.28	U	0.28	1.0	***0.5***
95-63-6	1,2,4-Trimethylbenzene	05/08/2020	11:32	0.29	U	0.29	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	05/08/2020	11:32	0.25	U	0.25	1.0	***0.5***
106-93-4	1,2-Dibromoethane	05/08/2020	11:32	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
107-06-2	1,2-Dichloroethane	05/08/2020	11:32	0.24	U	0.24	1.0	***0.5***
78-87-5	1,2-Dichloropropane	05/08/2020	11:32	0.18	U	0.18	1.00	***0.50***
108-70-3	1,3,5-Trichlorobenzene	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
108-67-8	1,3,5-Trimethylbenzene	05/08/2020	11:32	0.27	U	0.27	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	05/08/2020	11:32	0.26	U	0.26	1.00	***0.50***
142-28-9	1,3-Dichloropropane	05/08/2020	11:32	0.17	U	0.17	0.6	***0.3***
764-41-0	1,4-Dichloro-2-butene	05/08/2020	11:32	0.3	U	0.3	1.0	***0.5***
106-46-7	1,4-Dichlorobenzene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
123-91-1	1,4-Dioxane	05/08/2020	11:32	34	U	34	100	***50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	416735
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170774	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
354-23-4	12Dichloro112trifluoroethane	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
544-10-5	1-Chlorohexane	05/08/2020	11:32	0.29	U	0.29	1.00	***0.50***
594-20-7	2,2-Dichloropropane	05/08/2020	11:32	0.30	U	0.30	1.00	***0.50***
78-93-3	2-Butanone	05/08/2020	11:32	2.6	U	2.6	10.0	***5***
110-75-8	2-Chloroethyl vinyl ether	05/08/2020	11:32	5	U	5	20	***10***
95-49-8	2-Chlorotoluene	05/08/2020	11:32	0.25	U	0.25	1.00	***0.50***
591-78-6	2-Hexanone	05/08/2020	11:32	3	U	3	10.0	***5.0***
79-46-9	2-Nitropropane	05/08/2020	11:32	1.7	U	1.7	10	***5***
106-43-4	4-Chlorotoluene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
108-10-1	4-Methyl-2-pentanone	05/08/2020	11:32	2.2	U	2.2	10	***5***
67-64-1	Acetone	05/08/2020	11:32	4	U	4	20	***10***
107-02-8	Acrolein	05/08/2020	11:32	1.6	U	1.6	5.0	***2.5***
107-13-1	Acrylonitrile	05/08/2020	11:32	1.9	U	1.9	5.0	***2.5***
71-43-2	Benzene	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
108-86-1	Bromobenzene	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	05/08/2020	11:32	0.30	U	0.30	1.00	***0.50***
75-27-4	Bromodichloromethane	05/08/2020	11:32	0.29	U	0.29	1.00	***0.50***
75-25-2	Bromoform	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
74-83-9	Bromomethane	05/08/2020	11:32	0.9	U	0.9	4.0	***2.0***
75-15-0	Carbon disulfide	05/08/2020	11:32	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
108-90-7	Chlorobenzene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
75-00-3	Chloroethane	05/08/2020	11:32	0.5	U	0.5	2.0	***1.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	416735
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170774	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
67-66-3	Chloroform	05/08/2020	11:32	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	05/08/2020	11:32	0.6	U	0.6	2.0	***1.0***
126-99-8	Chloroprene	05/08/2020	11:32	0.7	U	0.7	4.0	***2.0***
156-59-2	cis-1,2-Dichloroethene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
10061-01-5	cis-1,3-Dichloropropene	05/08/2020	11:32	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
108-94-1	Cyclohexanone	05/08/2020	11:32	7	U	7	20	***10***
124-48-1	Dibromochloromethane	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
74-95-3	Dibromomethane	05/08/2020	11:32	0.22	U	0.22	1.00	***0.50***
75-71-8	Dichlorodifluoromethane	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
75-43-4	Dichlorofluoromethane	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
108-20-3	Diisopropyl ether	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
141-78-6	Ethyl acetate	05/08/2020	11:32	0.7	U	0.7	10.0	***5.0***
60-29-7	Ethyl ether	05/08/2020	11:32	0.5	U	0.5	2.0	***1.0***
97-63-2	Ethyl methacrylate	05/08/2020	11:32	0.5	U	0.5	4.0	***2.0***
100-41-4	Ethylbenzene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
76-13-1	Freon 113	05/08/2020	11:32	0.7	U	0.7	4.0	***2.0***
87-68-3	Hexachlorobutadiene	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
110-54-3	Hexane	05/08/2020	11:32	0.7	U	0.7	4.0	***2.0***
74-88-4	Iodomethane	05/08/2020	11:32	1.9	U	1.9	8.0	***4.0***
98-82-8	Isopropylbenzene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
179601-23-1	m & p-Xylene	05/08/2020	11:32	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	05/08/2020	11:32	0.5	U	0.5	2.0	***1.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description: **CCB**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	152873
Sample wt/vol:	(g/mL)	CTL Sample ID:	416735
% Solids:		Date Received:	04/30/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	170774	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W042920.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
1634-04-4	Methyl tert-butyl ether	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
75-09-2	Methylene chloride	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
91-20-3	Naphthalene	05/08/2020	11:32	0.30	U	0.30	1.0	***0.5***
104-51-8	n-Butylbenzene	05/08/2020	11:32	0.29	U	0.29	1.00	***0.50***
103-65-1	n-Propylbenzene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
95-47-6	o-Xylene	05/08/2020	11:32	0.26	U	0.26	1.00	***0.50***
99-87-6	p-Isopropyltoluene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
135-98-8	sec-Butylbenzene	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
100-42-5	Styrene	05/08/2020	11:32	0.29	U	0.29	1.00	***0.50***
994-05-8	Tert-amyl methyl ether	05/08/2020	11:32	0.3	U	0.3	1.0	***0.5***
75-65-0	Tert-butyl alcohol	05/08/2020	11:32	16	U	16	50	***25***
637-92-3	Tert-butyl ethyl ether	05/08/2020	11:32	0.3	U	0.3	1.0	***0.5***
98-06-6	tert-Butylbenzene	05/08/2020	11:32	0.4	U	0.4	2	***1.0***
127-18-4	Tetrachloroethene	05/08/2020	11:32	0.27	U	0.27	1.0	***0.5***
109-99-9	Tetrahydrofuran	05/08/2020	11:32	3	U	3	10	***5***
108-88-3	Toluene	05/08/2020	11:32	0.21	U	0.21	1.00	***0.50***
156-60-5	trans-1,2-Dichloroethene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
10061-02-6	trans-1,3-Dichloropropene	05/08/2020	11:32	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	05/08/2020	11:32	0.3	U	0.3	1.00	***0.50***
75-69-4	Trichlorofluoromethane	05/08/2020	11:32	0.4	U	0.4	2.0	***1.0***
108-05-4	Vinyl acetate	05/08/2020	11:32	5	U	5	20	***10***
75-01-4	Vinyl chloride	05/08/2020	11:32	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	152873
Analytical Run #:	170774	ICAL Calibration #:	W042920.

CTLab #	412552				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	98	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**412553**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**412558**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**412559**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**412562**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	97	80	119	
CTLab #	**412563**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	97	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	98	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	152873
Analytical Run #:	170774	ICAL Calibration #:	W042920.

CTLab #	413571				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**413572**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**413573**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	104	80	119	
CTLab #	**413574**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	99	80	119	
CTLab #	**413575**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**413576**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	100	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Analytical Method: EPA 8260C | SDG: 152873

Analytical Run #: 170774 | ICAL Calibration #: W042920.

CTLab #	413899	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	97.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**413900**	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	70	120	
Bromofluorobenzene	100	97.0	70	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	101	85	115	
CTLab #	**413968**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	70	120	
Bromofluorobenzene	100	101	75	120	
d8-Toluene	100	99.0	85	120	
Dibromofluoromethane	100	101	85	115	
CTLab #	**414345**	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	98.0	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	99.0	80	119	
CTLab #	**414346**	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**414347**	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	50	150	
Bromofluorobenzene	100	100	50	150	
d8-Toluene	100	100	50	150	
Dibromofluoromethane	100	101	50	150	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	152873
Analytical Run #:	170774	ICAL Calibration #:	W042920.

CTLab #	416735	Sample Type:	Normal Field Sample		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	70	120	
Bromofluorobenzene	100	99.0	75	120	
d8-Toluene	100	101	85	120	
Dibromofluoromethane	100	102	85	115	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	152873
Analytical Run #:	170842	ICAL Calibration #:	W042920.

CTLab #	413970				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	413971				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	103	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	413972				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	98	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	413973				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	413974				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	106	80	119	

CTLab #	414442	Sample Type:	Continuing Calibration Verification		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	70	120	
Bromofluorobenzene	100	97.0	70	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	100	85	115	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	152873
Analytical Run #:	170842	ICAL Calibration #:	W042920.

CTLab #	414443	Sample Type:		Lab Control Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	81	118	
Bromofluorobenzene	100	97.0	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**414470**	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	70	120	
Bromofluorobenzene	100	102	75	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	99.0	85	115	
CTLab #	**414752**	Sample Type:		Lab Control Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	97.0	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	104	80	119	
CTLab #	**414753**	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	50	150	
Bromofluorobenzene	100	97.0	50	150	
d8-Toluene	100	102	50	150	
Dibromofluoromethane	100	104	50	150	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER | SDG No.: 152873

Analytical Method: EPA 8260C | Concentration Units: ug/L

Analytical Run #: 170774 | Sample No.: 414345 | Parent Sample No.: 412563

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	05/01/2020	17:58	74-131	10.7	BDL	10.0	107	
1,1,2,2-Tetrachloroethane	05/01/2020	17:58	71-121	9.54	BDL	10.0	95	
1,1,2-Trichloroethane	05/01/2020	17:58	80-119	9.60	BDL	10.0	96	
1,1-Dichloroethane	05/01/2020	17:58	77-125	10.3	BDL	10.0	103	
1,1-Dichloroethene	05/01/2020	17:58	71-131	10.4	BDL	10.0	104	
1,2,3-Trichlorobenzene	05/01/2020	17:58	69-129	10.0	BDL	10.0	100	
1,2,4-Trichlorobenzene	05/01/2020	17:58	69-130	9.85	BDL	10.0	98	
1,2-Dibromo-3-chloropropane	05/01/2020	17:58	62-128	9.40	BDL	10.0	94	
1,2-Dibromoethane	05/01/2020	17:58	77-121	9.24	BDL	10.0	92	
1,2-Dichlorobenzene	05/01/2020	17:58	80-119	9.67	BDL	10.0	97	
1,2-Dichloroethane	05/01/2020	17:58	73-128	9.62	BDL	10.0	96	
1,2-Dichloropropane	05/01/2020	17:58	78-122	9.90	BDL	10.0	99	
1,3-Dichlorobenzene	05/01/2020	17:58	80-119	9.74	BDL	10.0	97	
1,4-Dioxane	05/01/2020	17:58	59-139	335	BDL	500	67	
2-Butanone	05/01/2020	17:58	56-143	98.3	BDL	100	98	
2-Hexanone	05/01/2020	17:58	57-139	96.4	BDL	100	96	
4-Methyl-2-pentanone	05/01/2020	17:58	67-130	102	BDL	100	102	
Acetone	05/01/2020	17:58	39-160	94.7	BDL	100	95	
Benzene	05/01/2020	17:58	79-120	10.5	BDL	10.0	105	
Bromochloromethane	05/01/2020	17:58	78-123	9.41	BDL	10.0	94	
Bromodichloromethane	05/01/2020	17:58	79-125	10.2	BDL	10.0	102	
Bromoform	05/01/2020	17:58	66-130	8.72	BDL	10.0	87	
Bromomethane	05/01/2020	17:58	53-141	5.06	BDL	10.0	51	*FAIL*
Carbon disulfide	05/01/2020	17:58	64-133	23.3	BDL	20.0	116	
Carbon tetrachloride	05/01/2020	17:58	72-136	10.9	0.33	10.0	106	
Chlorobenzene	05/01/2020	17:58	82-118	9.89	BDL	10.0	99	
Chloroethane	05/01/2020	17:58	60-138	10.3	BDL	10.0	103	
Chloroform	05/01/2020	17:58	79-124	10.4	BDL	10.0	104	
Chloromethane	05/01/2020	17:58	50-139	10.5	BDL	10.0	105	
cis-1,2-Dichloroethene	05/01/2020	17:58	78-123	9.75	BDL	10.0	98	
cis-1,3-Dichloropropene	05/01/2020	17:58	75-124	8.76	BDL	10.0	88	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: GROUND WATER
SDG No.: 152873
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 170774
Sample No.: 414345
Parent Sample No.: 412563
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Cyclohexane	05/01/2020	17:58	71-130	11.3	BDL	10.0	113
Dibromochloromethane	05/01/2020	17:58	74-126	9.33	BDL	10.0	93
Dichlorodifluoromethane	05/01/2020	17:58	32-152	11.2	BDL	10.0	112
Ethylbenzene	05/01/2020	17:58	79-121	10.6	BDL	10.0	106
Freon 113	05/01/2020	17:58	70-136	22.2	BDL	20.0	111
Isopropylbenzene	05/01/2020	17:58	72-131	10.5	BDL	10.0	105
m & p-Xylene	05/01/2020	17:58	80-121	19.9	BDL	20.0	100
Methyl Acetate	05/01/2020	17:58	56-136	7.63	BDL	10.0	76
Methyl tert-butyl ether	05/01/2020	17:58	71-124	9.79	BDL	10.0	98
Methylcyclohexane	05/01/2020	17:58	72-132	11.1	BDL	10.0	111
Methylene chloride	05/01/2020	17:58	74-124	8.93	BDL	10.0	89
o-Xylene	05/01/2020	17:58	78-122	9.85	BDL	10.0	98
Styrene	05/01/2020	17:58	78-123	9.51	BDL	10.0	95
Tetrachloroethene	05/01/2020	17:58	74-129	10.3	BDL	10.0	103
Toluene	05/01/2020	17:58	80-121	10.4	BDL	10.0	104
trans-1,2-Dichloroethene	05/01/2020	17:58	75-124	9.97	BDL	10.0	100
trans-1,3-Dichloropropene	05/01/2020	17:58	73-127	8.82	BDL	10.0	88
Trichloroethene	05/01/2020	17:58	79-123	9.97	BDL	10.0	100
Trichlorofluoromethane	05/01/2020	17:58	65-141	10.8	BDL	10.0	108
Vinyl chloride	05/01/2020	17:58	58-137	10.1	BDL	10.0	101

Spike Recovery: 1 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 152873

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 170734 Sample No.: 414513 Parent Sample No.: 412563

Analytical Prep Batch #: 76239 Analytical Preparation Date/Time: 05/04/2020 09:00

ICAL Calibration #:

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	05/04/2020	10:48	74-131	4.31	BDL	4.78	90
Ethene	05/04/2020	10:48	72-133	6.34	BDL	6.79	93
Methane	05/04/2020	10:48	73-125	2.19	BDL	2.29	96

Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 152873

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 170774 Sample No.: 414346 Parent Sample No.: 414345

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
1,1,1-Trichloroethane	05/01/2020	18:27	9.13	10.0	91	16	74-131	20	
1,1,2,2-Tetrachloroethane	05/01/2020	18:27	7.99	10.0	80	18	71-121	20	
1,1,2-Trichloroethane	05/01/2020	18:27	8.28	10.0	83	15	80-119	20	
1,1-Dichloroethane	05/01/2020	18:27	8.99	10.0	90	14	77-125	20	
1,1-Dichloroethene	05/01/2020	18:27	9.18	10.0	92	12	71-131	20	
1,2,3-Trichlorobenzene	05/01/2020	18:27	8.54	10.0	85	16	69-129	20	
1,2,4-Trichlorobenzene	05/01/2020	18:27	8.50	10.0	85	15	69-130	20	
1,2-Dibromo-3-chloropropane	05/01/2020	18:27	7.19	10.0	72	27	62-128	20	*FAIL*
1,2-Dibromoethane	05/01/2020	18:27	8.11	10.0	81	13	77-121	20	
1,2-Dichlorobenzene	05/01/2020	18:27	8.46	10.0	85	13	80-119	20	
1,2-Dichloroethane	05/01/2020	18:27	8.27	10.0	83	15	73-128	20	
1,2-Dichloropropane	05/01/2020	18:27	8.43	10.0	84	16	78-122	20	
1,3-Dichlorobenzene	05/01/2020	18:27	8.56	10.0	86	13	80-119	20	
1,4-Dioxane	05/01/2020	18:27	295	500	59	13	59-139	20	
2-Butanone	05/01/2020	18:27	78.9	100	79	22	56-143	20	*FAIL*
2-Hexanone	05/01/2020	18:27	80.7	100	81	18	57-139	20	
4-Methyl-2-pentanone	05/01/2020	18:27	82.6	100	83	21	67-130	20	*FAIL*
Acetone	05/01/2020	18:27	80.8	100	81	16	39-160	20	
Benzene	05/01/2020	18:27	9.16	10.0	92	14	79-120	20	
Bromochloromethane	05/01/2020	18:27	8.40	10.0	84	11	78-123	20	
Bromodichloromethane	05/01/2020	18:27	8.74	10.0	87	15	79-125	20	
Bromoform	05/01/2020	18:27	7.99	10.0	80	9	66-130	20	
Bromomethane	05/01/2020	18:27	9.43	10.0	94	60	53-141	20	*FAIL*
Carbon disulfide	05/01/2020	18:27	20.6	20.0	103	12	64-133	20	
Carbon tetrachloride	05/01/2020	18:27	9.33	10.0	90	15	72-136	20	
Chlorobenzene	05/01/2020	18:27	8.64	10.0	86	13	82-118	20	
Chloroethane	05/01/2020	18:27	9.06	10.0	91	13	60-138	20	
Chloroform	05/01/2020	18:27	8.93	10.0	89	15	79-124	20	
Chloromethane	05/01/2020	18:27	9.90	10.0	99	6	50-139	20	
cis-1,2-Dichloroethene	05/01/2020	18:27	8.58	10.0	86	13	78-123	20	
cis-1,3-Dichloropropene	05/01/2020	18:27	7.25	10.0	72	19	75-124	20	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 152873

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 170774 Sample No.: 414346 Parent Sample No.: 414345

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)	
Cyclohexane	05/01/2020	18:27	9.84	10.0	98	14	71-130	20	
Dibromochloromethane	05/01/2020	18:27	8.24	10.0	82	12	74-126	20	
Dichlorodifluoromethane	05/01/2020	18:27	10.5	10.0	105	7	32-152	20	
Ethylbenzene	05/01/2020	18:27	9.20	10.0	92	14	79-121	20	
Freon 113	05/01/2020	18:27	20.0	20.0	100	11	70-136	20	
Isopropylbenzene	05/01/2020	18:27	9.16	10.0	92	14	72-131	20	
m & p-Xylene	05/01/2020	18:27	17.7	20.0	88	12	80-121	20	
Methyl Acetate	05/01/2020	18:27	5.03	10.0	50	41	56-136	20	*FAIL*
Methyl tert-butyl ether	05/01/2020	18:27	8.40	10.0	84	15	71-124	20	
Methylcyclohexane	05/01/2020	18:27	9.72	10.0	97	14	72-132	20	
Methylene chloride	05/01/2020	18:27	8.35	10.0	84	7	74-124	20	
o-Xylene	05/01/2020	18:27	8.64	10.0	86	13	78-122	20	
Styrene	05/01/2020	18:27	8.26	10.0	83	14	78-123	20	
Tetrachloroethene	05/01/2020	18:27	8.54	10.0	85	19	74-129	20	
Toluene	05/01/2020	18:27	8.88	10.0	89	16	80-121	20	
trans-1,2-Dichloroethene	05/01/2020	18:27	8.84	10.0	88	12	75-124	20	
trans-1,3-Dichloropropene	05/01/2020	18:27	7.28	10.0	73	19	73-127	20	
Trichloroethene	05/01/2020	18:27	8.50	10.0	85	16	79-123	20	
Trichlorofluoromethane	05/01/2020	18:27	9.52	10.0	95	13	65-141	20	
Vinyl chloride	05/01/2020	18:27	9.84	10.0	98	3	58-137	20	

RPD or Spike Recovery: 6 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 152873

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 170734 Sample No.: 414517 Parent Sample No.: 414513

Analytical Prep Batch #: 76239 Analytical Preparation Date/Time: 05/04/2020 09:00

ICAL Calibration #:

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	05/04/2020	10:54	4.62	4.78	97	7	74-131	30
Ethene	05/04/2020	10:54	6.55	6.79	96	3	72-133	30
Methane	05/04/2020	10:54	2.22	2.29	97	2	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 412924
SDG No.: 152873
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 412924
Parent Sample No.: 0
Analytical Prep Batch #: 76239
Analytical Preparation Date/Time: 05/04/2020 09:00
Analytical Run #: 170734
ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	05/04/2020	09:58	74-131	4.44		4.78	93
Ethene	05/04/2020	09:58	72-133	6.30		6.79	93
Methane	05/04/2020	09:58	73-125	2.30		2.29	100

Spike Recovery: 0 out of 3 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 413899
SDG No.: 152873
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 413899
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 170774
ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	05/01/2020	09:00	74-131	10.2		10.0	102	
1,1,2,2-Tetrachloroethane	05/01/2020	09:00	71-121	10.1		10.0	101	
1,1,2-Trichloroethane	05/01/2020	09:00	80-119	9.92		10.0	99	
1,1-Dichloroethane	05/01/2020	09:00	77-125	10.1		10.0	101	
1,1-Dichloroethene	05/01/2020	09:00	71-131	10.6		10.0	106	
1,2,3-Trichlorobenzene	05/01/2020	09:00	69-129	9.93		10.0	99	
1,2,4-Trichlorobenzene	05/01/2020	09:00	69-130	9.74		10.0	97	
1,2-Dibromo-3-chloropropane	05/01/2020	09:00	62-128	10.3		10.0	103	
1,2-Dibromoethane	05/01/2020	09:00	77-121	10.2		10.0	102	
1,2-Dichlorobenzene	05/01/2020	09:00	80-119	9.69		10.0	97	
1,2-Dichloroethane	05/01/2020	09:00	73-128	9.50		10.0	95	
1,2-Dichloropropane	05/01/2020	09:00	78-122	9.94		10.0	99	
1,3-Dichlorobenzene	05/01/2020	09:00	80-119	9.98		10.0	100	
1,4-Dioxane	05/01/2020	09:00	59-139	267		500	53	*FAIL*
2-Butanone	05/01/2020	09:00	56-143	100		100	100	
2-Hexanone	05/01/2020	09:00	57-139	102		100	102	
4-Methyl-2-pentanone	05/01/2020	09:00	67-130	104		100	104	
Acetone	05/01/2020	09:00	39-160	99.7		100	100	
Benzene	05/01/2020	09:00	79-120	10.4		10.0	104	
Bromochloromethane	05/01/2020	09:00	78-123	9.45		10.0	94	
Bromodichloromethane	05/01/2020	09:00	79-125	10.1		10.0	101	
Bromoform	05/01/2020	09:00	66-130	9.57		10.0	96	
Bromomethane	05/01/2020	09:00	53-141	10.4		10.0	104	
Carbon disulfide	05/01/2020	09:00	64-133	22.2		20.0	111	
Carbon tetrachloride	05/01/2020	09:00	72-136	9.99		10.0	100	
Chlorobenzene	05/01/2020	09:00	82-118	10.2		10.0	102	
Chloroethane	05/01/2020	09:00	60-138	10.0		10.0	100	
Chloroform	05/01/2020	09:00	79-124	10.2		10.0	102	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Sample No.: 413899

SDG No.: 152873

Analytical Method: EPA 8260C

Concentration Units: ug/L

Sample No.: 413899

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 170774

ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloromethane	05/01/2020	09:00	50-139	9.98		10.0	100
cis-1,2-Dichloroethene	05/01/2020	09:00	78-123	9.68		10.0	97
cis-1,3-Dichloropropene	05/01/2020	09:00	75-124	10.1		10.0	101
Cyclohexane	05/01/2020	09:00	71-130	10.9		10.0	109
Dibromochloromethane	05/01/2020	09:00	74-126	9.59		10.0	96
Dichlorodifluoromethane	05/01/2020	09:00	32-152	10.7		10.0	107
Ethylbenzene	05/01/2020	09:00	79-121	10.6		10.0	106
Freon 113	05/01/2020	09:00	70-136	21.3		20.0	106
Isopropylbenzene	05/01/2020	09:00	72-131	10.7		10.0	107
m & p-Xylene	05/01/2020	09:00	80-121	20.9		20.0	104
Methyl Acetate	05/01/2020	09:00	56-136	10.0		10.0	100
Methyl tert-butyl ether	05/01/2020	09:00	71-124	9.95		10.0	100
Methylcyclohexane	05/01/2020	09:00	72-132	10.6		10.0	106
Methylene chloride	05/01/2020	09:00	74-124	9.58		10.0	96
o-Xylene	05/01/2020	09:00	78-122	10.2		10.0	102
Styrene	05/01/2020	09:00	78-123	10.3		10.0	103
Tetrachloroethene	05/01/2020	09:00	74-129	10.2		10.0	102
Toluene	05/01/2020	09:00	80-121	10.4		10.0	104
trans-1,2-Dichloroethene	05/01/2020	09:00	75-124	10.0		10.0	100
trans-1,3-Dichloropropene	05/01/2020	09:00	73-127	10.3		10.0	103
Trichloroethene	05/01/2020	09:00	79-123	9.77		10.0	98
Trichlorofluoromethane	05/01/2020	09:00	65-141	10.5		10.0	105
Vinyl chloride	05/01/2020	09:00	58-137	10.2		10.0	102

Spike Recovery: 1 out of 51 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 414443
SDG No.: 152873
Analytical Method: EPA 8260C
Concentration Units: ug/L

Sample No.: 414443
Parent Sample No.: 0
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 170842
ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	05/04/2020	08:22	74-131	9.47		10.0	95	
1,1,2,2-Tetrachloroethane	05/04/2020	08:22	71-121	8.57		10.0	86	
1,1,2-Trichloroethane	05/04/2020	08:22	80-119	9.22		10.0	92	
1,1-Dichloroethane	05/04/2020	08:22	77-125	9.27		10.0	93	
1,1-Dichloroethene	05/04/2020	08:22	71-131	9.37		10.0	94	
1,2,3-Trichlorobenzene	05/04/2020	08:22	69-129	8.60		10.0	86	
1,2,4-Trichlorobenzene	05/04/2020	08:22	69-130	9.25		10.0	92	
1,2-Dibromo-3-chloropropane	05/04/2020	08:22	62-128	8.45		10.0	84	
1,2-Dibromoethane	05/04/2020	08:22	77-121	9.12		10.0	91	
1,2-Dichlorobenzene	05/04/2020	08:22	80-119	9.13		10.0	91	
1,2-Dichloroethane	05/04/2020	08:22	73-128	9.17		10.0	92	
1,2-Dichloropropane	05/04/2020	08:22	78-122	9.62		10.0	96	
1,3-Dichlorobenzene	05/04/2020	08:22	80-119	9.09		10.0	91	
1,4-Dioxane	05/04/2020	08:22	59-139	286		500	57	*FAIL*
2-Butanone	05/04/2020	08:22	56-143	82.1		100	82	
2-Hexanone	05/04/2020	08:22	57-139	80.4		100	80	
4-Methyl-2-pentanone	05/04/2020	08:22	67-130	84.9		100	85	
Acetone	05/04/2020	08:22	39-160	87.2		100	87	
Benzene	05/04/2020	08:22	79-120	9.76		10.0	98	
Bromochloromethane	05/04/2020	08:22	78-123	8.93		10.0	89	
Bromodichloromethane	05/04/2020	08:22	79-125	9.76		10.0	98	
Bromoform	05/04/2020	08:22	66-130	9.18		10.0	92	
Bromomethane	05/04/2020	08:22	53-141	9.23		10.0	92	
Carbon disulfide	05/04/2020	08:22	64-133	20.8		20.0	104	
Carbon tetrachloride	05/04/2020	08:22	72-136	9.48		10.0	95	
Chlorobenzene	05/04/2020	08:22	82-118	9.24		10.0	92	
Chloroethane	05/04/2020	08:22	60-138	9.00		10.0	90	
Chloroform	05/04/2020	08:22	79-124	9.37		10.0	94	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Sample No.: 414443

SDG No.: 152873

Analytical Method: EPA 8260C

Concentration Units: ug/L

Sample No.: 414443

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 170842

ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloromethane	05/04/2020	08:22	50-139	9.53		10.0	95
cis-1,2-Dichloroethene	05/04/2020	08:22	78-123	9.46		10.0	95
cis-1,3-Dichloropropene	05/04/2020	08:22	75-124	9.59		10.0	96
Cyclohexane	05/04/2020	08:22	71-130	9.98		10.0	100
Dibromochloromethane	05/04/2020	08:22	74-126	9.29		10.0	93
Dichlorodifluoromethane	05/04/2020	08:22	32-152	10.1		10.0	101
Ethylbenzene	05/04/2020	08:22	79-121	9.78		10.0	98
Freon 113	05/04/2020	08:22	70-136	19.8		20.0	99
Isopropylbenzene	05/04/2020	08:22	72-131	9.92		10.0	99
m & p-Xylene	05/04/2020	08:22	80-121	18.9		20.0	94
Methyl Acetate	05/04/2020	08:22	56-136	8.72		10.0	87
Methyl tert-butyl ether	05/04/2020	08:22	71-124	9.06		10.0	91
Methylcyclohexane	05/04/2020	08:22	72-132	10.0		10.0	100
Methylene chloride	05/04/2020	08:22	74-124	8.95		10.0	90
o-Xylene	05/04/2020	08:22	78-122	9.05		10.0	90
Styrene	05/04/2020	08:22	78-123	9.60		10.0	96
Tetrachloroethene	05/04/2020	08:22	74-129	9.59		10.0	96
Toluene	05/04/2020	08:22	80-121	9.58		10.0	96
trans-1,2-Dichloroethene	05/04/2020	08:22	75-124	9.06		10.0	91
trans-1,3-Dichloropropene	05/04/2020	08:22	73-127	9.82		10.0	98
Trichloroethene	05/04/2020	08:22	79-123	8.91		10.0	89
Trichlorofluoromethane	05/04/2020	08:22	65-141	9.73		10.0	97
Vinyl chloride	05/04/2020	08:22	58-137	9.50		10.0	95

Spike Recovery: 1 out of 51 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE LAB CONTROL SAMPLE

Sample Description: **LCSD**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 414752
SDG No.: 152873
Analytical Method: EPA 8260C
Concentration Units: ug/L

Analytical Run #: 170842 Sample No.: 414752 Parent Sample No.: 414443
Analytical Prep Batch #: 0 Analytical Preparation Date/Time:
ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Spike Result	Parent Result	Spike Amount	%R	%RPD	Control Limit (%R)	Control Limit (%RPD)	
1,1,1-Trichloroethane	05/04/2020	19:49	9.98	9.47	10.0	100	5	74-131	20	
1,1,2,2-Tetrachloroethane	05/04/2020	19:49	9.33	8.57	10.0	93	8	71-121	20	
1,1,2-Trichloroethane	05/04/2020	19:49	9.81	9.22	10.0	98	6	80-119	20	
1,1-Dichloroethane	05/04/2020	19:49	9.90	9.27	10.0	99	7	77-125	20	
1,1-Dichloroethene	05/04/2020	19:49	10.2	9.37	10.0	102	8	71-131	20	
1,2,3-Trichlorobenzene	05/04/2020	19:49	9.54	8.60	10.0	95	10	69-129	20	
1,2,4-Trichlorobenzene	05/04/2020	19:49	9.52	9.25	10.0	95	3	69-130	20	
1,2-Dibromo-3-chloropropane	05/04/2020	19:49	9.07	8.45	10.0	91	7	62-128	20	
1,2-Dibromoethane	05/04/2020	19:49	9.59	9.12	10.0	96	5	77-121	20	
1,2-Dichlorobenzene	05/04/2020	19:49	9.73	9.13	10.0	97	6	80-119	20	
1,2-Dichloroethane	05/04/2020	19:49	9.61	9.17	10.0	96	5	73-128	20	
1,2-Dichloropropane	05/04/2020	19:49	9.49	9.62	10.0	95	1	78-122	20	
1,3-Dichlorobenzene	05/04/2020	19:49	9.57	9.09	10.0	96	5	80-119	20	
1,4-Dioxane	05/04/2020	19:49	222	286	500	44	25	59-139	20	*FAIL*
2-Butanone	05/04/2020	19:49	94.4	82.1	100	94	14	56-143	20	
2-Hexanone	05/04/2020	19:49	94.4	80.4	100	94	16	57-139	20	
4-Methyl-2-pentanone	05/04/2020	19:49	99.6	84.9	100	100	16	67-130	20	
Acetone	05/04/2020	19:49	96.5	87.2	100	96	10	39-160	20	
Benzene	05/04/2020	19:49	10.3	9.76	10.0	103	5	79-120	20	
Bromochloromethane	05/04/2020	19:49	9.33	8.93	10.0	93	4	78-123	20	
Bromodichloromethane	05/04/2020	19:49	9.75	9.76	10.0	98	0	79-125	20	
Bromoform	05/04/2020	19:49	8.79	9.18	10.0	88	4	66-130	20	
Bromomethane	05/04/2020	19:49	5.02	9.23	10.0	50	59	53-141	20	*FAIL*
Carbon disulfide	05/04/2020	19:49	20.8	20.8	20.0	104	0	64-133	20	
Carbon tetrachloride	05/04/2020	19:49	9.80	9.48	10.0	98	3	72-136	20	
Chlorobenzene	05/04/2020	19:49	9.79	9.24	10.0	98	6	82-118	20	
Chloroethane	05/04/2020	19:49	10.1	9.00	10.0	101	12	60-138	20	
Chloroform	05/04/2020	19:49	9.74	9.37	10.0	97	4	79-124	20	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE LAB CONTROL SAMPLE

Sample Description: **LCSD**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 414752
SDG No.: 152873
Analytical Method: EPA 8260C
Concentration Units: ug/L

Analytical Run #: 170842 Sample No.: 414752 Parent Sample No.: 414443
Analytical Prep Batch #: 0 Analytical Preparation Date/Time:
ICAL Calibration #: W042920.

Analyte	Analysis Date/Time		Spike Result	Parent Result	Spike Amount	%R	%RPD	Control Limit (%R)	Control Limit (%RPD)
Chloromethane	05/04/2020	19:49	9.70	9.53	10.0	97	2	50-139	20
cis-1,2-Dichloroethene	05/04/2020	19:49	9.53	9.46	10.0	95	1	78-123	20
cis-1,3-Dichloropropene	05/04/2020	19:49	9.50	9.59	10.0	95	1	75-124	20
Cyclohexane	05/04/2020	19:49	10.5	9.98	10.0	105	5	71-130	20
Dibromochloromethane	05/04/2020	19:49	9.36	9.29	10.0	94	1	74-126	20
Dichlorodifluoromethane	05/04/2020	19:49	10.4	10.1	10.0	104	3	32-152	20
Ethylbenzene	05/04/2020	19:49	10.2	9.78	10.0	102	4	79-121	20
Freon 113	05/04/2020	19:49	20.6	19.8	20.0	103	4	70-136	20
Isopropylbenzene	05/04/2020	19:49	10.2	9.92	10.0	102	3	72-131	20
m & p-Xylene	05/04/2020	19:49	19.5	18.9	20.0	98	3	80-121	20
Methyl Acetate	05/04/2020	19:49	9.29	8.72	10.0	93	6	56-136	20
Methyl tert-butyl ether	05/04/2020	19:49	9.57	9.06	10.0	96	5	71-124	20
Methylcyclohexane	05/04/2020	19:49	10.1	10.0	10.0	101	1	72-132	20
Methylene chloride	05/04/2020	19:49	9.31	8.95	10.0	93	4	74-124	20
o-Xylene	05/04/2020	19:49	9.85	9.05	10.0	98	8	78-122	20
Styrene	05/04/2020	19:49	9.85	9.60	10.0	98	3	78-123	20
Tetrachloroethene	05/04/2020	19:49	10.0	9.59	10.0	100	4	74-129	20
Toluene	05/04/2020	19:49	9.84	9.58	10.0	98	3	80-121	20
trans-1,2-Dichloroethene	05/04/2020	19:49	9.71	9.06	10.0	97	7	75-124	20
trans-1,3-Dichloropropene	05/04/2020	19:49	9.28	9.82	10.0	93	6	73-127	20
Trichloroethene	05/04/2020	19:49	9.70	8.91	10.0	97	8	79-123	20
Trichlorofluoromethane	05/04/2020	19:49	10.5	9.73	10.0	105	8	65-141	20
Vinyl chloride	05/04/2020	19:49	9.94	9.50	10.0	99	5	58-137	20

RPD or Spike Recovery: 2 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	412923	SDG No.:	152873
Matrix:	LIQUID	Date Extracted:	05/04/2020
Date Analyzed:	05/04/2020	Time Analyzed:	10:05
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	170734	Extraction Batch #:	76239
		ICAL Calibration #:	P4DG121319

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	414485	05/04/2020 09:22	P4DG121319
2	LCSW	412924	05/04/2020 09:58	P4DG121319
3	MBW	412923	05/04/2020 10:05	P4DG121319
4	13MW4	412553	05/04/2020 10:17	P4DG121319
5	13MW3	412558	05/04/2020 10:26	P4DG121319
6	13TW3	412559	05/04/2020 10:31	P4DG121319
7	49MW04	412562	05/04/2020 10:35	P4DG121319
8	13MW2	412563	05/04/2020 10:41	P4DG121319
9	13MW2MSW	414513	05/04/2020 10:48	
10	13MW2MSDW	414517	05/04/2020 10:54	
11	48MW06	413571	05/04/2020 11:00	P4DG121319
12	49EQB-48MW06	413572	05/04/2020 11:05	P4DG121319
13	48MW1	413574	05/04/2020 11:10	P4DG121319
14	49MW01	413575	05/04/2020 11:15	P4DG121319
15	48MW2	413576	05/04/2020 11:25	P4DG121319
16	CCV	414486	05/04/2020 11:28	P4DG121319
17	50MW02	413971	05/04/2020 11:36	P4DG121319
18	48MW3	413972	05/04/2020 11:40	P4DG121319
19	48TW3	413973	05/04/2020 11:45	P4DG121319
20	CCV	414487	05/04/2020 11:49	P4DG121319
21	49MW02	413974	05/04/2020 12:54	
22	CCV	414644	05/04/2020 12:58	

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	413968	SDG No.:	152873
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	05/01/2020	Time Analyzed:	10:30
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	170774	Extraction Batch #:	0
		ICAL Calibration #:	W042920.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	416568	05/01/2020 08:15	
2	LCSW	413899	05/01/2020 09:00	W042920.
3	CCV	413900	05/01/2020 09:00	W042920.
4	MBW	413968	05/01/2020 10:30	W042920.
5	TB-1	412552	05/01/2020 11:01	W042920.
6	TB-2	413573	05/01/2020 11:30	W042920.
7	13MW4	412553	05/01/2020 12:00	W042920.
8	13MW3	412558	05/01/2020 12:30	W042920.
9	13TW3	412559	05/01/2020 13:00	W042920.
10	49MW04	412562	05/01/2020 13:30	W042920.
11	13MW2	412563	05/01/2020 13:59	W042920.
12	48MW06	413571	05/01/2020 14:29	W042920.
13	49EQB-48MW06	413572	05/01/2020 14:59	W042920.
14	48MW1	413574	05/01/2020 15:29	W042920.
15	49MW01	413575	05/01/2020 15:59	W042920.
16	48MW2	413576	05/01/2020 16:28	W042920.
17	13MW2MSW	414345	05/01/2020 17:58	W042920.
18	13MW2MSDW	414346	05/01/2020 18:27	W042920.
19	CCVF	414347	05/01/2020 18:56	W042920.
20	CCB	416735	05/08/2020 11:32	W042920.

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	414470	SDG No.:	152873
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	05/04/2020	Time Analyzed:	09:52
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	170842	Extraction Batch #:	0
		ICAL Calibration #:	W042920.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	415999	05/04/2020 08:06	
2	CCV	414442	05/04/2020 08:22	W042920.
3	LCSW	414443	05/04/2020 08:22	W042920.
4	MBW	414470	05/04/2020 09:52	W042920.
5	TB-3	413970	05/04/2020 10:52	W042920.
6	50MW02	413971	05/04/2020 13:52	W042920.
7	48MW3	413972	05/04/2020 14:21	W042920.
8	48TW3	413973	05/04/2020 14:51	W042920.
9	49MW02	413974	05/04/2020 15:21	W042920.
10	LCSDW	414752	05/04/2020 19:49	W042920.
11	CCVF	414753	05/04/2020 19:49	W042920.

BFB

Data File : C:\Instarch\Data\APR2920\BFB1.D Vial: 1
Acq On : 29 Apr 2020 8:38 Operator: RLD-DGS
Sample : BFB DIRECT INJ. Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.681 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.8	15493	PASS
75	95	30	60	55.3	39268	PASS
95	95	100	100	100.0	70986	PASS
96	95	5	9	6.1	4352	PASS
173	174	0.00	2	0.5	324	PASS
174	95	50	100	85.6	60762	PASS
175	174	5	9	8.1	4929	PASS
176	174	95	101	95.5	58056	PASS
177	176	5	9	7.4	4288	PASS

W042920.M Thu Apr 30 12:38:58 2020

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\APR2920\BFB1.D
Injection Date : 29 Apr 2020 Log Time Period (hrs) : ALL
Injection Time : 08:38 Total files within period : 20
Sample Directory : C:\INSTARCH\DATA\APR2920\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	29 Apr 2020	09:54
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0	29 Apr 2020	10:23
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0	29 Apr 2020	10:54
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	29 Apr 2020	11:24
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0	29 Apr 2020	11:54
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0	29 Apr 2020	12:24
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0	29 Apr 2020	12:54
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0	29 Apr 2020	13:24
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0	29 Apr 2020	13:54
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	29 Apr 2020	14:54
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	29 Apr 2020	15:24
ICB1	1.00	1.00	1.00	INITIAL CALIBRATION pH<2, 5.0 mL DI H20	29 Apr 2020	16:54
BFB2	1.00	1.00	1.00	BFB DIRECT INJ. 50 ng Inj.	29 Apr 2020	19:57
WCAL4R	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	29 Apr 2020	20:44

BFB

Data File : C:\Instarch\Data\MAY0120\BFB1.D Vial: 1
Acq On : 1 May 2020 8:15 Operator: RLD-DGS
Sample : 170774,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.699 to 4.711 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.5	7703	PASS
75	95	30	60	55.2	19757	PASS
95	95	100	100	100.0	35818	PASS
96	95	5	9	7.3	2614	PASS
173	174	0.00	2	0.3	102	PASS
174	95	50	100	90.3	32352	PASS
175	174	5	9	6.8	2206	PASS
176	174	95	101	96.2	31112	PASS
177	176	5	9	6.4	1993	PASS

W042920.M Mon May 04 08:21:01 2020

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\MAY0120\BFB1.D
Injection Date : 1 May 2020 Log Time Period (hrs) : ALL
Injection Time : 08:15 Total files within period : 22
Sample Directory : C:\INSTARCH\DATA\MAY0120\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	170774,LCSW, 10.0/100 ug/L, 5.0 mL Pur	1 May 2020	09:00
MB1	1.00	1.00	1.00	170774,MBW, pH<2, 5.0 mL DI H20 Purge	1 May 2020	10:30
412552	1.00	1.00	1.00	170774,412552, pH<2, 5.0 mL Purged + IS/	1 May 2020	11:01
412573	1.00	1.00	1.00	170774,413573, pH<2, 5.0 mL Purged + IS/	1 May 2020	11:30
412553	1.00	1.00	1.00	170774,412553, pH<2, 5.0 mL Purged + IS/	1 May 2020	12:00
412558	1.00	1.00	1.00	170774,412558, pH<2, 5.0 mL Purged + IS	1 May 2020	12:30
412559	1.00	1.00	1.00	170774,412559, pH<2, 5.0 mL Purged + IS	1 May 2020	13:00
412562	1.00	1.00	1.00	170774,412562, pH<2, 5.0 mL Purged + IS	1 May 2020	13:30
412563	1.00	1.00	1.00	170774,412563, pH<2, 5.0 mL Purged + IS/	1 May 2020	13:59
413571	1.00	1.00	1.00	170774,413571, pH<2, 5.0 mL Purged + IS/	1 May 2020	14:29
413572	1.00	1.00	1.00	170774,413572, pH<2, 5.0 mL Purged + IS/	1 May 2020	14:59
413574	1.00	1.00	1.00	170774,413574, pH<2, 5.0 mL Purged + IS/	1 May 2020	15:29
413575	1.00	1.00	1.00	170774,413575, pH<2, 5.0 mL Purged + IS/	1 May 2020	15:59
413576	1.00	1.00	1.00	170774,413576, pH<2, 5.0 mL Purged + IS/	1 May 2020	16:28
412563MS	1.00	1.00	1.00	170774,MSW412563, pH<2, 5.0 mL Purged + IS/	1 May 2020	17:58
412563SD	1.00	1.00	1.00	170774,MSDW412563, pH<2, 5.0 mL Purged + IS/	1 May 2020	18:27
CCVF1-~1	1.00	1.00	1.00	170775,CCVF, 10.0/100 ug/L, 5.0 mL Pur	1 May 2020	18:56

8260 ISTD/SSTD 20ug/ml VOC0693
8260 BFB STD. 50ug/ml VOC0692
8260 ICV STD. 100ug/ml VOC0698
8260 CCV/CALIB. 100ug/ml VOC0699

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL5.D Date Analyzed : 29 Apr 2020
Instrument ID : VMS3 Time Analyzed : 11:54
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1216693	7.72	914475	11.63	506497	14.93
UPPER LIMIT	2433386	8.22	1828950	12.13	1012994	15.43
LOWER LIMIT	608347	7.22	457238	11.13	253249	14.43
File ID Sample						
412552 170774,41	1159771	7.72	870634	11.63	469163	14.93
412553 170774,41	1123948	7.72	862683	11.63	458226	14.93
412558 170774,41	1127946	7.72	850630	11.63	451320	14.93
412559 170774,41	1115954	7.72	843255	11.63	455040	14.93
412562 170774,41	1125750	7.72	840221	11.63	443496	14.93
412563 170774,41	859936	7.72	644174	11.63	338003	14.93
412563MS 170774,MS	1086380	7.71	835886	11.63	447631	14.93
412563SD 170774,MS	1151450	7.72	867767	11.63	482518	14.93
412573 170774,41	1132651	7.72	862461	11.63	458749	14.93
413571 170774,41	957397	7.72	721406	11.63	380521	14.93
413572 170774,41	956763	7.72	726910	11.63	378119	14.93
413574 170774,41	991668	7.72	743418	11.63	396757	14.93
413575 170774,41	1075748	7.72	824709	11.63	436048	14.93
413576 170774,41	1062829	7.72	807669	11.63	434449	14.93
CCVF1-~1 170775,CC	1151046	7.72	881240	11.63	494717	14.93
CCV-LCS1 170774,LC	1188610	7.72	902251	11.63	508651	14.93
MB1 170774,MB	1175493	7.72	888310	11.63	469380	14.93

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

BFB

Data File : C:\Instarch\Data\MAY0420\BFB1.D Vial: 1
Acq On : 4 May 2020 8:06 Operator: RLD-DGS
Sample : 170843,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.675 to 4.687 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.9	13617	PASS
75	95	30	60	55.2	35945	PASS
95	95	100	100	100.0	65173	PASS
96	95	5	9	6.0	3915	PASS
173	174	0.00	2	0.8	445	PASS
174	95	50	100	85.0	55370	PASS
175	174	5	9	7.3	4026	PASS
176	174	95	101	97.5	53962	PASS
177	176	5	9	6.7	3614	PASS

W042920.M Tue May 05 12:35:20 2020

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\MAY0420\BFB1.D
Injection Date : 4 May 2020 Log Time Period (hrs) : ALL
Injection Time : 08:06 Total files within period : 30
Sample Directory : C:\INSTARCH\DATA\MAY0420\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	170843,LCSW, 10.0/100 ug/L, 5.0 mL Pur	4 May 2020	08:22
MB1	1.00	1.00	1.00	170843,MBW, pH<2, 5.0 mL DI H20 Purge	4 May 2020	09:52
413970	1.00	1.00	1.00	170842,413970, pH<2, 5.0 mL Purged + IS/	4 May 2020	10:52
413971	1.00	1.00	1.00	170842,413971, pH<2, 5.0 mL Purged + IS/	4 May 2020	13:52
413972	1.00	1.00	1.00	170842,413972, pH<2, 5.0 mL Purged + IS/	4 May 2020	14:21
413973	1.00	1.00	1.00	170842,413973, pH<2, 5.0 mL Purged + IS/	4 May 2020	14:51
413974	1.00	1.00	1.00	170842,413974, pH<2, 5.0 mL Purged + IS/	4 May 2020	15:21
CCVF-L~1	1.00	1.00	1.00	170843,LCSDW, 10.0/100 ug/L, 5.0 mL Pur	4 May 2020	19:49

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL5.D Date Analyzed : 29 Apr 2020
Instrument ID : VMS3 Time Analyzed : 11:54
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1216693	7.72	914475	11.63	506497	14.93
UPPER LIMIT	2433386	8.22	1828950	12.13	1012994	15.43
LOWER LIMIT	608347	7.22	457238	11.13	253249	14.43
File ID Sample						
413970 170842,41	1082247	7.72	834724	11.63	449443	14.93
413971 170842,41	1060573	7.72	817061	11.63	423376	14.93
413972 170842,41	1072964	7.72	813667	11.63	440579	14.93
413973 170842,41	1056851	7.72	812756	11.63	443877	14.93
413974 170842,41	1044336	7.72	811762	11.63	432318	14.93
CCVF-L~1 170843,LC	1069437	7.72	827877	11.63	465463	14.93
CCV-LCS1 170843,LC	1176443	7.72	906183	11.63	514387	14.93
MB1 170843,MB	1092192	7.72	839711	11.63	444235	14.93

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412552.D Vial: 7
Acq On : 1 May 2020 11:01 Operator: RLD-DGS
Sample : 170774,412552, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 11:21:39 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1159771	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	870634	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	469163	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	282052	20.265	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	78599	19.899	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1126438	19.690	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98	%		
83) SURR4BrFBenz	13.26	95	454220	20.065	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	4636	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3556	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	16770	0.9545	ug/L	93
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	3623	Below	Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412552.D Vial: 7
Acq On : 1 May 2020 11:01 Operator: RLD-DGS
Sample : 170774,412552, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 11:21:39 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	2647	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

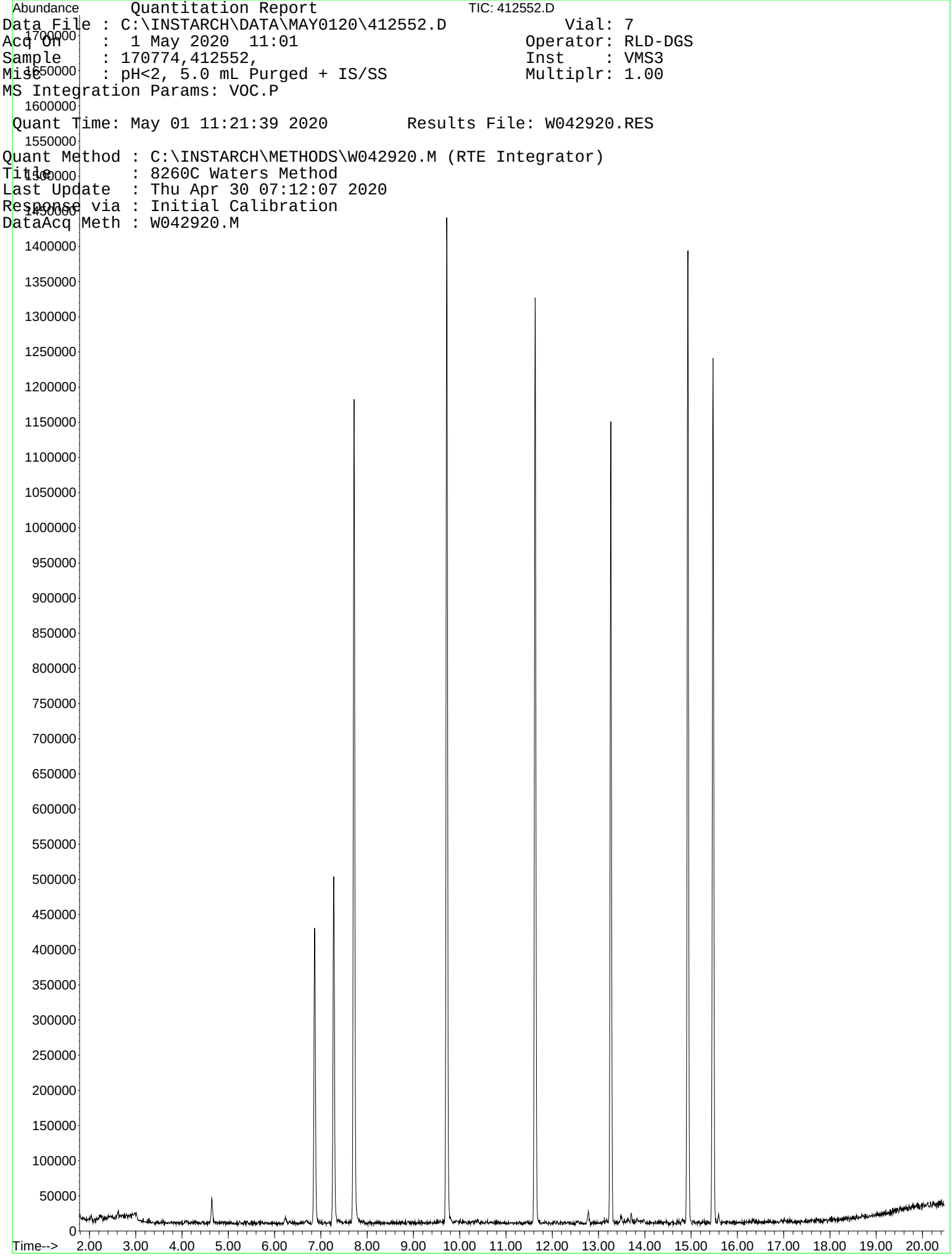
Data File : C:\INSTARCH\DATA\MAY0120\412552.D Vial: 7
Acq On : 1 May 2020 11:01 Operator: RLD-DGS
Sample : 170774,412552, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

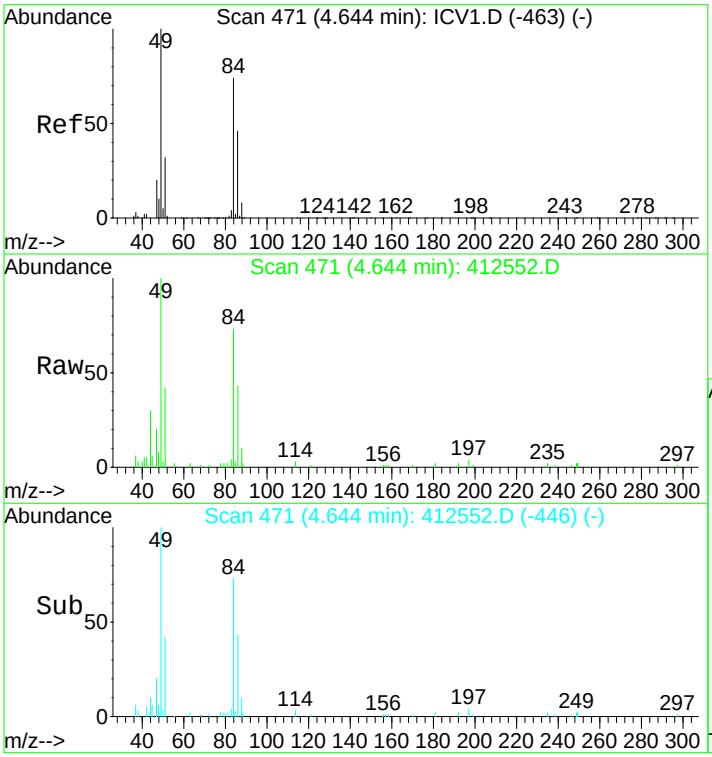
Quant Time: May 01 11:21:39 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

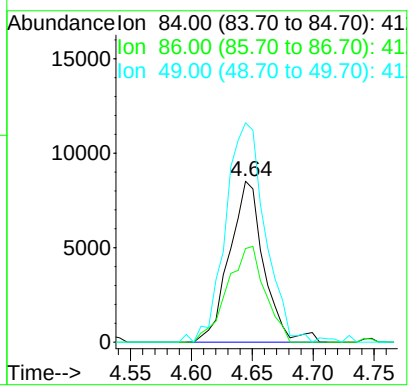

Abundance
Quantitation Report
TIC: 412552.D
Data File : C:\INSTARCH\DATA\MAY0120\412552.D
Vial: 7
Acq On : 1 May 2020 11:01
Operator: RLD-DGS
Sample : 170774,412552,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: May 01 11:21:39 2020
Results File: W042920.RES
Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
1700000
1650000
1600000
1550000
1500000
1450000
1400000
1350000
1300000
1250000
1200000
1150000
1100000
1050000
1000000
950000
900000
850000
800000
750000
700000
650000
600000
550000
500000
450000
400000
350000
300000
250000
200000
150000
100000
50000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00



#20
Methylchlorid
Concen: 0.95 ug/L
RT: 4.64 min Scan# 471
Delta R.T. 0.00 min
Lab File: 412552.D
Acq: 1 May 2020 11:01

Tgt Ion: 84 Resp: 16770

Ion	Ratio	Lower	Upper
84	100		
86	65.2	44.6	84.6
49	156.3	124.6	164.6



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412573.D Vial: 8
Acq On : 1 May 2020 11:30 Operator: RLD-DGS
Sample : 170774,413573, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 11:51:18 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1132651	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	862461	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	458749	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	282692	20.797	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.28	102	78567	20.367	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1122676	20.094	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	445596	20.131	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	5158	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3522	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.65	84	17485	1.0190	ug/L	95
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	3577	Below	Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412573.D Vial: 8
Acq On : 1 May 2020 11:30 Operator: RLD-DGS
Sample : 170774,413573, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 11:51:18 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412573.D Vial: 8
Acq On : 1 May 2020 11:30 Operator: RLD-DGS
Sample : 170774,413573, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 11:51:18 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

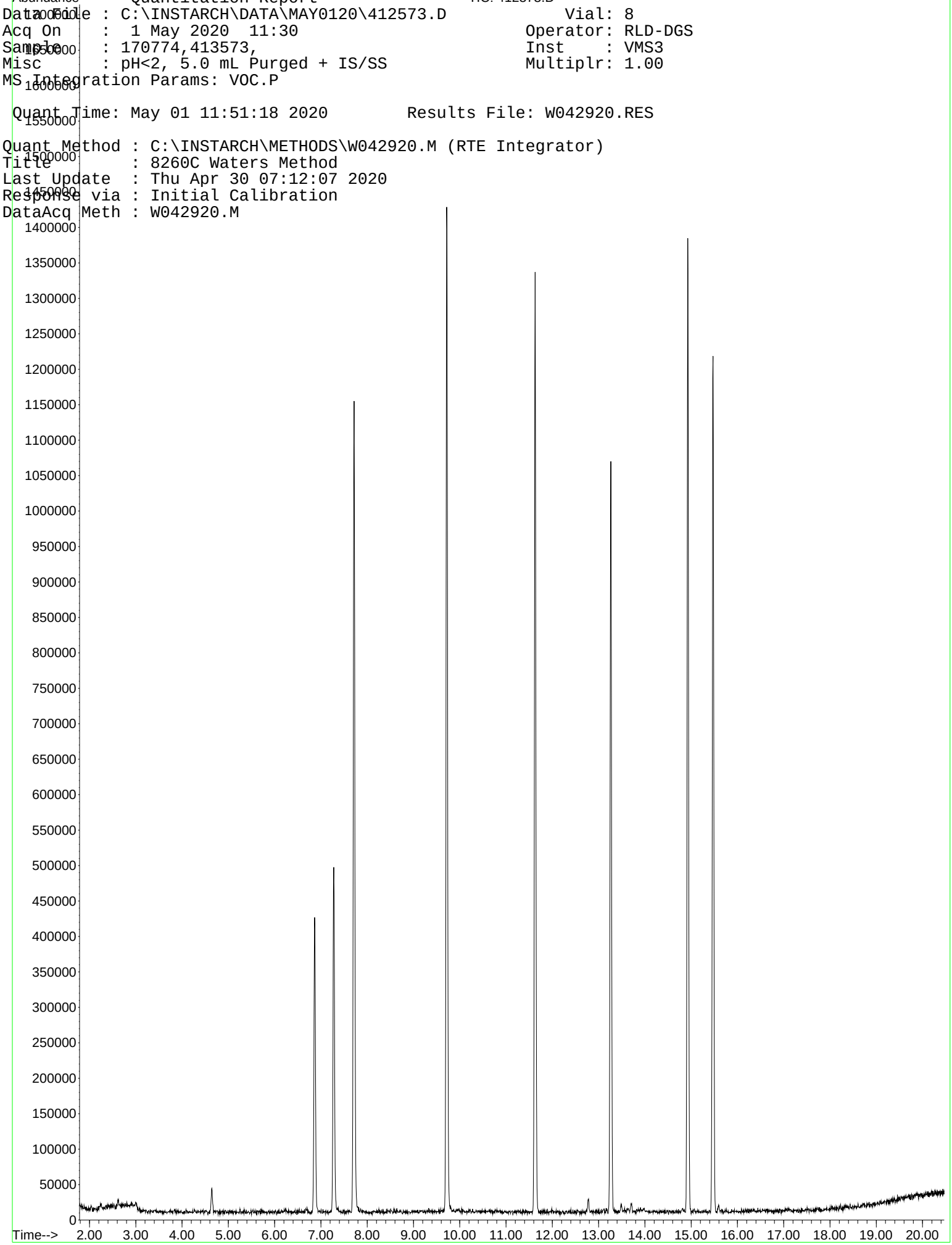
Quantitation Report

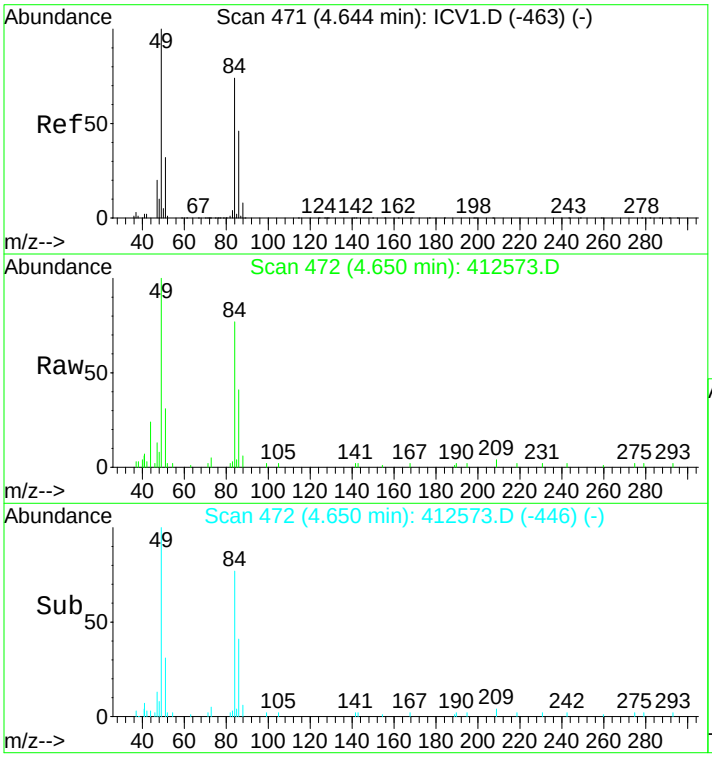
TIC: 412573.D

Data File : C:\INSTARCH\DATA\MAY0120\412573.D Vial: 8
Acq On : 1 May 2020 11:30 Operator: RLD-DGS
Sample : 170774,413573, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 11:51:18 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

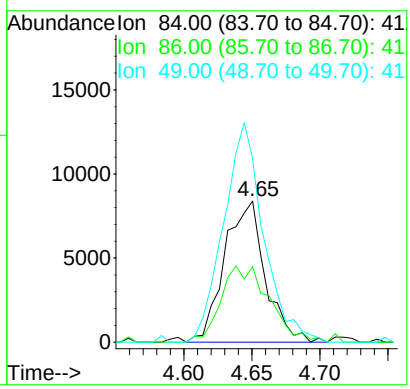




#20
Methylchlorid
Concen: 1.02 ug/L
RT: 4.65 min Scan# 472
Delta R.T. 0.01 min
Lab File: 412573.D
Acq: 1 May 2020 11:30

Tgt Ion: 84 Resp: 17485

Ion	Ratio	Lower	Upper
84	100		
86	63.8	44.6	84.6
49	152.7	124.6	164.6



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412553.D Vial: 9
Acq On : 1 May 2020 12:00 Operator: RLD-DGS
Sample : 170774,412553, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:21:10 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1123948	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	862683	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	458226	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	272226	20.182 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %		
45) SURR12DCAd4	7.28	102	77624	20.278 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101 %		
61) SURRd8Tolule	9.72	98	1122568	20.248 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.26	95	449741	20.341 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.08	43	3864	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.26	76	2704	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412553.D Vial: 9
Acq On : 1 May 2020 12:00 Operator: RLD-DGS
Sample : 170774,412553, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:21:10 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.		
40) 111trichlota	0.00	97	0	N.D.		
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	0.00	119	0	N.D.		
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	8.19	95	9297	0.5616	ug/L	81
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	0.00	88	0	N.D.		
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	0.00	92	0	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	0.00	166	0	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	0.00	91	0	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	0.00	91	0	N.D.		
76) m p-Xylene	0.00	106	0	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	0.00	55	0	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	0.00	105	0	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	0.00	91	0	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412553.D Vial: 9
Acq On : 1 May 2020 12:00 Operator: RLD-DGS
Sample : 170774,412553, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:21:10 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

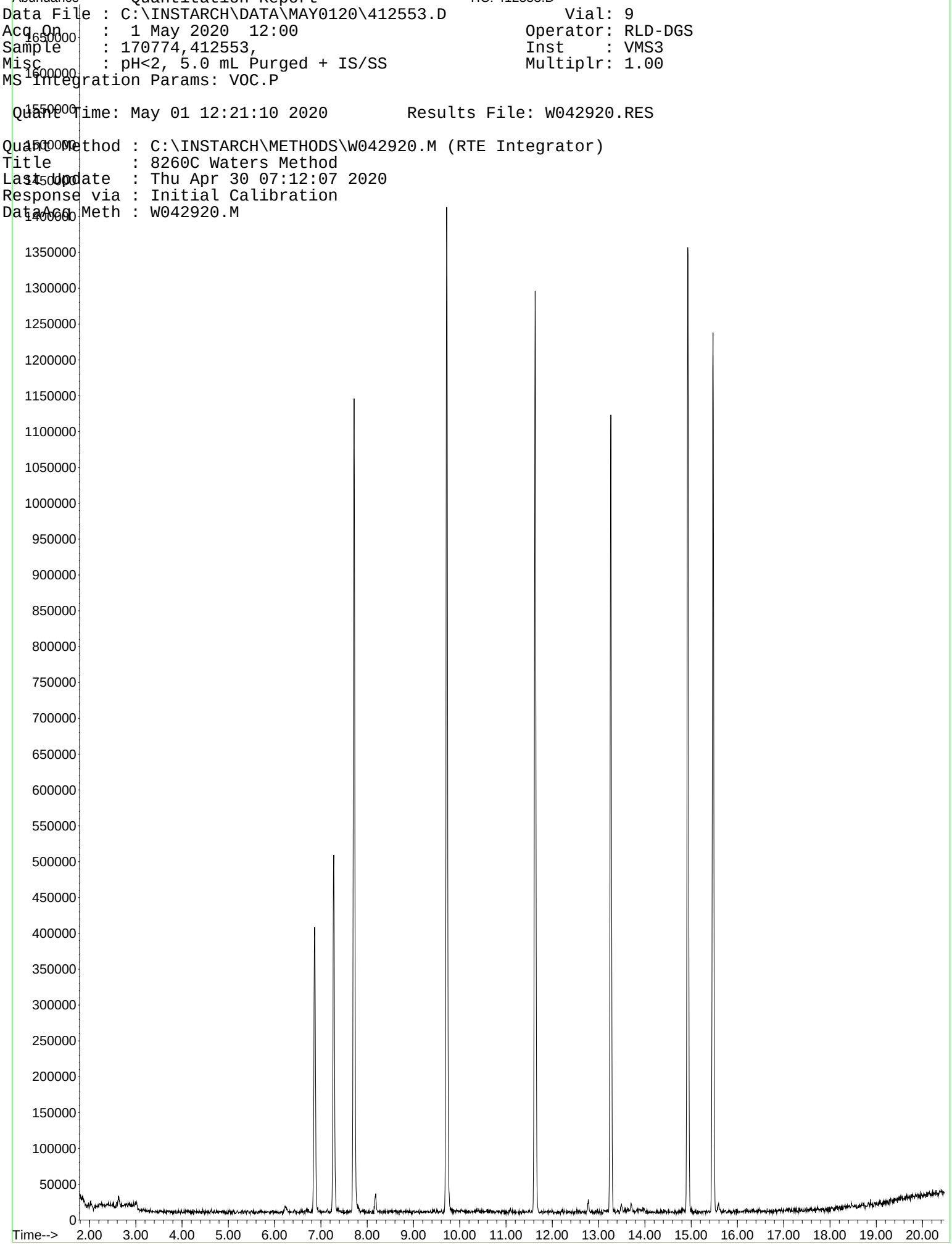
(#) = qualifier out of range (m) = manual integration

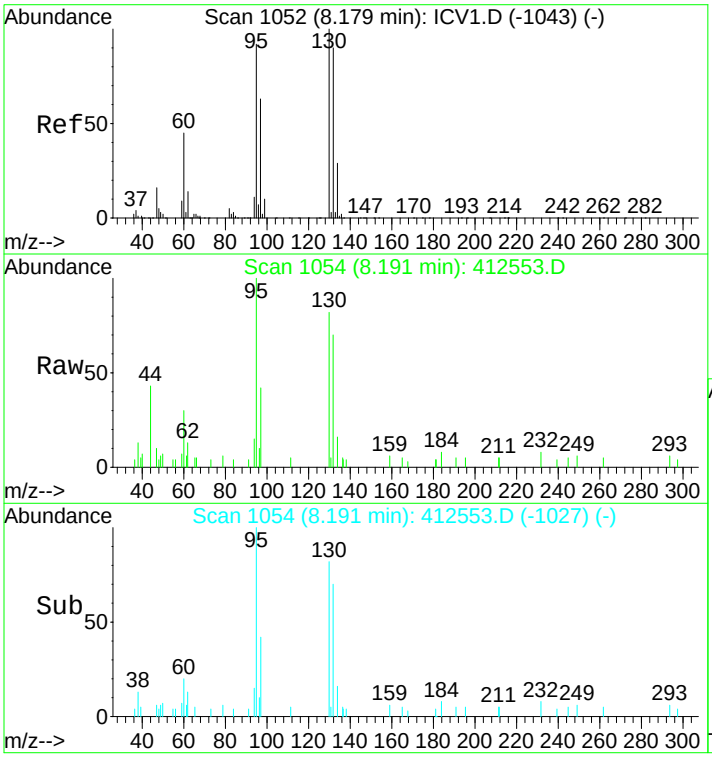
Abundance Quantitation Report TIC: 412553.D

Data File : C:\INSTARCH\DATA\MAY0120\412553.D Vial: 9
Acq On : 1 May 2020 12:00 Operator: RLD-DGS
Sample : 170774,412553, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:21:10 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

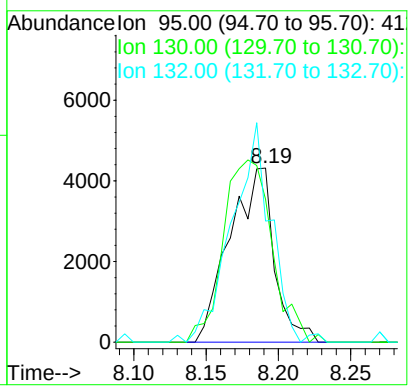




#49
trichloroete
Concen: 0.56 ug/L
RT: 8.19 min Scan# 1054
Delta R.T. 0.01 min
Lab File: 412553.D
Acq: 1 May 2020 12:00

Tgt Ion: 95 Resp: 9297

Ion	Ratio	Lower	Upper
95	100		
130	114.2	76.2	116.2
132	110.0	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412558.D Vial: 10
Acq On : 1 May 2020 12:30 Operator: RLD-DGS
Sample : 170774,412558, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:50:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1127946	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	850630	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	451320	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	271424	20.052	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	77570	20.192	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.72	98	1105978	19.878	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.26	95	439096	20.164	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.26	101	3671	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	3234	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.28	76	2666	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	2877	Below	Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412558.D Vial: 10
Acq On : 1 May 2020 12:30 Operator: RLD-DGS
Sample : 170774,412558, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:50:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	10067	0.3705	ug/L	92
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.13	119	66220	3.5447	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.17	95	10961	0.6597	ug/L	94
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412558.D Vial: 10
Acq On : 1 May 2020 12:30 Operator: RLD-DGS
Sample : 170774,412558, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:50:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

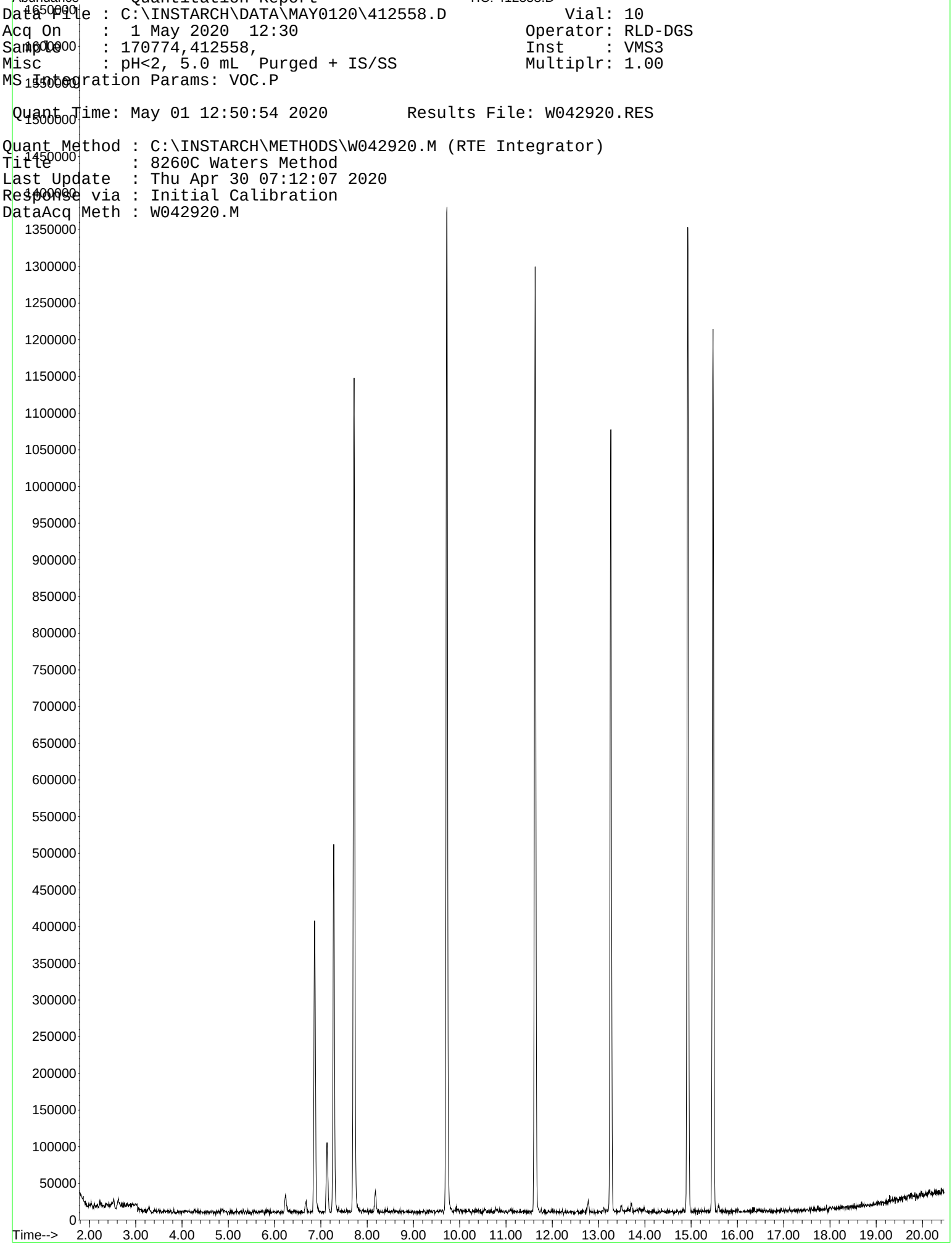
(#) = qualifier out of range (m) = manual integration

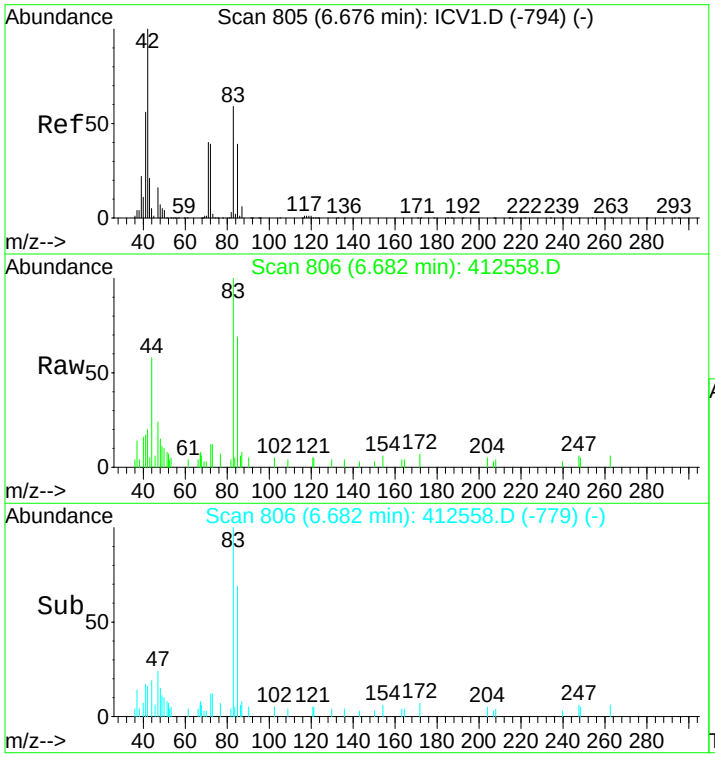
Abundance Quantitation Report TIC: 412558.D

Data File : C:\INSTARCH\DATA\MAY0120\412558.D Vial: 10
Acq On : 1 May 2020 12:30 Operator: RLD-DGS
Sample : 170774,412558, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 12:50:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

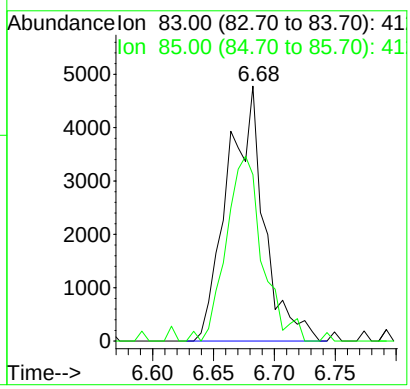


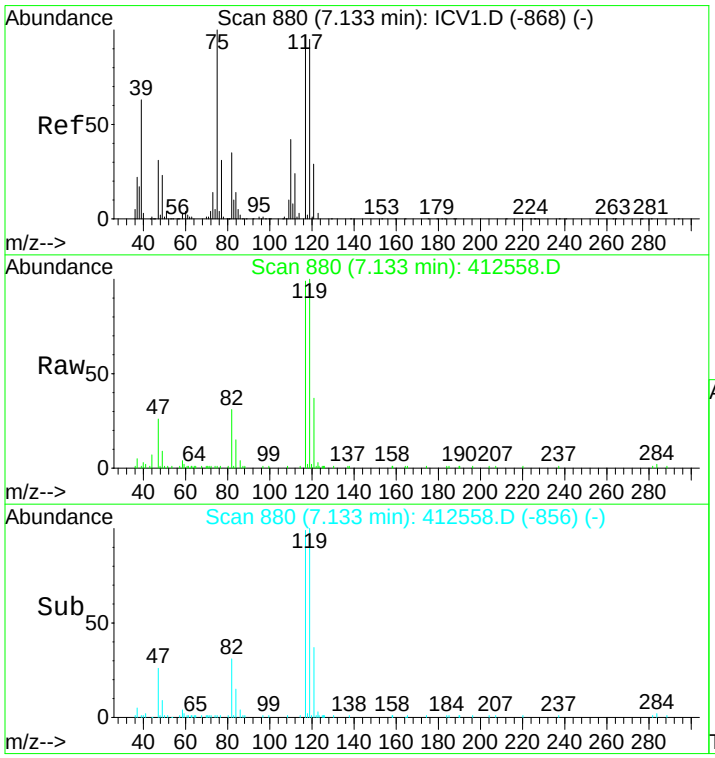


#39
Chloroform
Concen: 0.37 ug/L
RT: 6.68 min Scan# 806
Delta R.T. 0.01 min
Lab File: 412558.D
Acq: 1 May 2020 12:30

Tgt Ion: 83 Resp: 10067

Ion	Ratio	Lower	Upper
83	100		
85	71.3	44.9	84.9

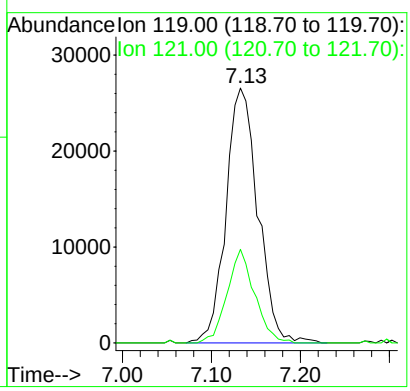


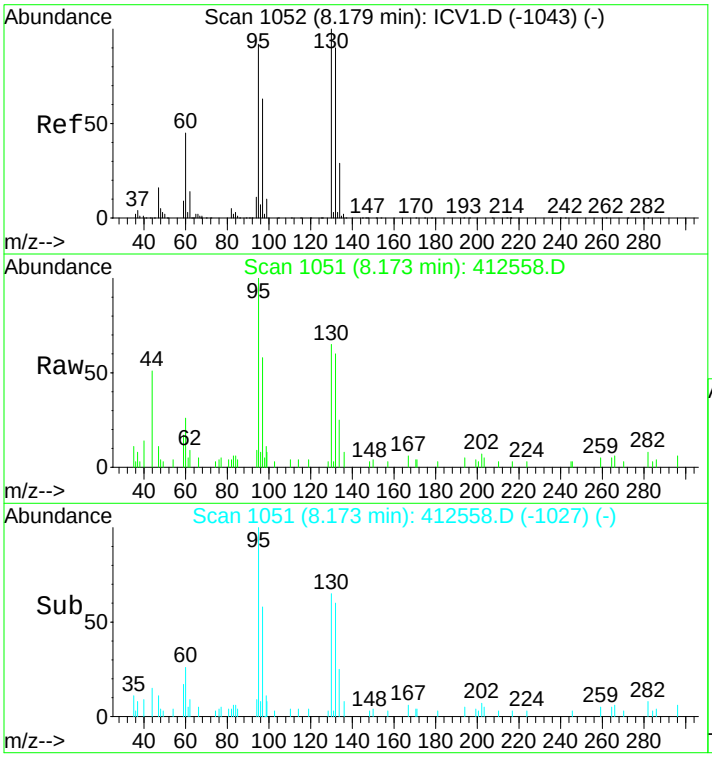


#43
Carbtetraclo
Concen: 3.54 ug/L
RT: 7.13 min Scan# 880
Delta R.T. -0.01 min
Lab File: 412558.D
Acq: 1 May 2020 12:30

Tgt Ion:119 Resp: 66220

Ion	Ratio	Lower	Upper
119	100		
121	31.6	12.0	52.0

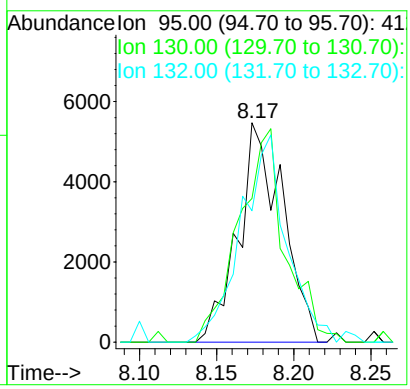




#49
trichloroete
Concen: 0.66 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 412558.D
Acq: 1 May 2020 12:30

Tgt Ion: 95 Resp: 10961

Ion	Ratio	Lower	Upper
95	100		
130	101.0	76.2	116.2
132	98.7	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412559.D Vial: 11
Acq On : 1 May 2020 13:00 Operator: RLD-DGS
Sample : 170774,412559, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:21:03 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1115954	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	843255	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	455040	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.86	113	269585	20.130 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %		
45) SURR12DCAd4	7.27	102	78134	20.558 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103 %		
61) SURRd8Tolule	9.72	98	1112415	20.209 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.26	95	442614	20.159 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	3.28	101	5156	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3353	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.55	63	2861	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412559.D Vial: 11
Acq On : 1 May 2020 13:00 Operator: RLD-DGS
Sample : 170774,412559, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:21:03 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.67	83	11553	0.4298	ug/L	93
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.13	119	82047	4.4392	ug/L	99
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.18	95	13936	0.8478	ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.63	91	2565	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\MAY0120\412559.D Vial: 11
Acq On : 1 May 2020 13:00 Operator: RLD-DGS
Sample : 170774,412559, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:21:03 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

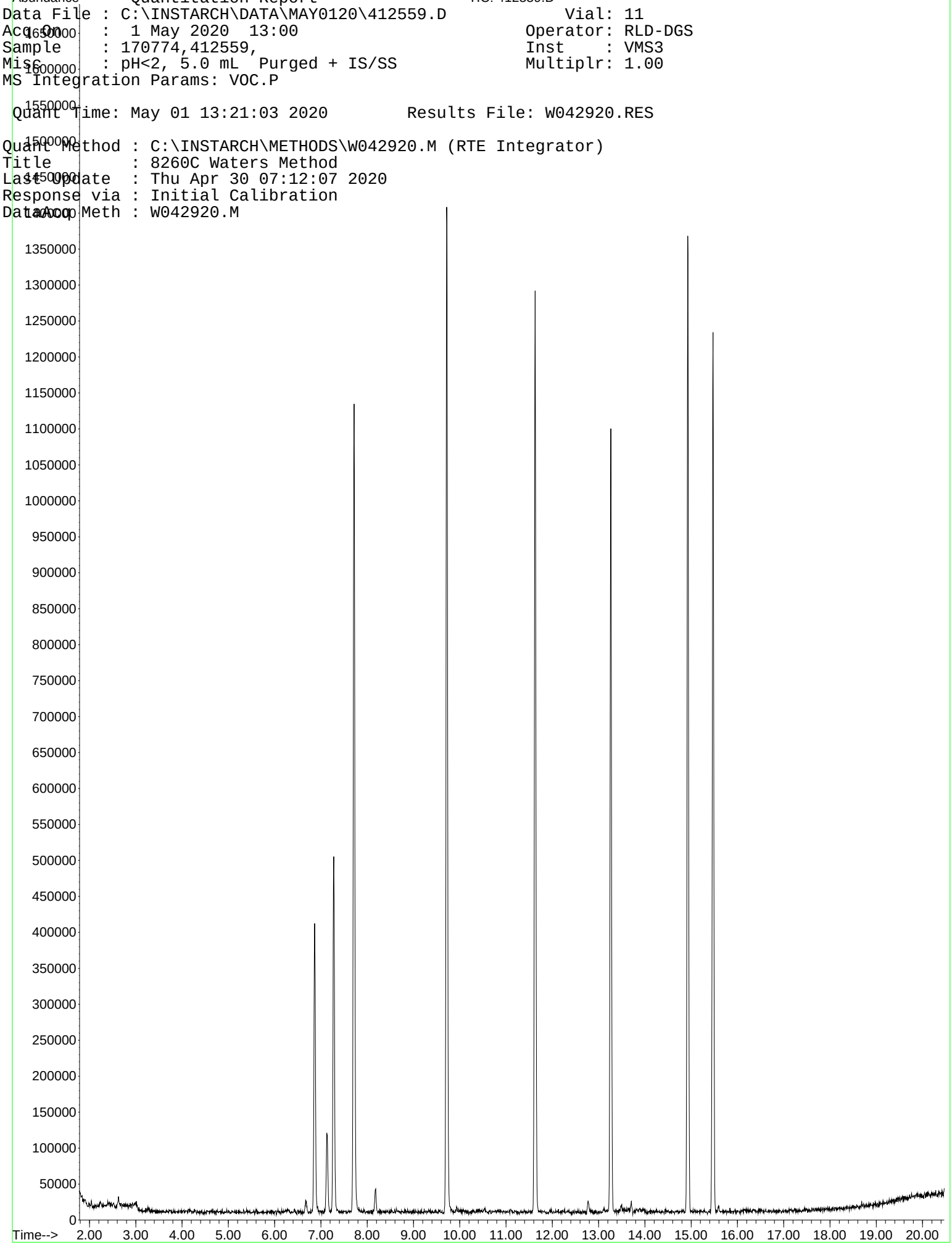
(#) = qualifier out of range (m) = manual integration
412559.D W042920.M Mon May 04 08:35:20 2020 Page 144 Page 3

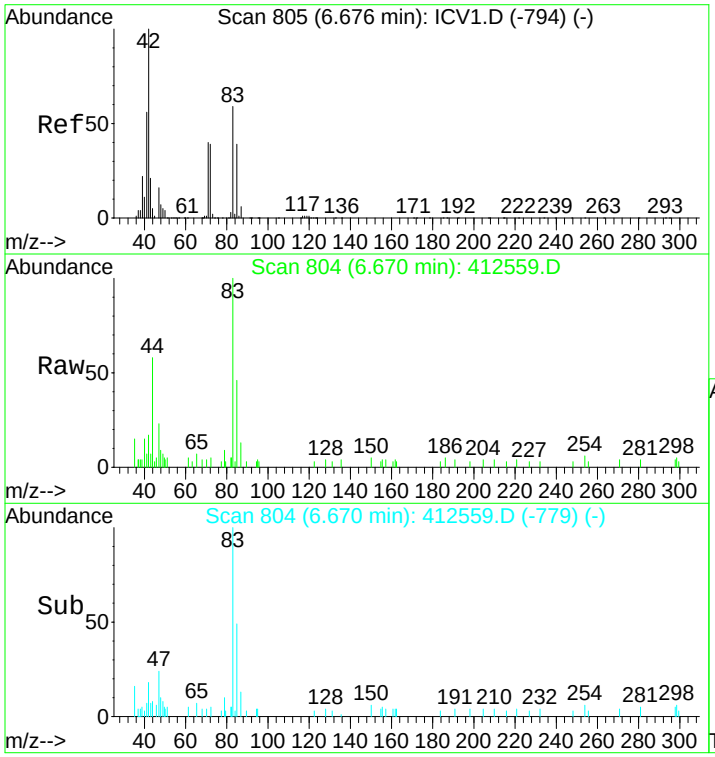
Abundance Quantitation Report TIC: 412559.D

Data File : C:\INSTARCH\DATA\MAY0120\412559.D Vial: 11
Acq On : 1 May 2020 13:00 Operator: RLD-DGS
Sample : 170774,412559, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:21:03 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
Data Acq Meth : W042920.M

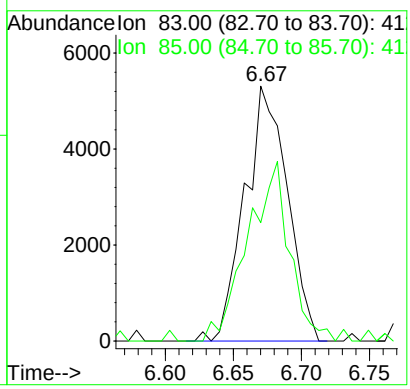


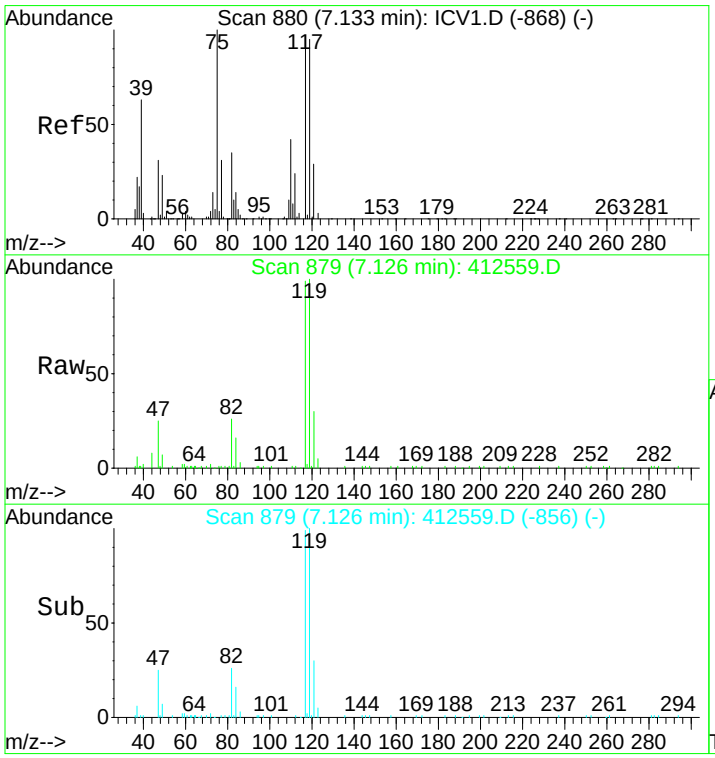


#39
Chloroform
Concen: 0.43 ug/L
RT: 6.67 min Scan# 804
Delta R.T. -0.00 min
Lab File: 412559.D
Acq: 1 May 2020 13:00

Tgt Ion: 83 Resp: 11553

Ion	Ratio	Lower	Upper
83	100		
85	70.1	44.9	84.9

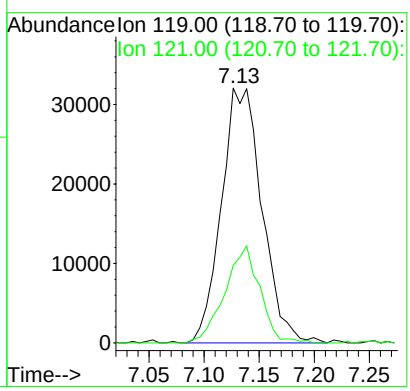


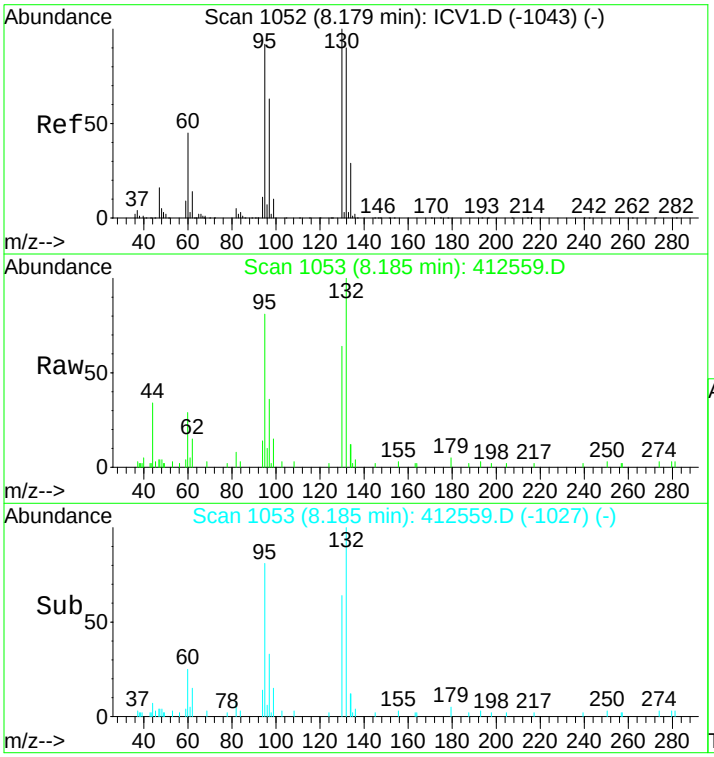


#43
Carbtetraclo
Concen: 4.44 ug/L
RT: 7.13 min Scan# 879
Delta R.T. -0.01 min
Lab File: 412559.D
Acq: 1 May 2020 13:00

Tgt Ion:119 Resp: 82047

Ion	Ratio	Lower	Upper
119	100		
121	32.8	12.0	52.0

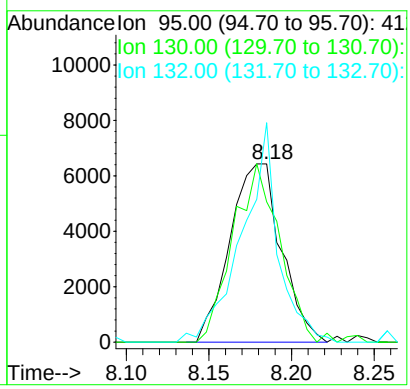




#49
trichloroete
Concen: 0.85 ug/L
RT: 8.18 min Scan# 1053
Delta R.T. 0.01 min
Lab File: 412559.D
Acq: 1 May 2020 13:00

Tgt Ion: 95 Resp: 13936

Ion	Ratio	Lower	Upper
95	100		
130	91.2	76.2	116.2
132	86.0	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412562.D Vial: 12
Acq On : 1 May 2020 13:30 Operator: RLD-DGS
Sample : 170774,412562, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:50:44 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1125750	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	840221	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	443496	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	262620	19.439	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 97 %			
45) SURR12DCAd4	7.27	102	76396	19.925	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %			
61) SURRd8Tolule	9.72	98	1107937	19.952	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %			
83) SURR4BrFBenz	13.26	95	431012	20.142	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %			

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	0.00	50	0	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	0.00	94	0	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	0.00	101	0	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	4.08	43	5829	N.D.
16) Iodomethane	0.00	142	0	N.D.
17) Carbon Dislf	4.26	76	2843	N.D.
18) allylchloride	0.00	41	0	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	0.00	84	0	N.D.
21) tbutylalcohol	0.00	59	0	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	0.00	63	0	N.D.
27) Vinylacetate	0.00	43	0	N.D.
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	0.00	77	0	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	0.00	42	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412562.D Vial: 12
Acq On : 1 May 2020 13:30 Operator: RLD-DGS
Sample : 170774,412562, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:50:44 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.14	119	7488	0.4016	ug/L	#	43
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	0.00	95	0	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.63	91	2604	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\MAY0120\412562.D Vial: 12
Acq On : 1 May 2020 13:30 Operator: RLD-DGS
Sample : 170774,412562, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:50:44 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

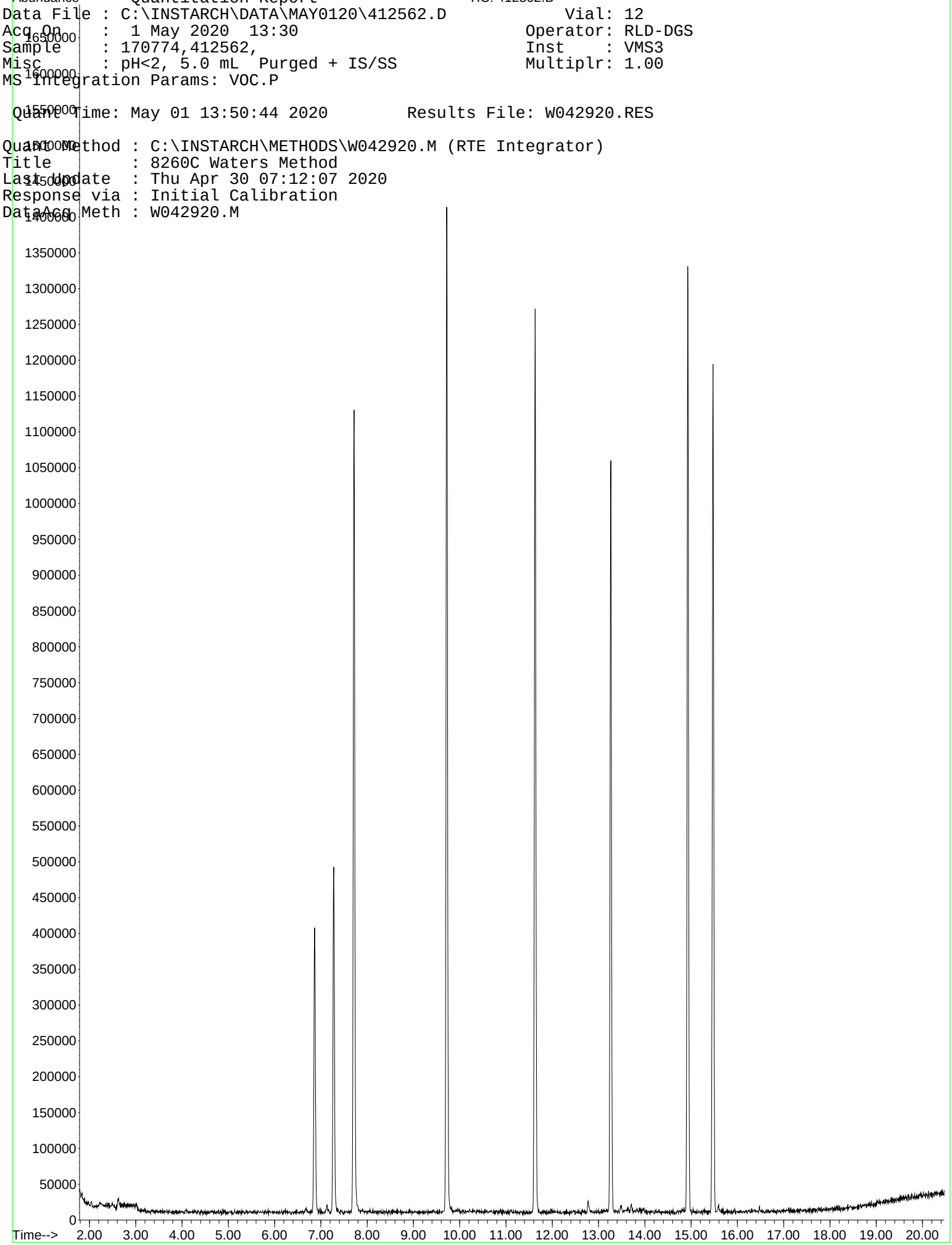
(#) = qualifier out of range (m) = manual integration
412562.D W042920.M Mon May 04 08:35:23 2020 Page 150 Page 3

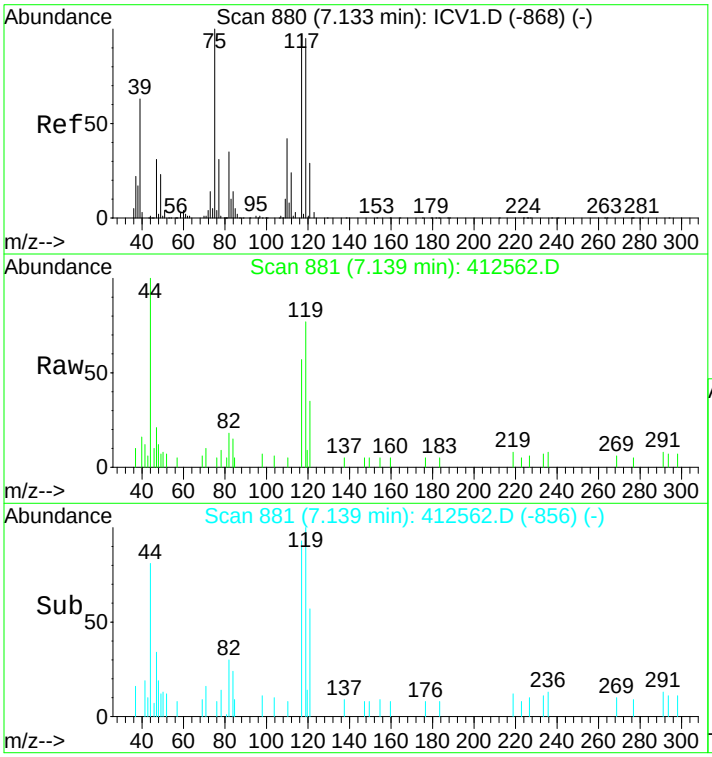
Quantitation Report (TIC: 412562.D)

Data File : C:\INSTARCH\DATA\MAY0120\412562.D Vial: 12
Acq On : 1 May 2020 13:30 Operator: RLD-DGS
Sample : 170774,412562, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 13:50:44 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

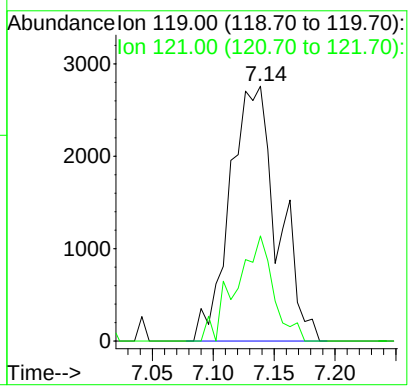




#43
Carbtetraclo
Concen: 0.40 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.00 min
Lab File: 412562.D
Acq: 1 May 2020 13:30

Tgt Ion:119 Resp: 7488

Ion	Ratio	Lower	Upper
119	100		
121	0.0	12.0	52.0#



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412563.D Vial: 13
Acq On : 1 May 2020 13:59 Operator: RLD-DGS
Sample : 170774,412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:20:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	859936	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	644174	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	338003	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	201707	19.545	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	56904	19.429	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 97 %			
61) SURRd8Tolule	9.72	98	840159	19.807	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	330559	20.269	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %			

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	0.00	50	0	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	0.00	94	0	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	0.00	101	0	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	4.09	43	4473	N.D.
16) Iodomethane	0.00	142	0	N.D.
17) Carbon Dislf	0.00	76	0	N.D.
18) allylchloride	0.00	41	0	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	0.00	84	0	N.D.
21) tbutylalcohol	4.88	59	2588	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	0.00	63	0	N.D.
27) Vinylacetate	0.00	43	0	N.D.
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	0.00	77	0	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	0.00	42	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412563.D Vial: 13
Acq On : 1 May 2020 13:59 Operator: RLD-DGS
Sample : 170774,412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:20:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.14	119	4760	0.3342 ug/L #	43
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	0.00	91	0	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	0.00	91	0	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\MAY0120\412563.D Vial: 13
Acq On : 1 May 2020 13:59 Operator: RLD-DGS
Sample : 170774,412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:20:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

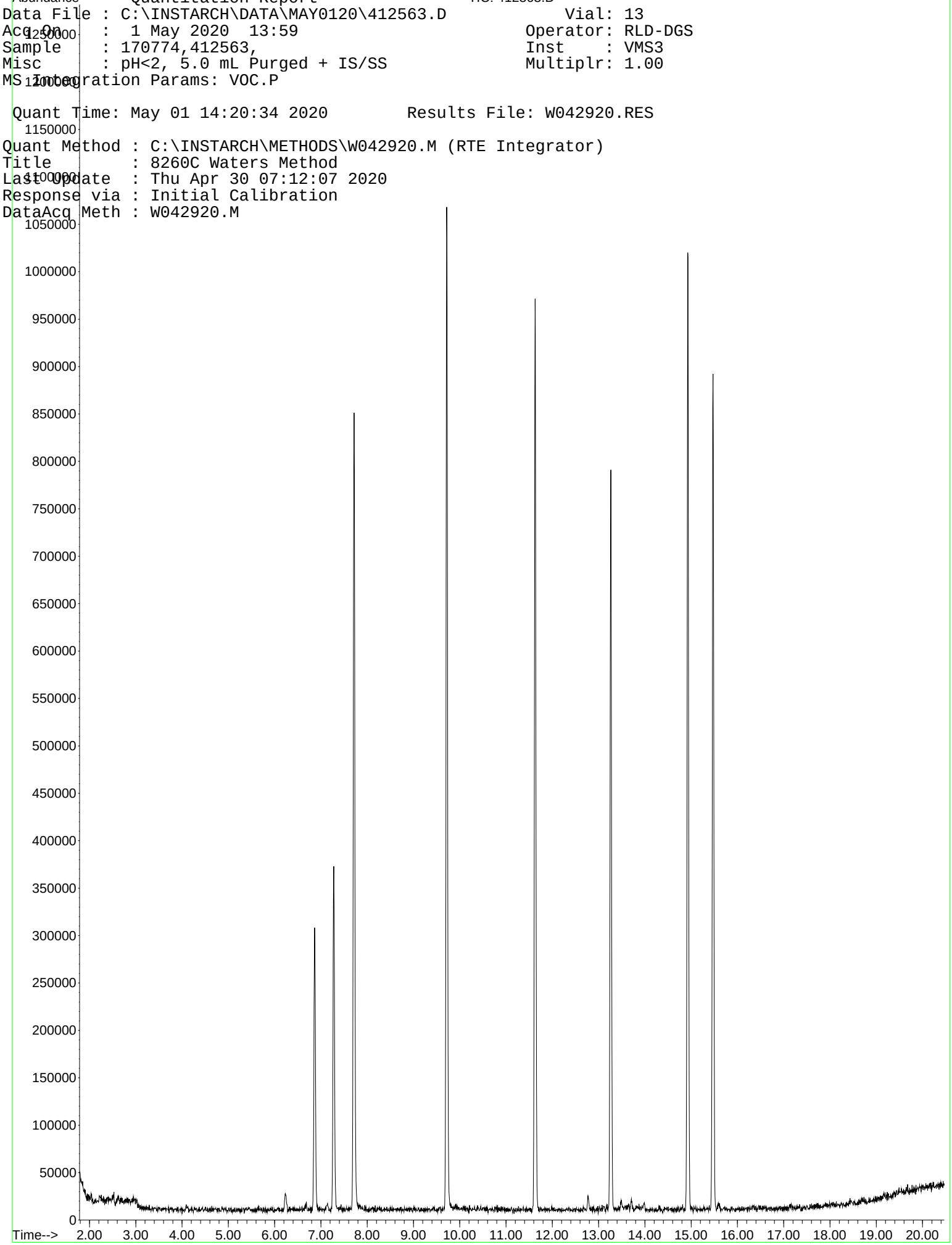
(#) = qualifier out of range (m) = manual integration
412563.D W042920.M Mon May 04 08:35:26 2020 Page 155 Page 3

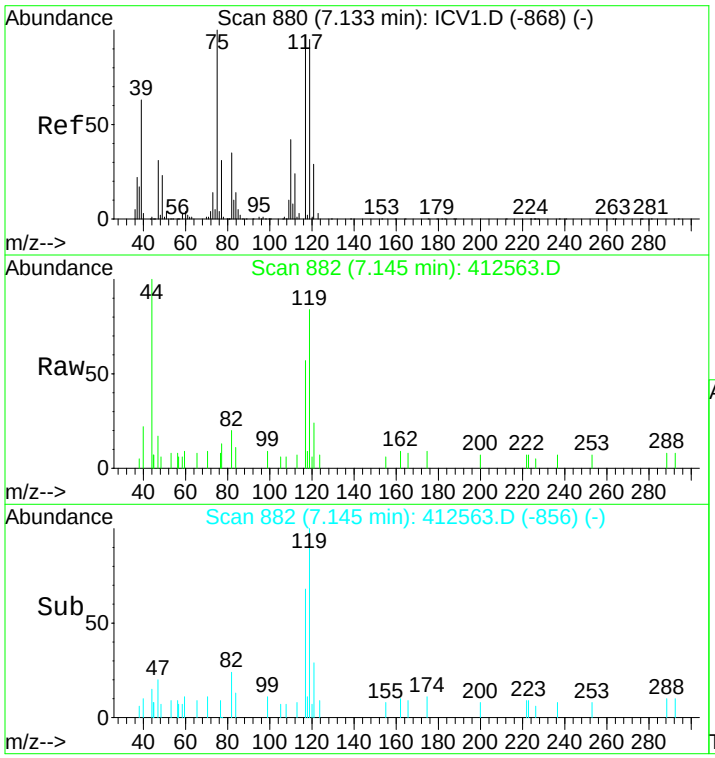
Abundance Quantitation Report TIC: 412563.D

Data File : C:\INSTARCH\DATA\MAY0120\412563.D Vial: 13
Acq On : 1 May 2020 13:59 Operator: RLD-DGS
Sample : 170774,412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:20:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

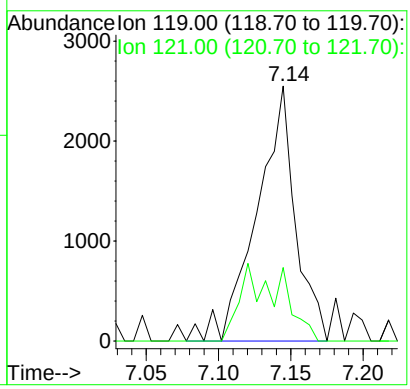




#43
Carbtetraclo
Concen: 0.33 ug/L
RT: 7.14 min Scan# 882
Delta R.T. 0.01 min
Lab File: 412563.D
Acq: 1 May 2020 13:59

Tgt Ion:119 Resp: 4760

Ion	Ratio	Lower	Upper
119	100		
121	0.0	12.0	52.0#



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413571.D Vial: 14
Acq On : 1 May 2020 14:29 Operator: RLD-DGS
Sample : 170774,413571, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:50:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	957397	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	721406	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	380521	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.86	113	231392	20.139 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %		
45) SURR12DCAd4	7.28	102	65314	20.031 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %		
61) SURRd8Tolule	9.72	98	950445	20.126 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.26	95	366372	19.954 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	3.73	67	6660	0.4572 ug/L #	89
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	3.99	96	3607	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3980	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	4.86	59	3356	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.55	63	131799	5.1783 ug/L	99
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	6.27	59	3422	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	6.28	96	124704	8.3461 ug/L #	85
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	2935	Below Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413571.D Vial: 14
Acq On : 1 May 2020 14:29 Operator: RLD-DGS
Sample : 170774,413571, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:50:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	6.92	97	16759	0.8429	ug/L	97
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	7.37	78	129413	2.4107	ug/L	98
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.18	95	75756	5.3720	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	10.54	166	11393	0.8182	ug/L	93
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	14.69	105	15303	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413571.D Vial: 14
Acq On : 1 May 2020 14:29 Operator: RLD-DGS
Sample : 170774,413571, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:50:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

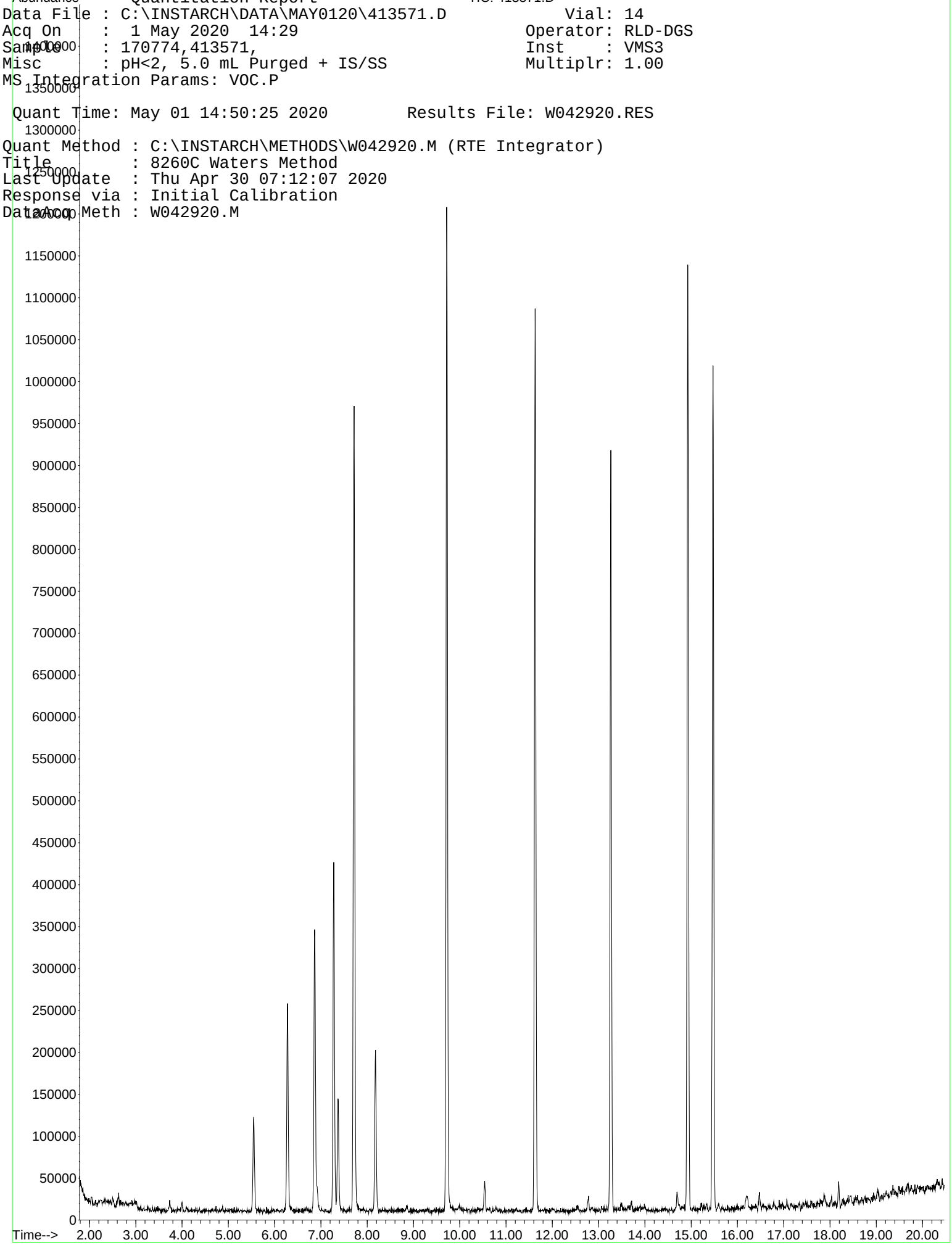
(#) = qualifier out of range (m) = manual integration

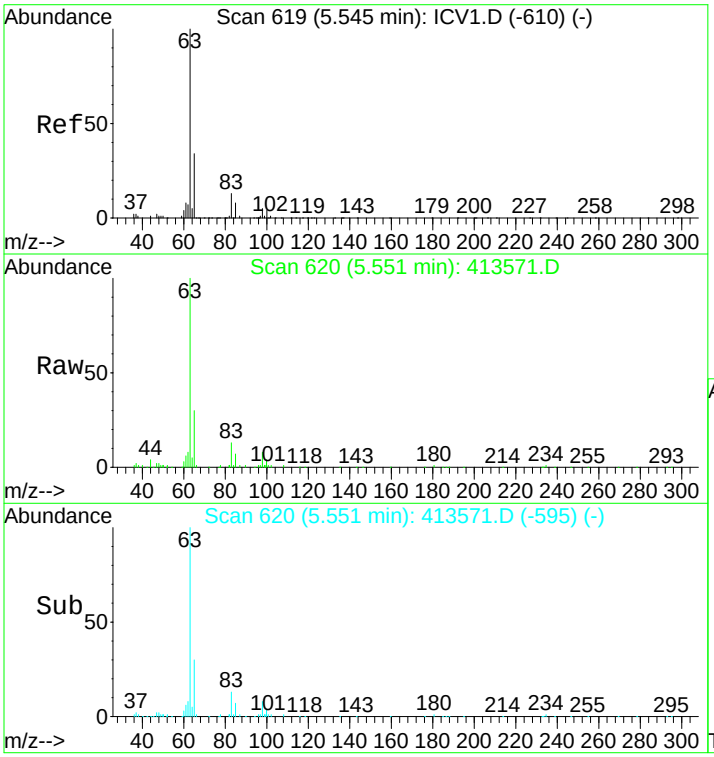
Abundance Quantitation Report TIC: 413571.D

Data File : C:\INSTARCH\DATA\MAY0120\413571.D Vial: 14
Acq On : 1 May 2020 14:29 Operator: RLD-DGS
Sample : 170774,413571, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 14:50:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

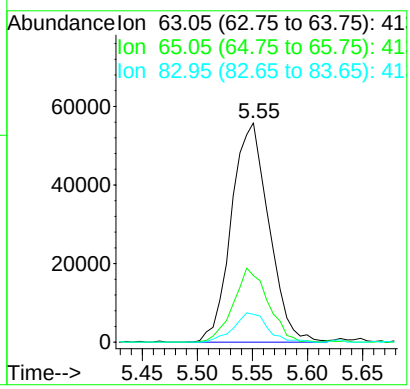


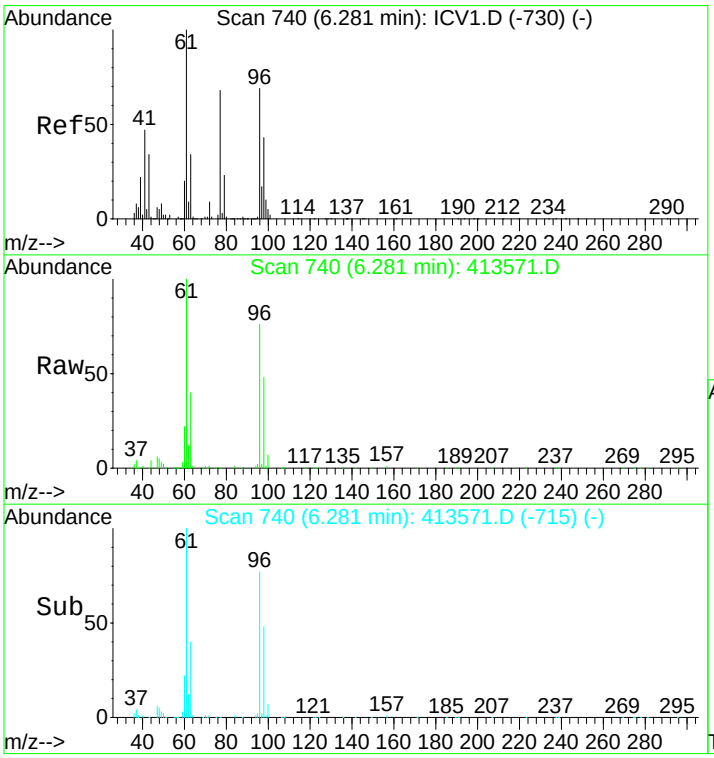


#26
11dichlorota
Concen: 5.18 ug/L
RT: 5.55 min Scan# 620
Delta R.T. -0.00 min
Lab File: 413571.D
Acq: 1 May 2020 14:29

Tgt Ion: 63 Resp: 131799

Ion	Ratio	Lower	Upper
63	100		
65	31.4	11.3	51.3
83	12.1	0.0	32.9

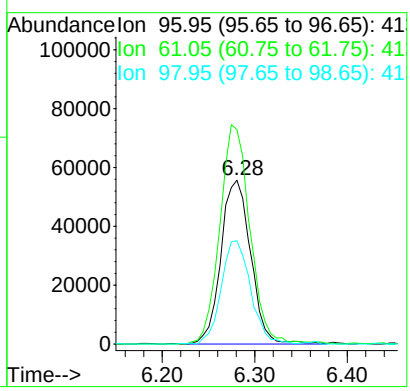


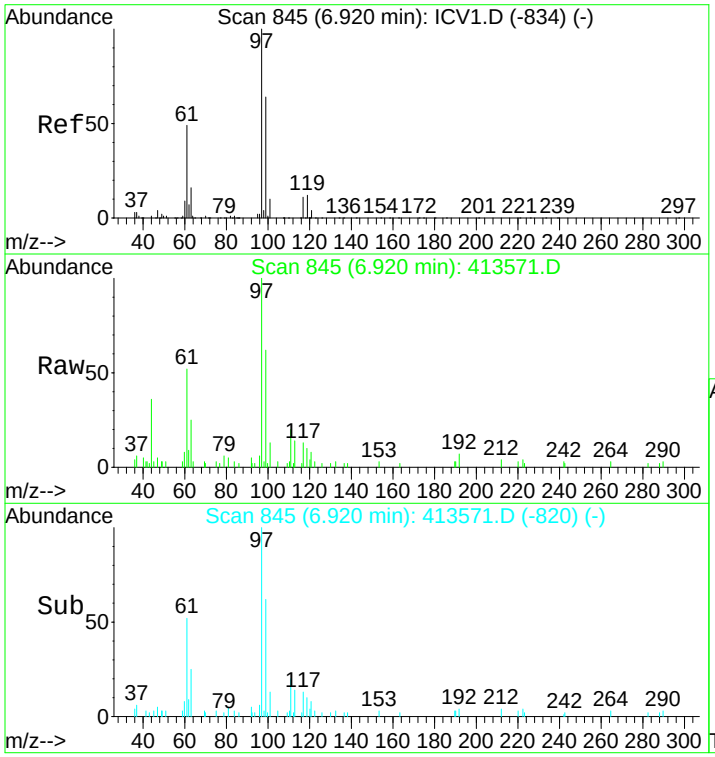


#32
c12dichlorte
Concen: 8.35 ug/L
RT: 6.28 min Scan# 740
Delta R.T. -0.00 min
Lab File: 413571.D
Acq: 1 May 2020 14:29

Tgt Ion: 96 Resp: 124704

Ion	Ratio	Lower	Upper
96	100		
61	135.4	141.9	181.9#
98	62.3	45.5	85.5

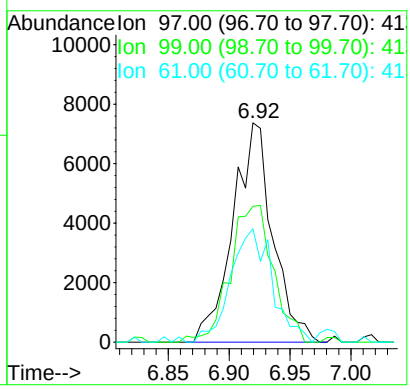


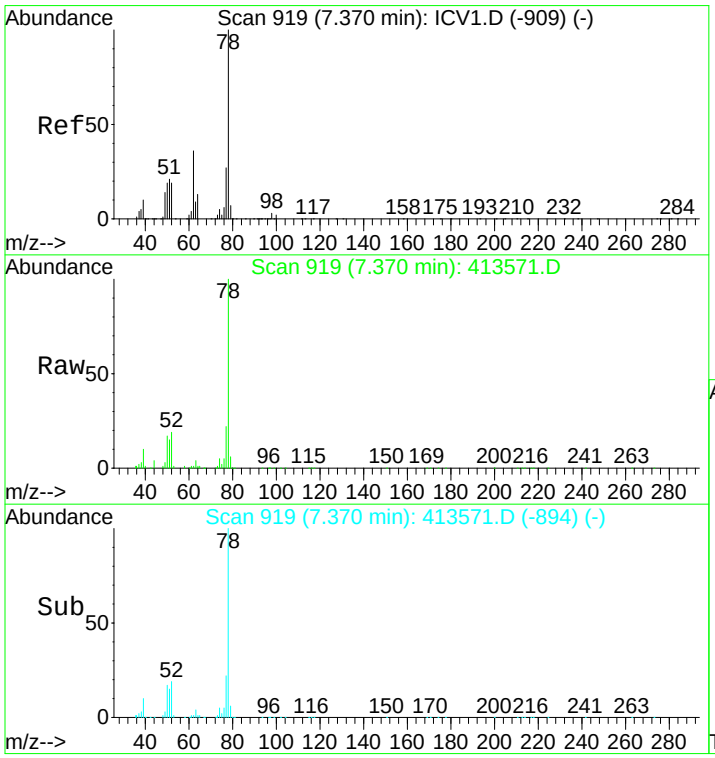


#40
111trichlota
Concen: 0.84 ug/L
RT: 6.92 min Scan# 845
Delta R.T. -0.00 min
Lab File: 413571.D
Acq: 1 May 2020 14:29

Tgt Ion: 97 Resp: 16759

Ion	Ratio	Lower	Upper
97	100		
99	67.5	46.2	86.2
61	54.0	30.3	70.3

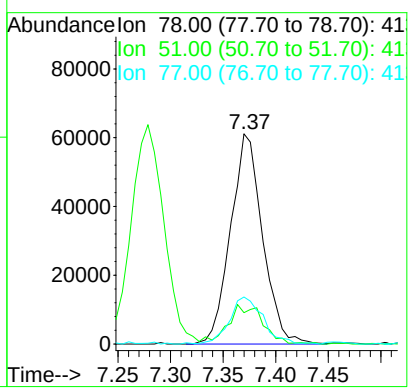


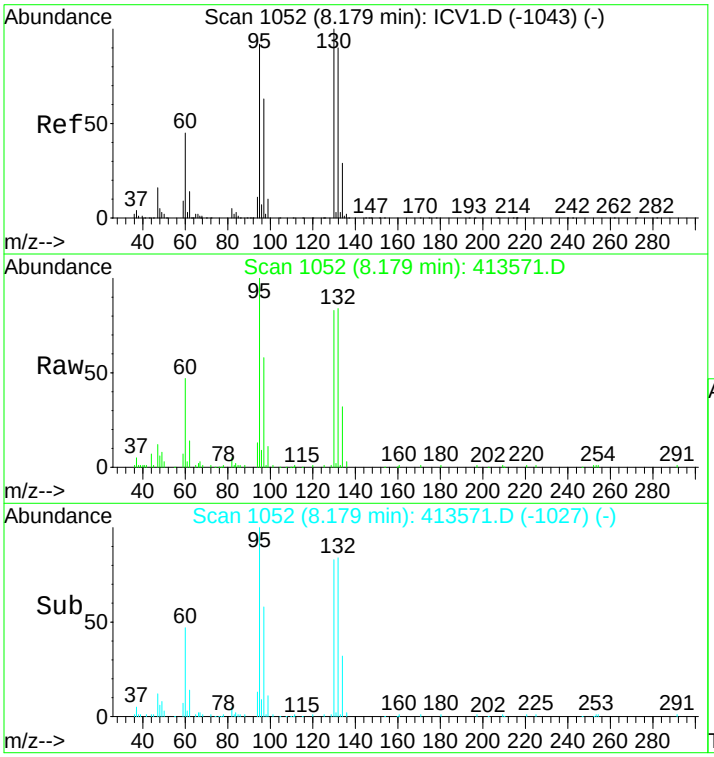


#46
Benzene
Concen: 2.41 ug/L
RT: 7.37 min Scan# 919
Delta R.T. -0.00 min
Lab File: 413571.D
Acq: 1 May 2020 14:29

Tgt Ion: 78 Resp: 129413

Ion	Ratio	Lower	Upper
78	100		
51	20.4	2.0	42.0
77	23.5	4.2	44.2

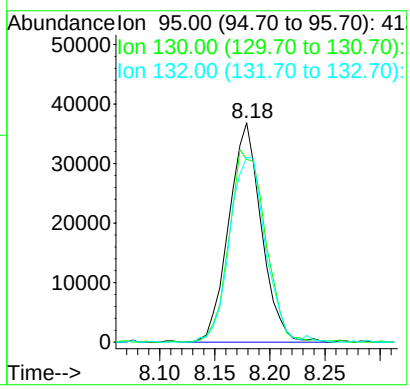


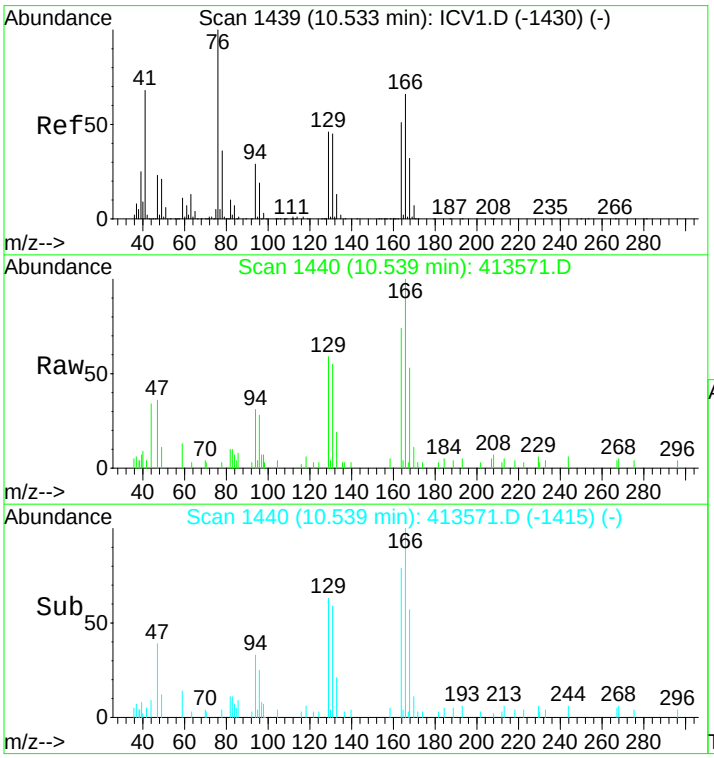


#49
trichloroete
Concen: 5.37 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. -0.00 min
Lab File: 413571.D
Acq: 1 May 2020 14:29

Tgt Ion: 95 Resp: 75756

Ion	Ratio	Lower	Upper
95	100		
130	97.6	76.2	116.2
132	93.4	71.5	111.5

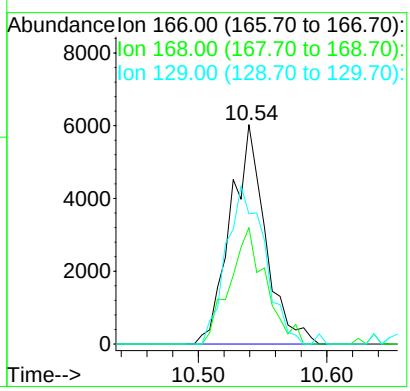




#66
Tetrachlorte
Concen: 0.82 ug/L
RT: 10.54 min Scan# 1440
Delta R.T. -0.00 min
Lab File: 413571.D
Acq: 1 May 2020 14:29

Tgt Ion:166 Resp: 11393

Ion	Ratio	Lower	Upper
166	100		
168	54.9	30.0	70.0
129	79.2	53.9	93.9



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413572.D Vial: 15
Acq On : 1 May 2020 14:59 Operator: RLD-DGS
Sample : 170774,413572, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:20:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	956763	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	726910	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	378119	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	232469	20.247	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %			
45) SURR12DCAd4	7.28	102	65907	20.226	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101 %			
61) SURRd8Tolule	9.72	98	942979	19.981	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %			
83) SURR4BrFBenz	13.26	95	368725	20.210	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	37581	9.6879	ug/L	93
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413572.D Vial: 15
Acq On : 1 May 2020 14:59 Operator: RLD-DGS
Sample : 170774,413572, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:20:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	3737	N.D.		
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.80	92	10739	0.2966	ug/L	88
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413572.D Vial: 15
Acq On : 1 May 2020 14:59 Operator: RLD-DGS
Sample : 170774,413572, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:20:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

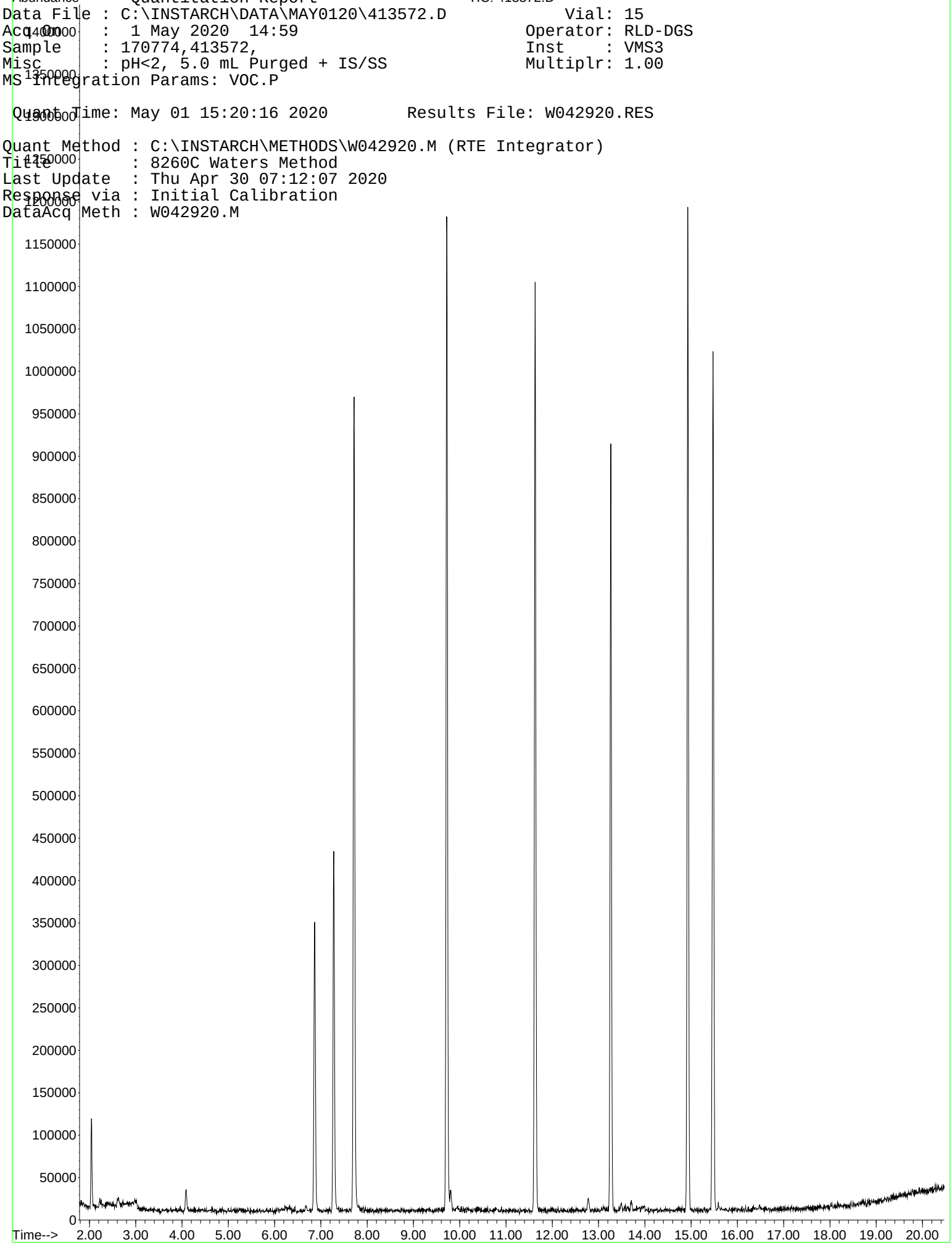
(#) = qualifier out of range (m) = manual integration

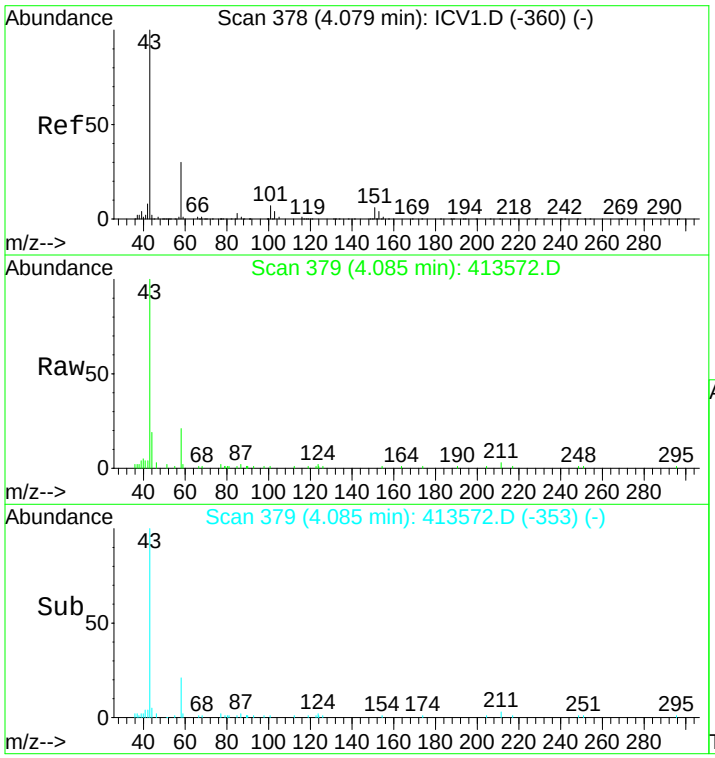
Abundance Quantitation Report TIC: 413572.D

Data File : C:\INSTARCH\DATA\MAY0120\413572.D Vial: 15
Acq On : 1 May 2020 14:59 Operator: RLD-DGS
Sample : 170774,413572, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:20:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

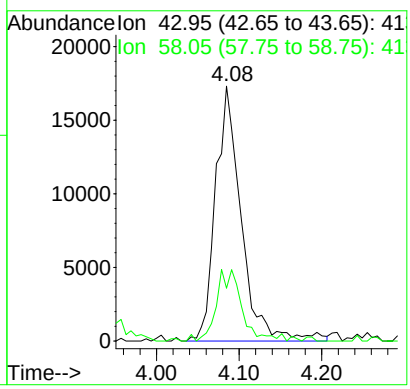


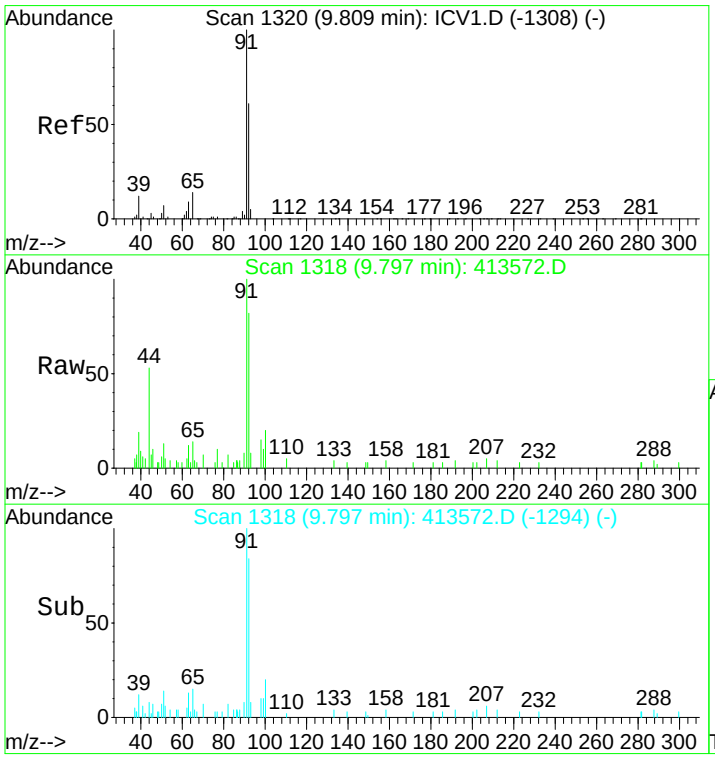


#15
Acetone
Concen: 9.69 ug/L
RT: 4.08 min Scan# 379
Delta R.T. 0.01 min
Lab File: 413572.D
Acq: 1 May 2020 14:59

Tgt Ion: 43 Resp: 37581

Ion	Ratio	Lower	Upper
43	100		
58	27.6	11.6	51.6

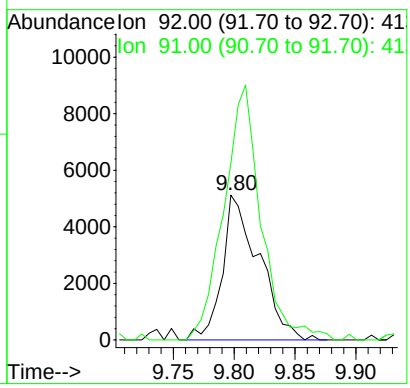




#62
Toluene
Concen: 0.30 ug/L
RT: 9.80 min Scan# 1318
Delta R.T. -0.01 min
Lab File: 413572.D
Acq: 1 May 2020 14:59

Tgt Ion: 92 Resp: 10739

Ion	Ratio	Lower	Upper
92	100		
91	177.9	142.3	182.3



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413574.D Vial: 16
Acq On : 1 May 2020 15:29 Operator: RLD-DGS
Sample : 170774,413574, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:50:08 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	991668	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	743418	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	396757	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	236254	19.852	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99	%		
45) SURR12DCAd4	7.28	102	71067	21.042	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 105	%		
61) SURRd8Tolule	9.72	98	966990	19.768	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.26	95	386070	20.167	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.73	67	4246	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	4.02	96	2585	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	3501	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	2669	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.54	63	20951	0.7947	ug/L #	89
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.28	96	9029	0.5834	ug/L #	82
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413574.D Vial: 16
Acq On : 1 May 2020 15:29 Operator: RLD-DGS
Sample : 170774,413574, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:50:08 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.		
40)	111trichlota	6.91	97	4753	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	0.00	119	0	N.D.		
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.17	95	21202	1.4515	ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.63	91	2662	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413574.D Vial: 16
Acq On : 1 May 2020 15:29 Operator: RLD-DGS
Sample : 170774,413574, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:50:08 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

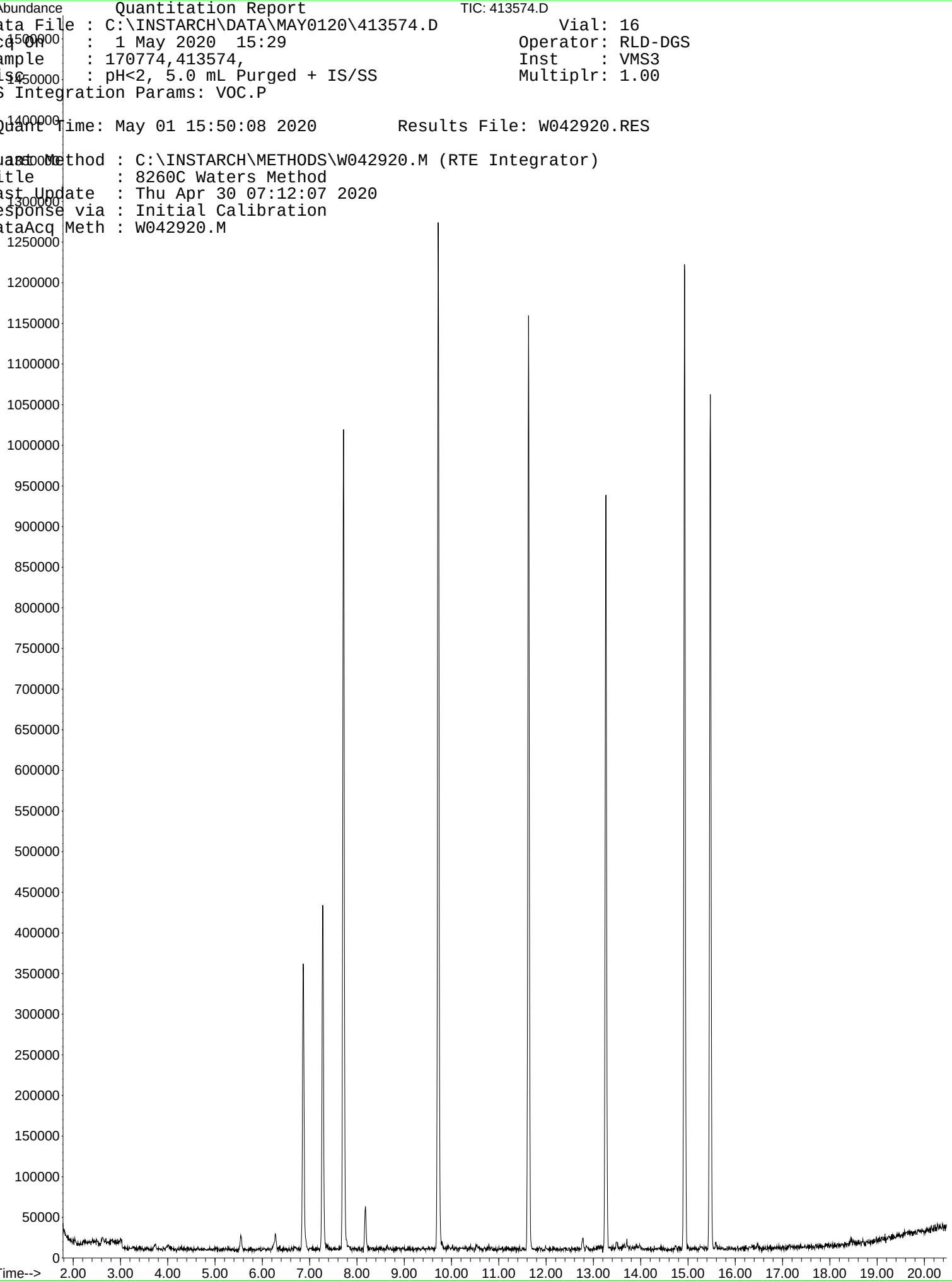
(#) = qualifier out of range (m) = manual integration

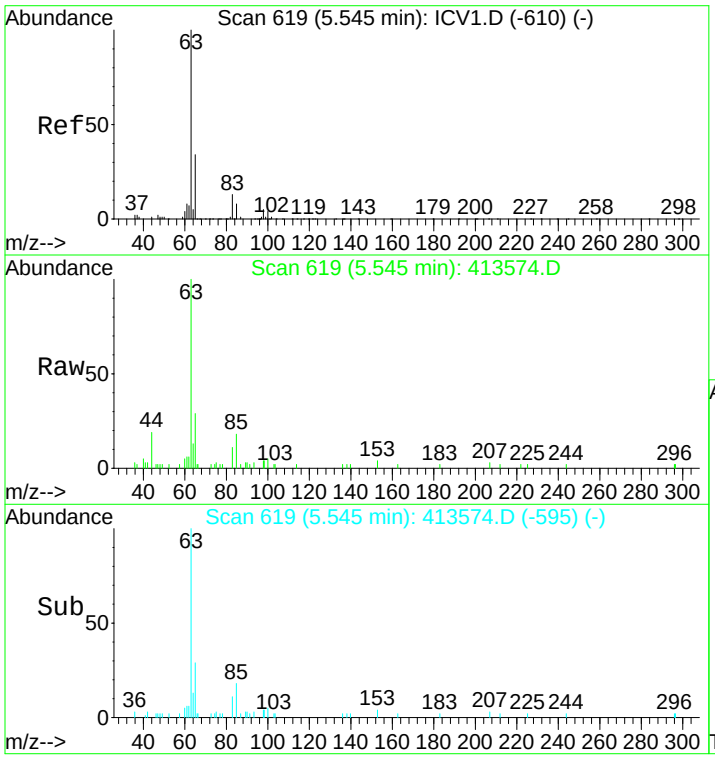
Abundance Quantitation Report TIC: 413574.D

Data File : C:\INSTARCH\DATA\MAY0120\413574.D Vial: 16
Acq On : 1 May 2020 15:29 Operator: RLD-DGS
Sample : 170774,413574, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 15:50:08 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

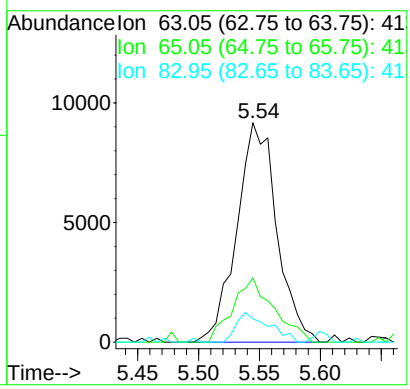


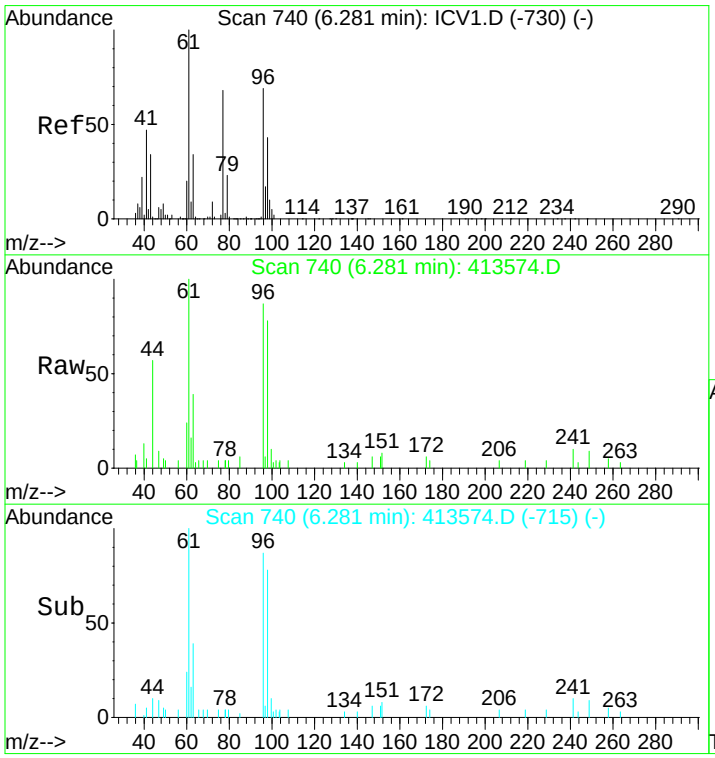


#26
11dichlorota
Concen: 0.79 ug/L
RT: 5.54 min Scan# 619
Delta R.T. -0.01 min
Lab File: 413574.D
Acq: 1 May 2020 15:29

Tgt Ion: 63 Resp: 20951

Ion	Ratio	Lower	Upper
63	100		
65	30.0	11.3	51.3
83	0.0	0.0	32.9

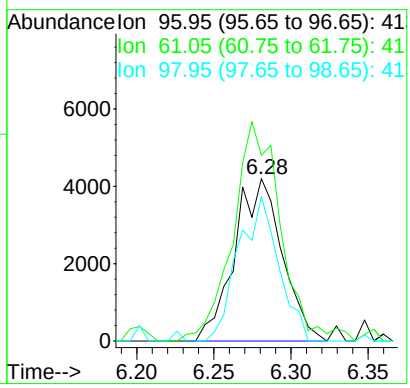


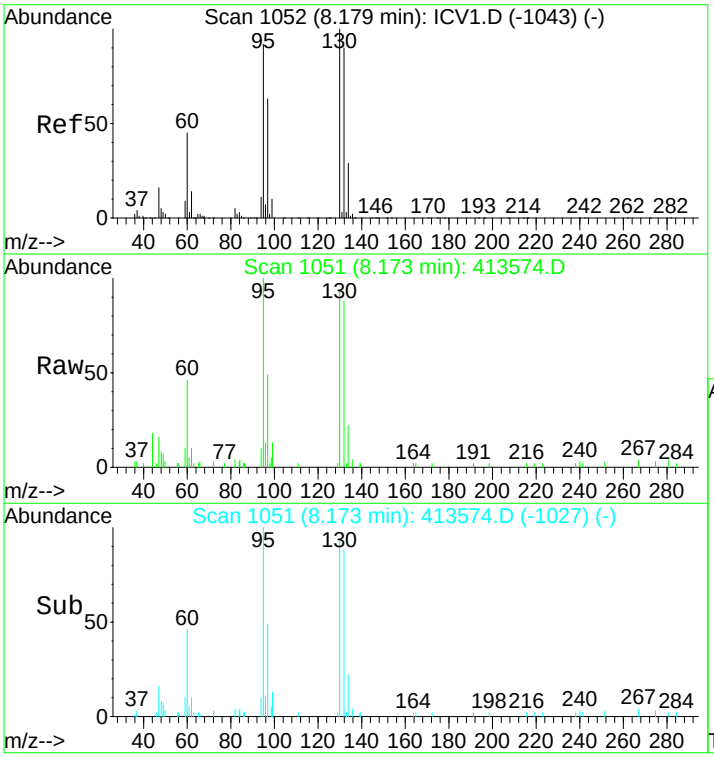


#32
c12dichlorte
Concen: 0.58 ug/L
RT: 6.28 min Scan# 740
Delta R.T. -0.00 min
Lab File: 413574.D
Acq: 1 May 2020 15:29

Tgt Ion: 96 Resp: 9029

Ion	Ratio	Lower	Upper
96	100		
61	135.1	141.9	181.9#
98	74.8	45.5	85.5

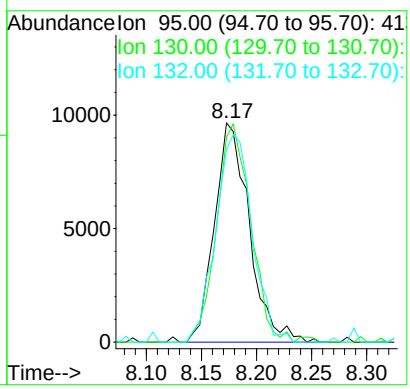




#49
trichloroete
Concen: 1.45 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 413574.D
Acq: 1 May 2020 15:29

Tgt Ion: 95 Resp: 21202

Ion	Ratio	Lower	Upper
95	100		
130	97.8	76.2	116.2
132	99.0	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413575.D Vial: 17
Acq On : 1 May 2020 15:59 Operator: RLD-DGS
Sample : 170774,413575, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:19:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1075748	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	824709	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	436048	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	257302	19.931	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.27	102	72900	19.897	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1066031	20.090	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	428780	20.380	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.73	67	16313	0.9967	ug/L	94
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	4.04	101	9816	0.8034	ug/L	95
15) Acetone	4.09	43	2552	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	0.00	42	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413575.D Vial: 17
Acq On : 1 May 2020 15:59 Operator: RLD-DGS
Sample : 170774,413575, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:19:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	10011	0.3864	ug/L	99
40)	111trichlota	6.91	97	3737	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.14	119	55280	3.1027	ug/L	98
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	0.00	95	0	N.D.		
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.82	92	4215	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.83	91	3054	N.D.		
76)	m p-Xylene	12.00	106	3815	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.44	105	3294	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413575.D Vial: 17
Acq On : 1 May 2020 15:59 Operator: RLD-DGS
Sample : 170774,413575, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:19:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

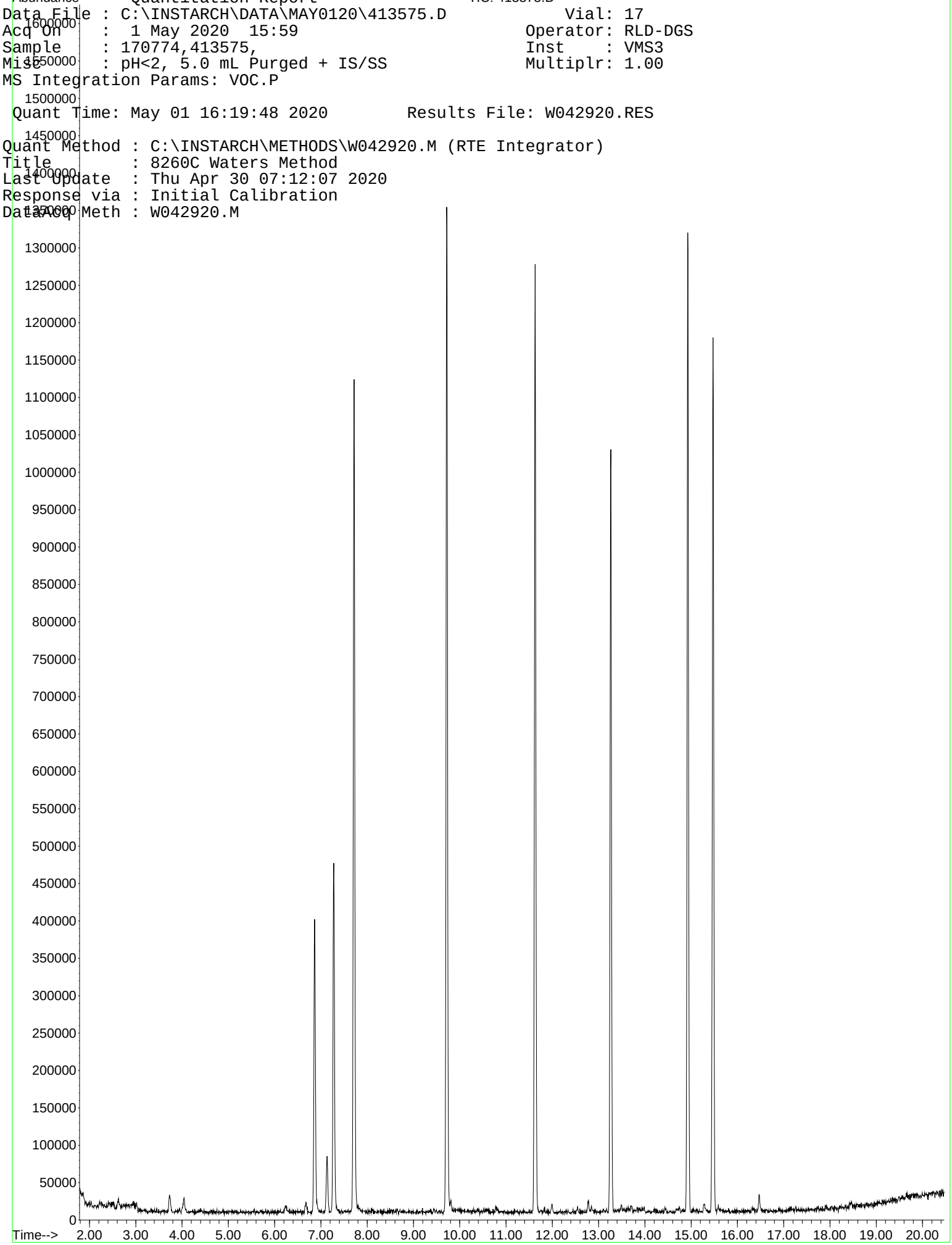
(#) = qualifier out of range (m) = manual integration

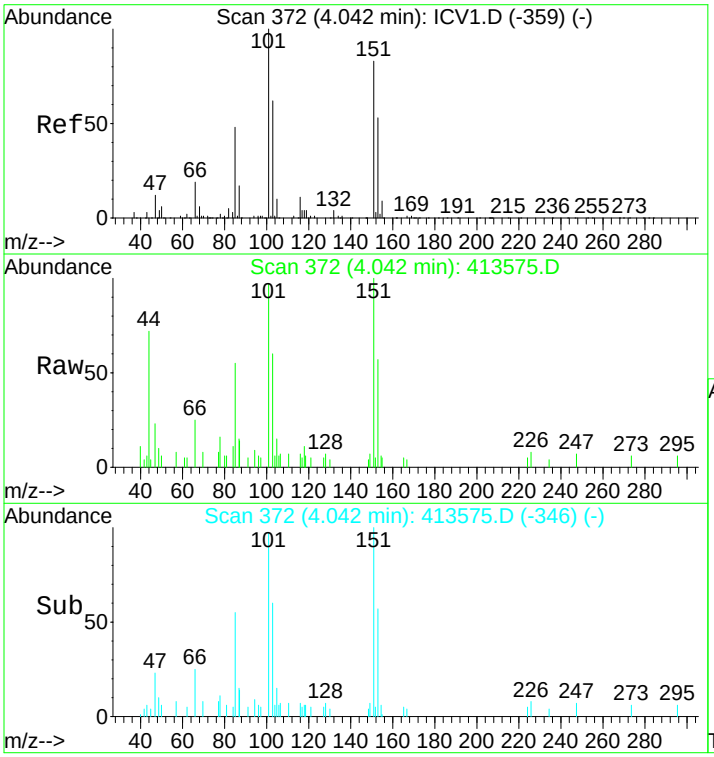
Quantitation Report (TIC: 413575.D)

Data File : C:\INSTARCH\DATA\MAY0120\413575.D Vial: 17
Acq On : 1 May 2020 15:59 Operator: RLD-DGS
Sample : 170774,413575, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:19:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

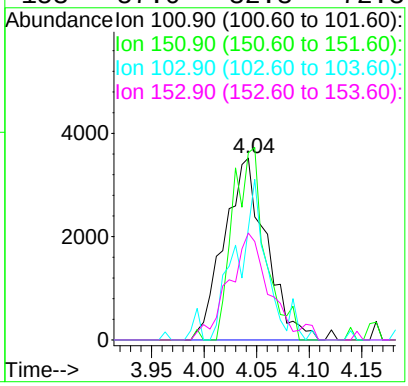


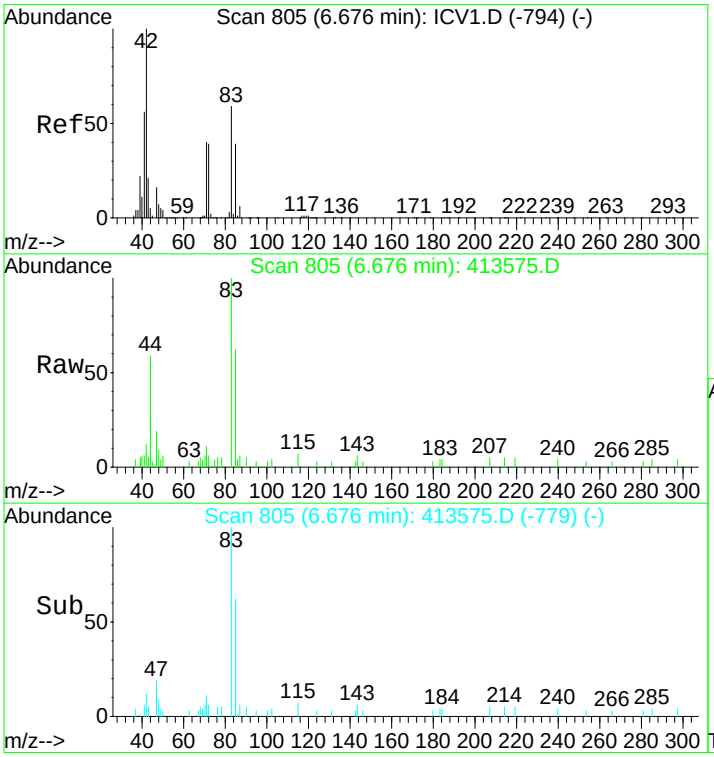


#14
Trichlorotfluoroeth
Concen: 0.80 ug/L
RT: 4.04 min Scan# 372
Delta R.T. 0.01 min
Lab File: 413575.D
Acq: 1 May 2020 15:59

Tgt Ion:101 Resp: 9816

Ion	Ratio	Lower	Upper
101	100		
151	81.1	61.0	101.0
103	59.3	46.8	86.8
153	57.0	32.3	72.3

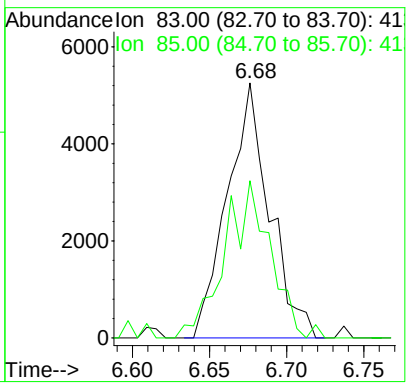


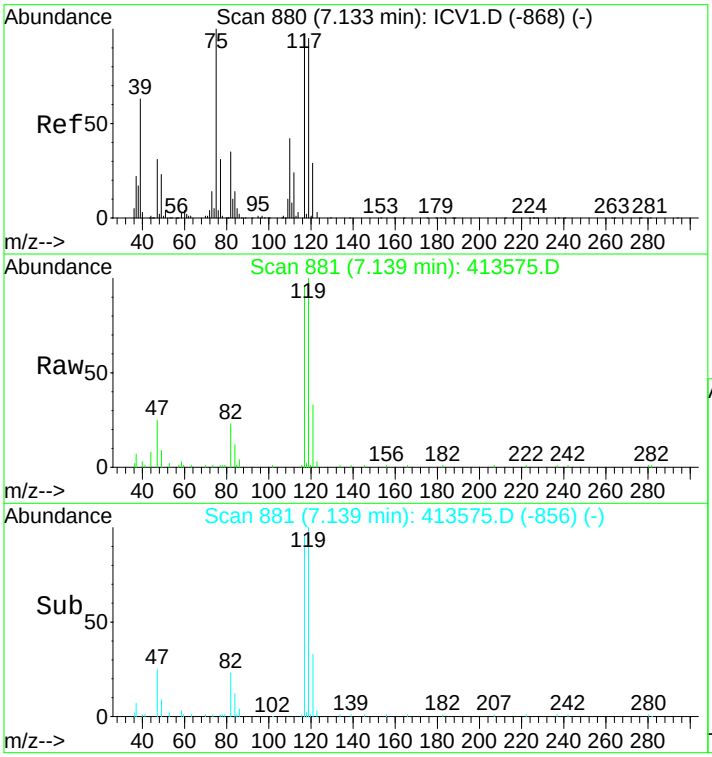


#39
Chloroform
Concen: 0.39 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 413575.D
Acq: 1 May 2020 15:59

Tgt Ion: 83 Resp: 10011

Ion	Ratio	Lower	Upper
83	100		
85	65.7	44.9	84.9

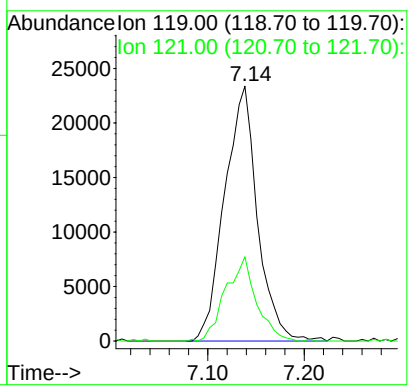




#43
Carbtetraclo
Concen: 3.10 ug/L
RT: 7.14 min Scan# 881
Delta R.T. -0.00 min
Lab File: 413575.D
Acq: 1 May 2020 15:59

Tgt Ion:119 Resp: 55280

Ion	Ratio	Lower	Upper
119	100		
121	31.1	12.0	52.0



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413576.D Vial: 18
Acq On : 1 May 2020 16:28 Operator: RLD-DGS
Sample : 170774,413576, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:49:33 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1062829	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	807669	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	434449	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	256300	20.094	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	71973	19.883	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1036591	19.772	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.26	95	418320	19.956	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	3342	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	0.00	76	0	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	2514	Below	Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413576.D Vial: 18
Acq On : 1 May 2020 16:28 Operator: RLD-DGS
Sample : 170774,413576, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:49:33 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	91332	3.5677	ug/L	99
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.13	119	577781	32.8234	ug/L	98
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.17	95	44668	2.8533	ug/L	97
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	9.81	92	5375	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	0.00	91	0	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	11.83	91	2655	N.D.		
76)	m p-Xylene	11.99	106	3417	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\413576.D Vial: 18
Acq On : 1 May 2020 16:28 Operator: RLD-DGS
Sample : 170774,413576, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:49:33 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

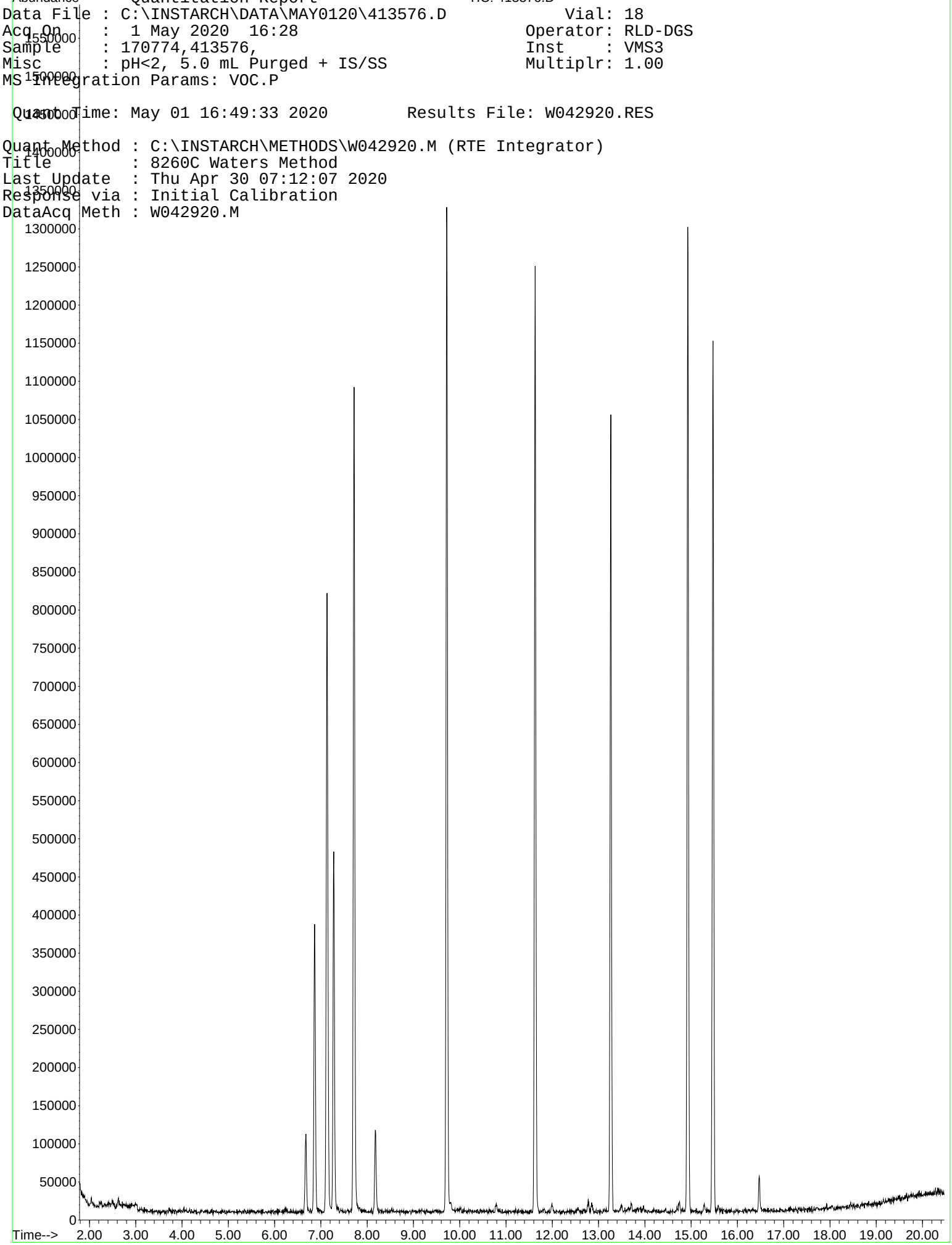
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

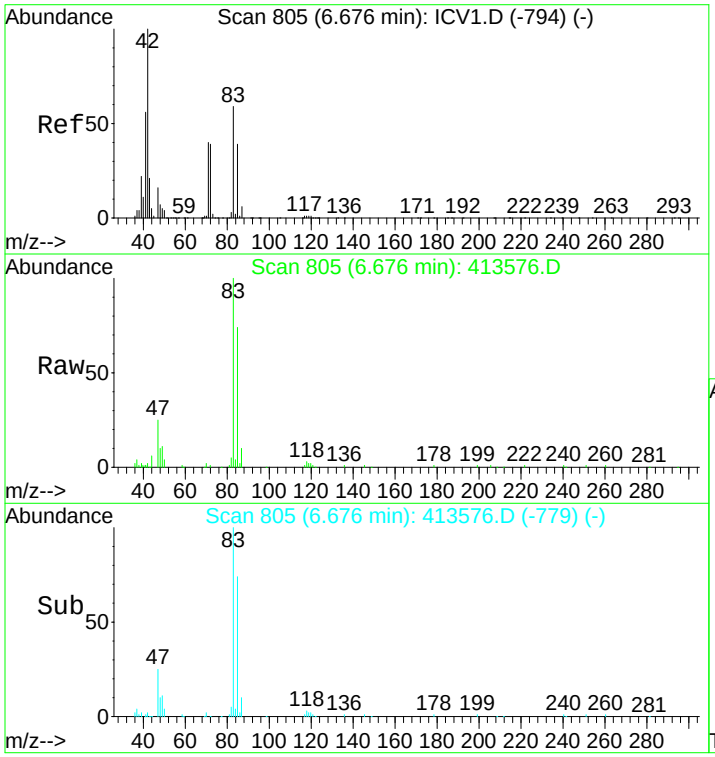
(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\MAY0120\413576.D Vial: 18
Acq On : 1 May 2020 16:28 Operator: RLD-DGS
Sample : 170774,413576, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 16:49:33 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

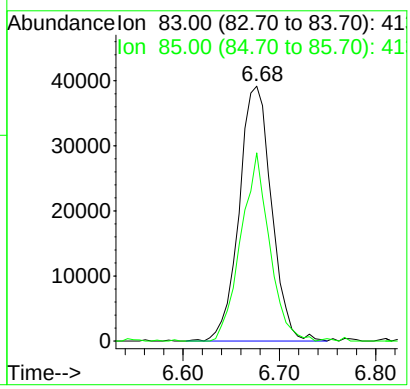


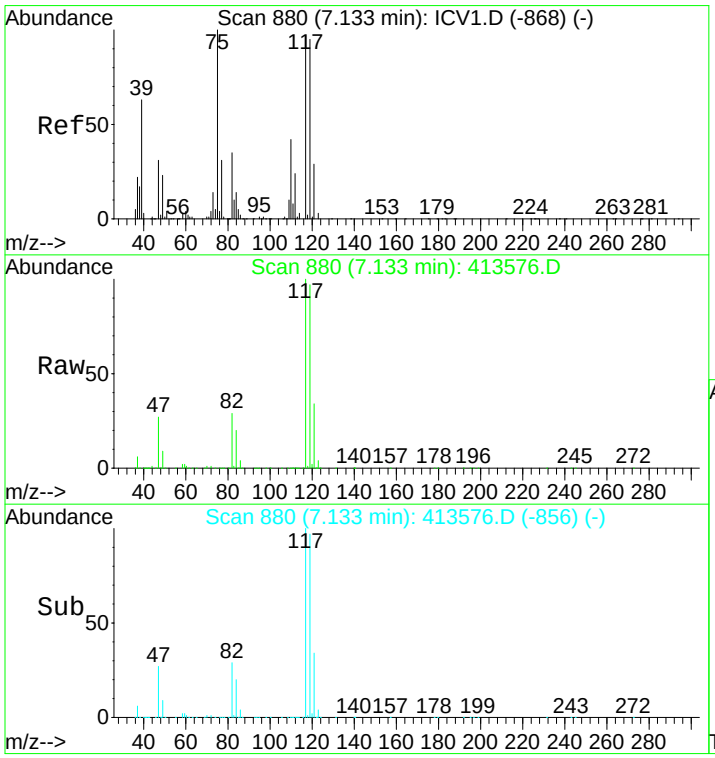


#39
Chloroform
Concen: 3.57 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 413576.D
Acq: 1 May 2020 16:28

Tgt Ion: 83 Resp: 91332

Ion	Ratio	Lower	Upper
83	100		
85	65.4	44.9	84.9

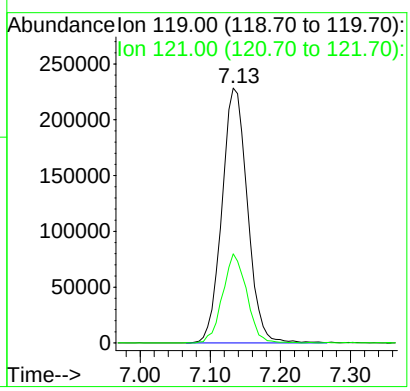


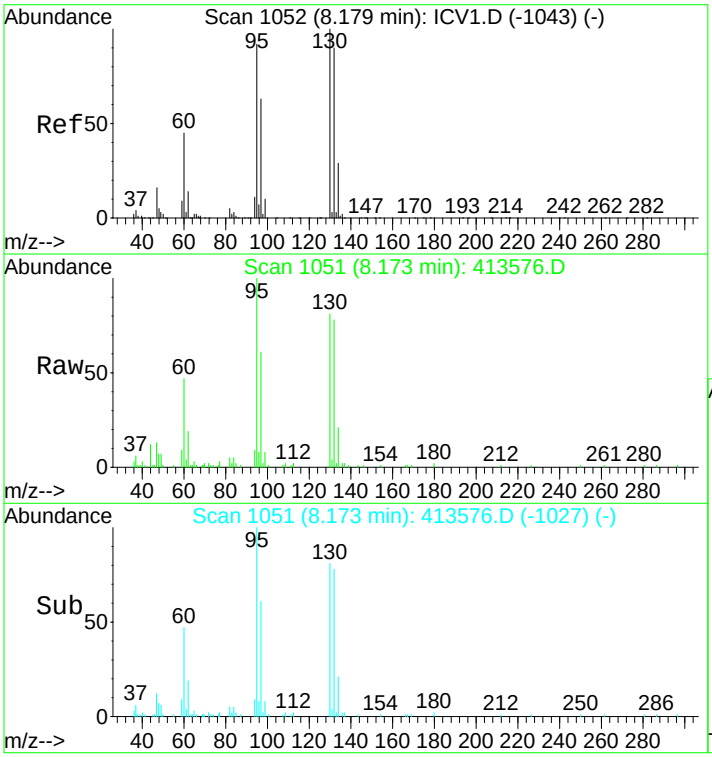


#43
Carbtetraclo
Concen: 32.82 ug/L
RT: 7.13 min Scan# 880
Delta R.T. -0.01 min
Lab File: 413576.D
Acq: 1 May 2020 16:28

Tgt Ion:119 Resp: 577781

Ion	Ratio	Lower	Upper
119	100		
121	33.0	12.0	52.0

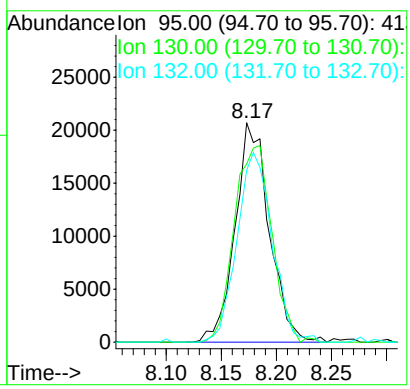




#49
trichloroete
Concen: 2.85 ug/L
RT: 8.17 min Scan# 1051
Delta R.T. -0.01 min
Lab File: 413576.D
Acq: 1 May 2020 16:28

Tgt Ion: 95 Resp: 44668

Ion	Ratio	Lower	Upper
95	100		
130	98.7	76.2	116.2
132	89.0	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413970.D Vial: 7
Acq On : 4 May 2020 10:52 Operator: RLD-DGS
Sample : 170842,413970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 11:13:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1082247	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	834724	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	449443	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	264655	20.377	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.28	102	76362	20.717	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104	%		
61) SURRd8Tolule	9.72	98	1079280	20.217	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	428999	19.782	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.09	43	6350	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.26	76	2945	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.65	84	18199	1.1100	ug/L	92
21) tbutylalcohol	4.87	59	3893	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	6335	Below	Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413970.D Vial: 7
Acq On : 4 May 2020 10:52 Operator: RLD-DGS
Sample : 170842,413970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 11:13:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413970.D Vial: 7
Acq On : 4 May 2020 10:52 Operator: RLD-DGS
Sample : 170842,413970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 11:13:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

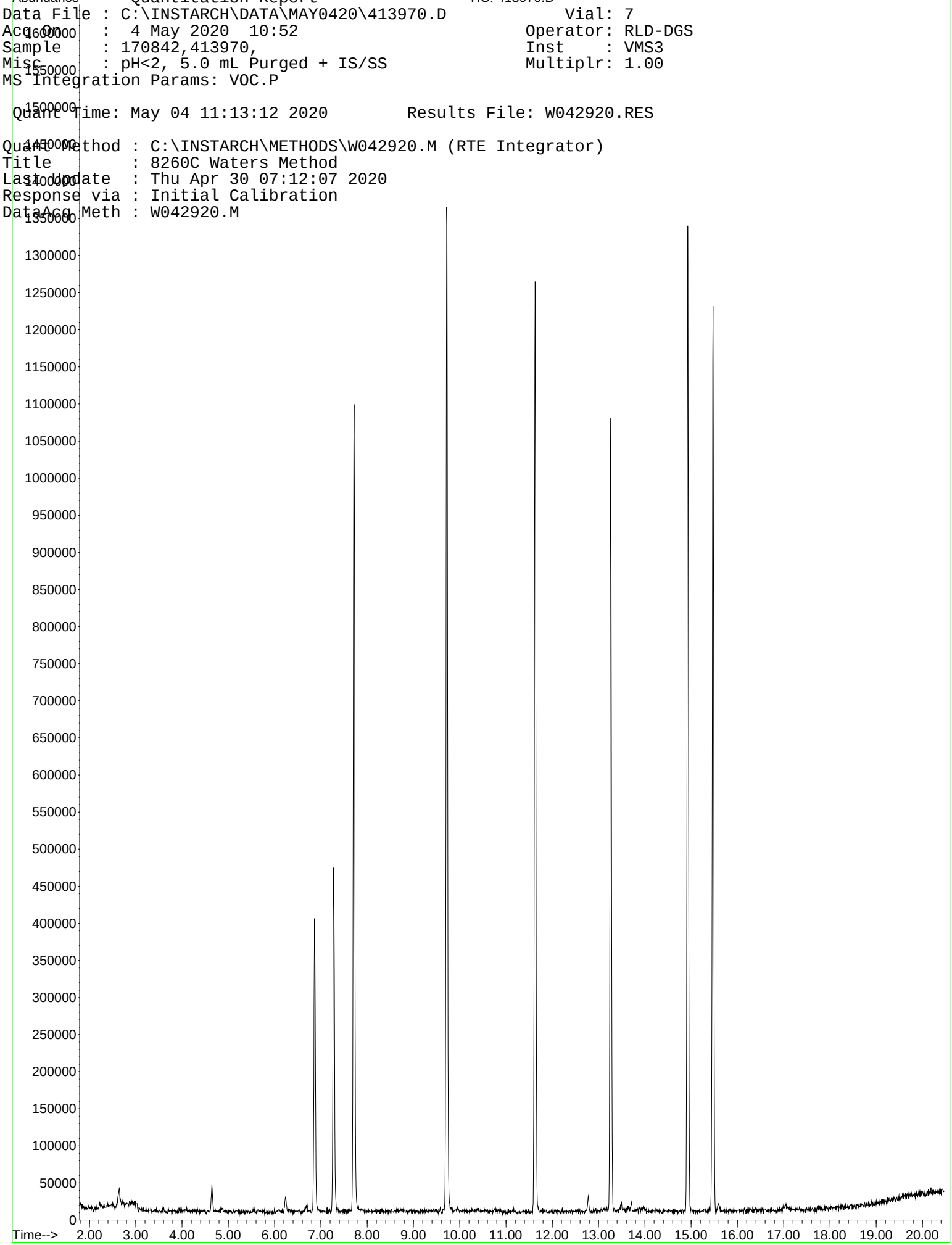
(#) = qualifier out of range (m) = manual integration

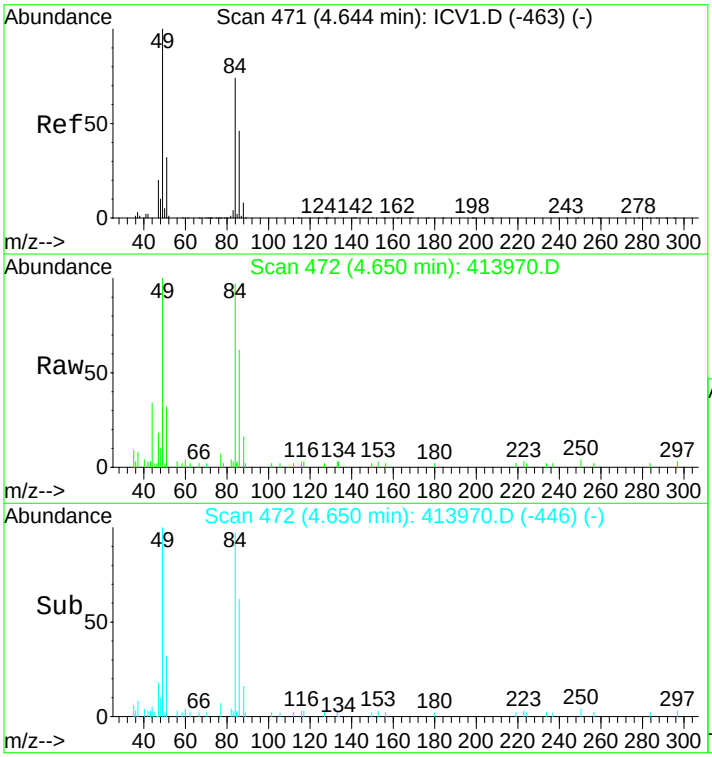
Quantitation Report (TIC: 413970.D)

Data File : C:\INSTARCH\DATA\MAY0420\413970.D Vial: 7
Acq On : 4 May 2020 10:52 Operator: RLD-DGS
Sample : 170842,413970, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 11:13:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

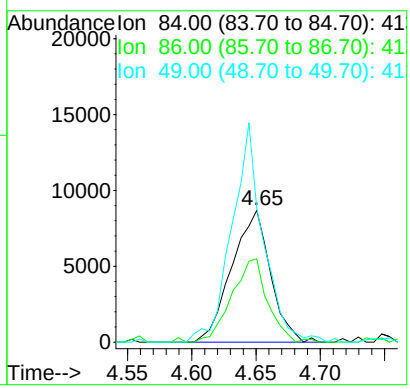




#20
Methylchlorid
Concen: 1.11 ug/L
RT: 4.65 min Scan# 472
Delta R.T. 0.01 min
Lab File: 413970.D
Acq: 4 May 2020 10:52

Tgt Ion: 84 Resp: 18199

Ion	Ratio	Lower	Upper
84	100		
86	58.6	44.6	84.6
49	134.8	124.6	164.6



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413971.D Vial: 13
Acq On : 4 May 2020 13:52 Operator: RLD-DGS
Sample : 170842,413971, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:12:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1060573	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	817061	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	423376	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	258790	20.333	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.28	102	75412	20.878	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104	%		
61) SURRd8Tolule	9.72	98	1051659	20.103	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	419888	20.554	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3900	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.54	63	9915	0.3517 ug/L #	89
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	6.28	96	8306	0.5018 ug/L #	86
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413971.D Vial: 13
Acq On : 4 May 2020 13:52 Operator: RLD-DGS
Sample : 170842,413971, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:12:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.68	83	2512	N.D.		
40) 111trichlota	6.92	97	4715	N.D.		
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	7.13	119	11977	0.6819	ug/L	97
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	8.18	95	22587	1.4459	ug/L	96
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	0.00	88	0	N.D.		
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	9.80	92	5323	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	10.55	166	3012	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	0.00	91	0	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	11.82	91	3053	N.D.		
76) m p-Xylene	11.99	106	2511	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	12.55	104	2729	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	13.16	55	3199	7.5508	ug/L #	44
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	0.00	105	0	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	15.47	91	2646	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413971.D Vial: 13
Acq On : 4 May 2020 13:52 Operator: RLD-DGS
Sample : 170842,413971, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:12:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

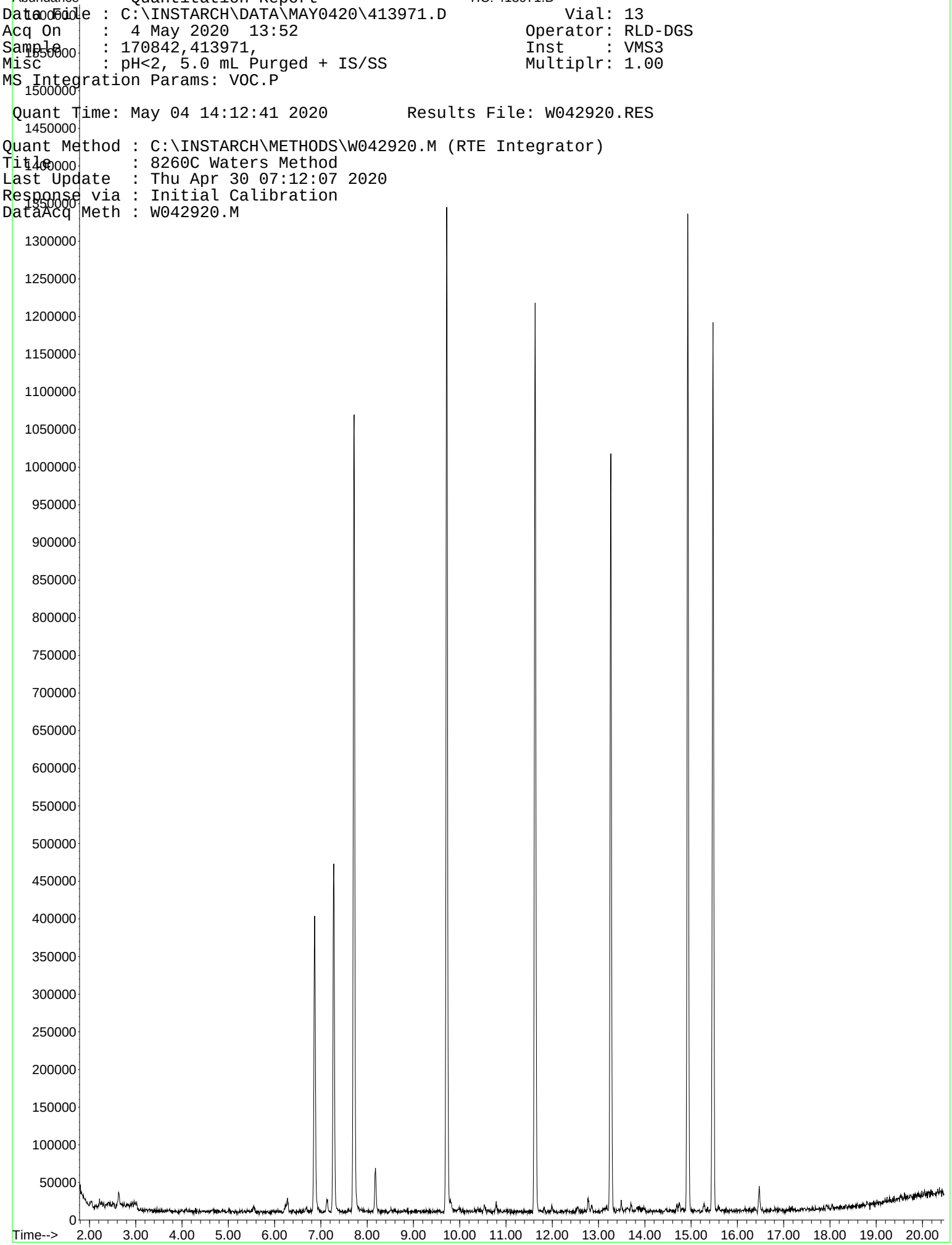
(#) = qualifier out of range (m) = manual integration

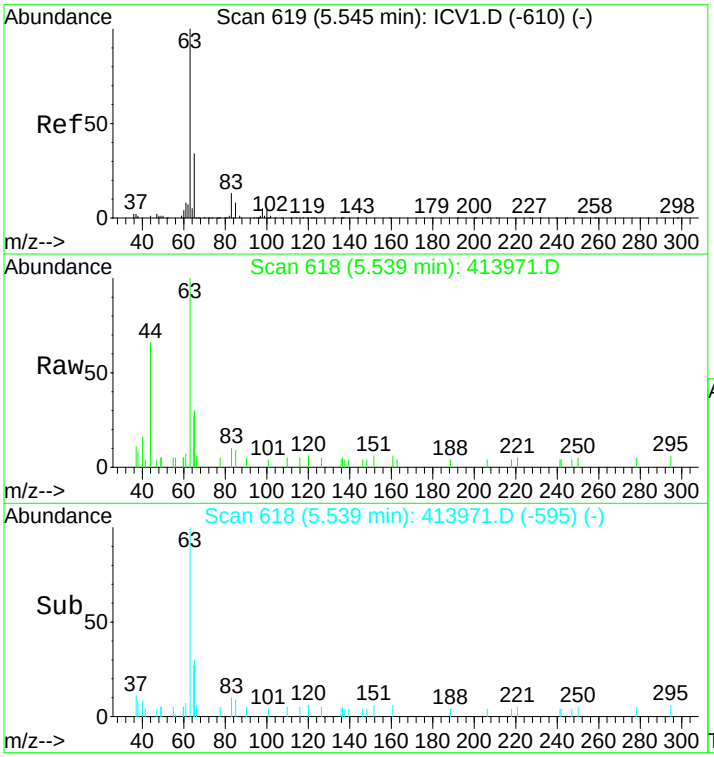
Abundance Quantitation Report TIC: 413971.D

Data File : C:\INSTARCH\DATA\MAY0420\413971.D Vial: 13
Acq On : 4 May 2020 13:52 Operator: RLD-DGS
Sample : 170842,413971, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:12:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

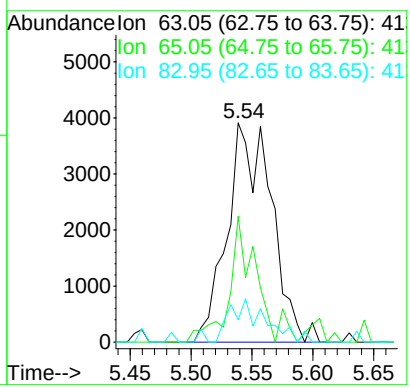


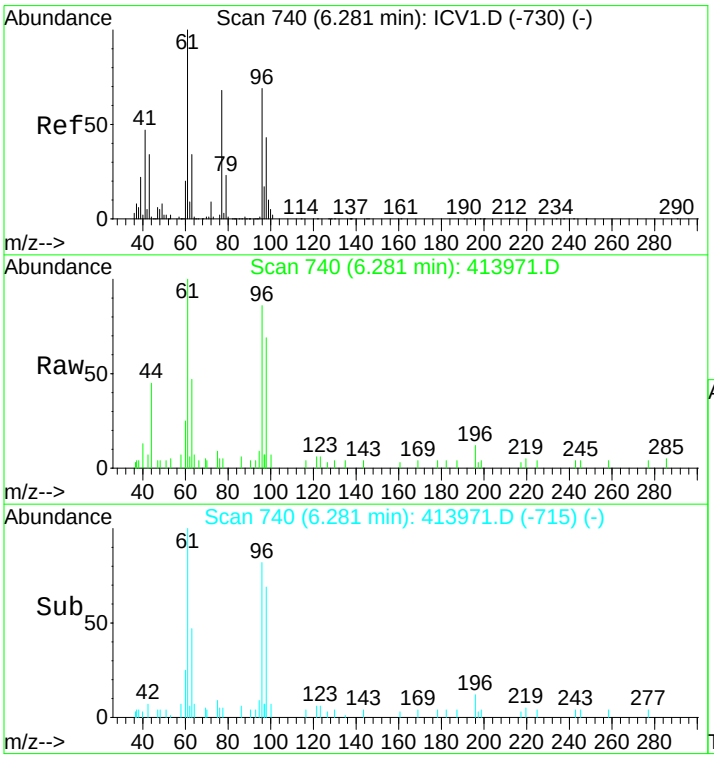


#26
11dichlorota
Concen: 0.35 ug/L
RT: 5.54 min Scan# 618
Delta R.T. -0.01 min
Lab File: 413971.D
Acq: 4 May 2020 13:52

Tgt Ion: 63 Resp: 9915

Ion	Ratio	Lower	Upper
63	100		
65	32.5	11.3	51.3
83	0.0	0.0	32.9

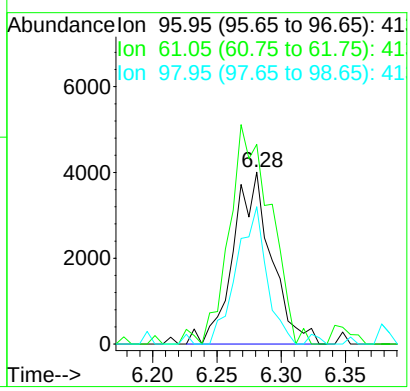


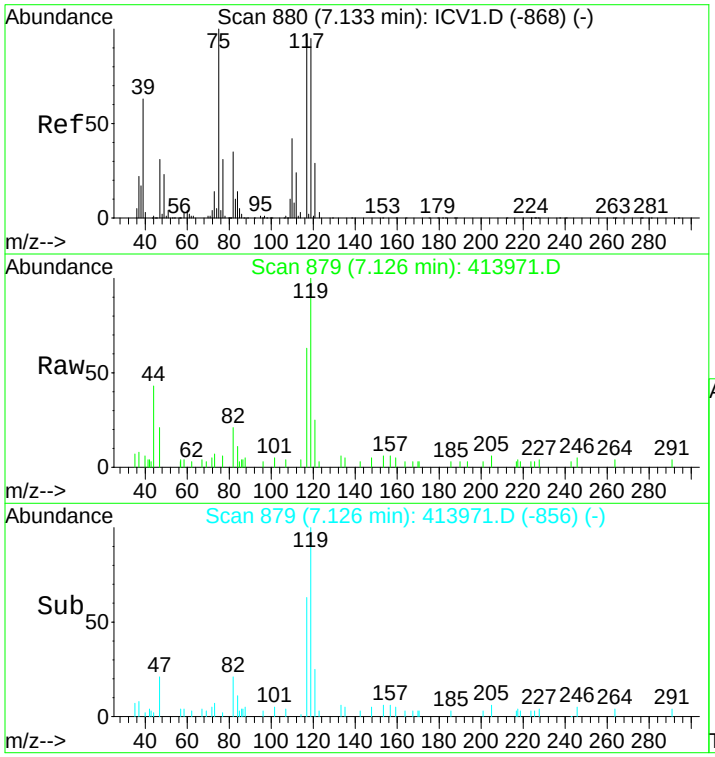


#32
c12dichlorte
Concen: 0.50 ug/L
RT: 6.28 min Scan# 740
Delta R.T. 0.00 min
Lab File: 413971.D
Acq: 4 May 2020 13:52

Tgt Ion: 96 Resp: 8306

Ion	Ratio	Lower	Upper
96	100		
61	138.4	141.9	181.9#
98	62.9	45.5	85.5

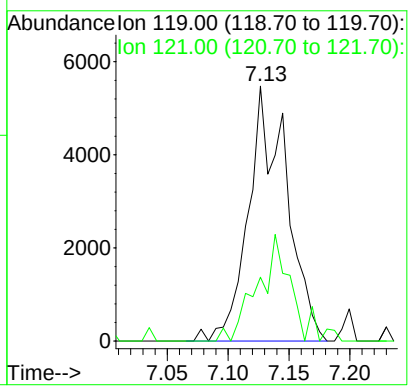


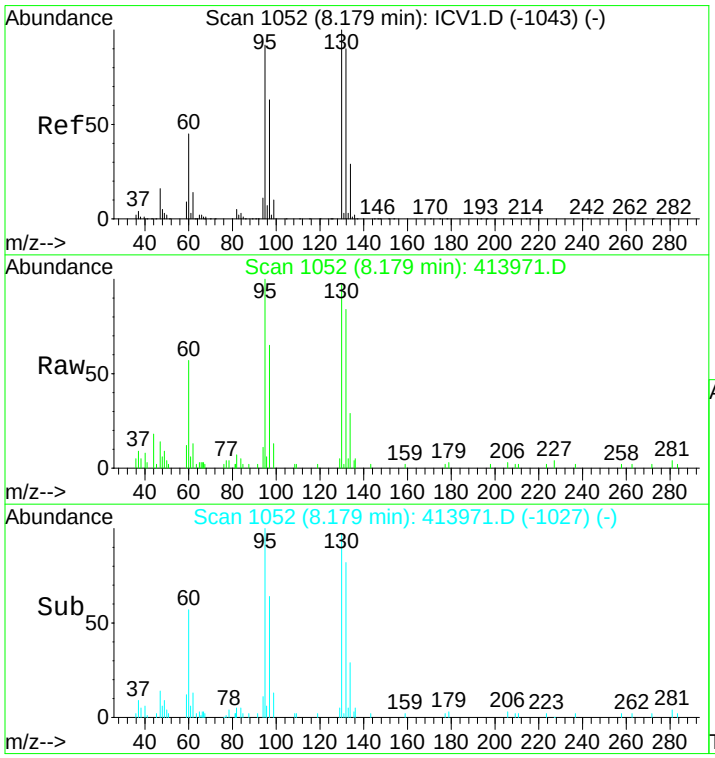


#43
Carbtetraclo
Concen: 0.68 ug/L
RT: 7.13 min Scan# 879
Delta R.T. -0.01 min
Lab File: 413971.D
Acq: 4 May 2020 13:52

Tgt Ion:119 Resp: 11977

Ion	Ratio	Lower	Upper
119	100		
121	33.4	12.0	52.0

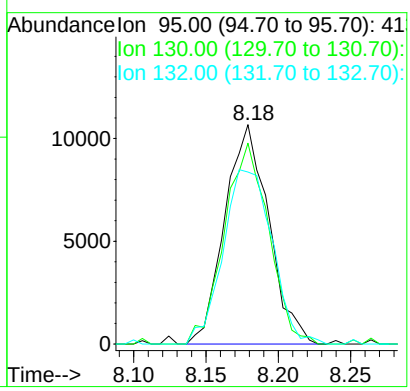




#49
trichloroete
Concen: 1.45 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. 0.00 min
Lab File: 413971.D
Acq: 4 May 2020 13:52

Tgt Ion: 95 Resp: 22587

Ion	Ratio	Lower	Upper
95	100		
130	92.2	76.2	116.2
132	88.8	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413972.D Vial: 14
Acq On : 4 May 2020 14:21 Operator: RLD-DGS
Sample : 170842,413972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:42:26 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1072964	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	813667	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	440579	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.86	113	263850	20.491 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %		
45) SURR12DCAd4	7.28	102	73545	20.126 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101 %		
61) SURRd8Tolule	9.72	98	1061697	20.060 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %		
83) SURR4BrFBenz	13.26	95	418020	19.664 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3131	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.26	76	2698	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.69	42	3450	Below Cal # 27	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413972.D Vial: 14
Acq On : 4 May 2020 14:21 Operator: RLD-DGS
Sample : 170842,413972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:42:26 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	302291	11.6968	ug/L		98
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.13	119	1132260	63.7155	ug/L		96
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	7.37	62	13662	0.6190	ug/L	#	93
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.18	95	190504	12.0539	ug/L		97
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	9.82	92	4823	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	11.83	91	2728	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	12.55	104	3626	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	13.16	55	4145	9.8245	ug/L	#	44
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413972.D Vial: 14
Acq On : 4 May 2020 14:21 Operator: RLD-DGS
Sample : 170842,413972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:42:26 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

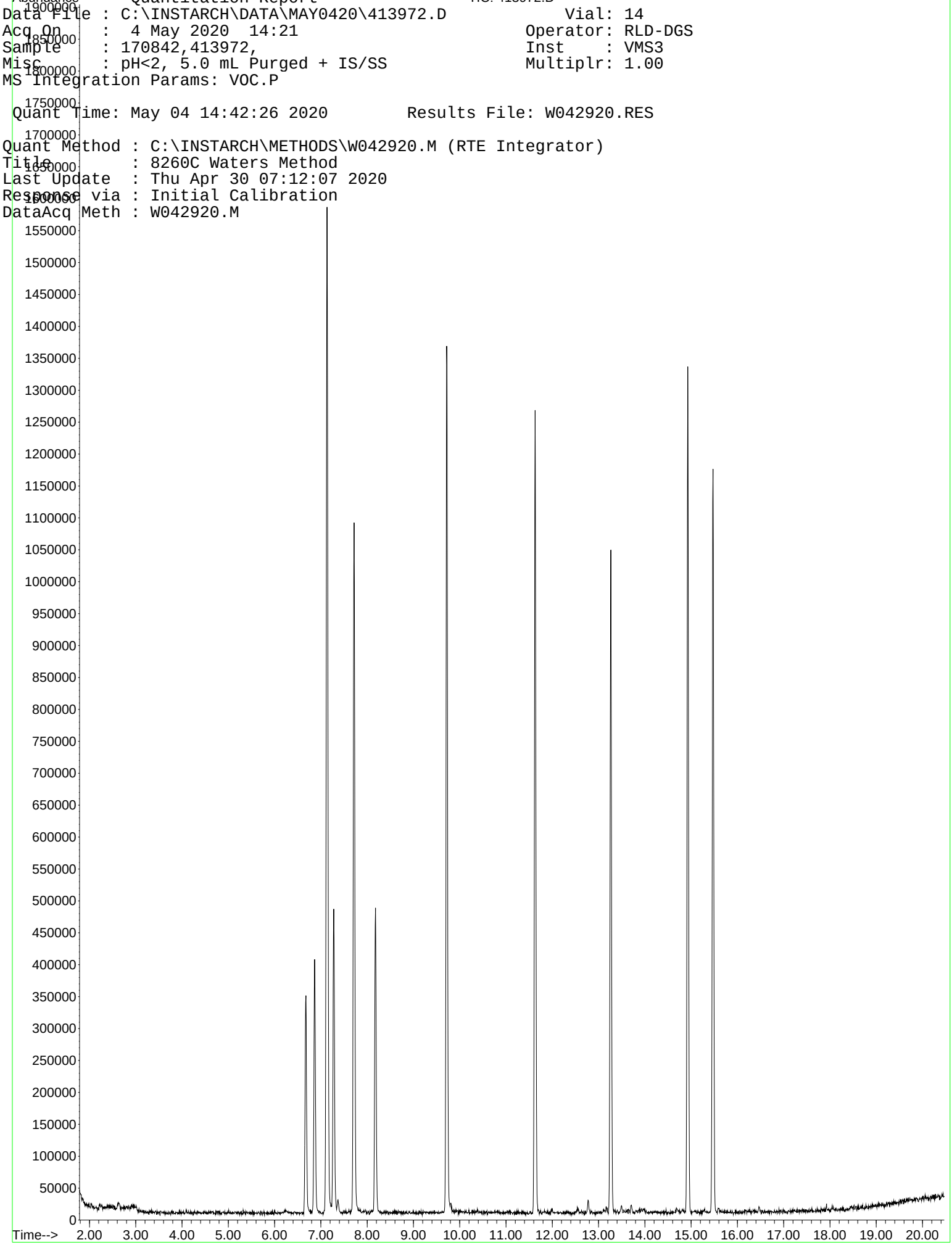
(#) = qualifier out of range (m) = manual integration

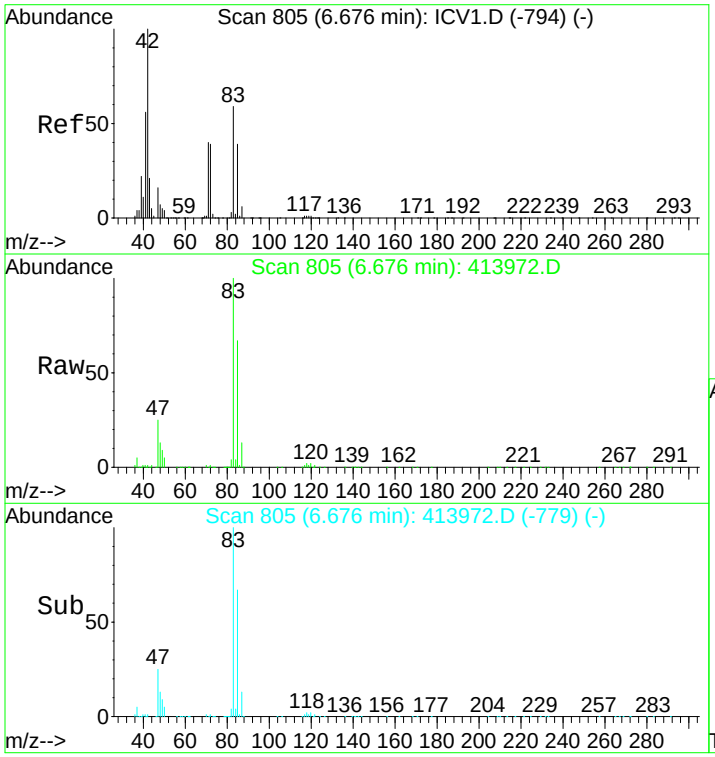
Quantitation Report (TIC: 413972.D)

Data File : C:\INSTARCH\DATA\MAY0420\413972.D Vial: 14
Acq On : 4 May 2020 14:21 Operator: RLD-DGS
Sample : 170842,413972, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 14:42:26 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

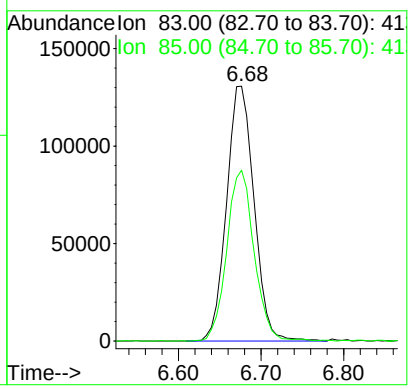


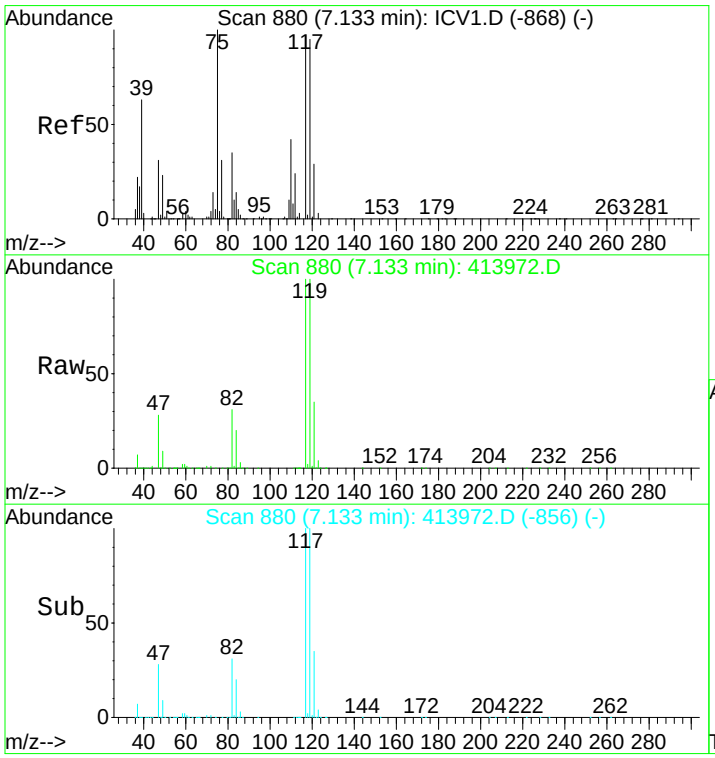


#39
Chloroform
Concen: 11.70 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 413972.D
Acq: 4 May 2020 14:21

Tgt Ion: 83 Resp: 302291

Ion	Ratio	Lower	Upper
83	100		
85	66.7	44.9	84.9

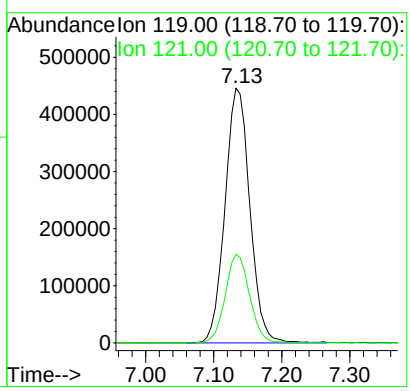


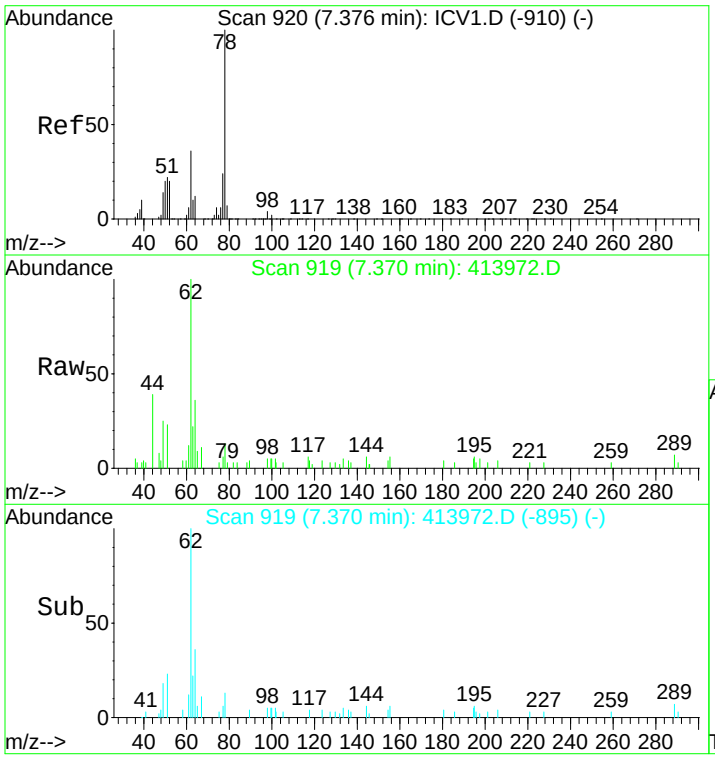


#43
Carbtetraclo
Concen: 63.72 ug/L
RT: 7.13 min Scan# 880
Delta R.T. -0.01 min
Lab File: 413972.D
Acq: 4 May 2020 14:21

Tgt Ion:119 Resp: 1132260

Ion	Ratio	Lower	Upper
119	100		
121	34.0	12.0	52.0

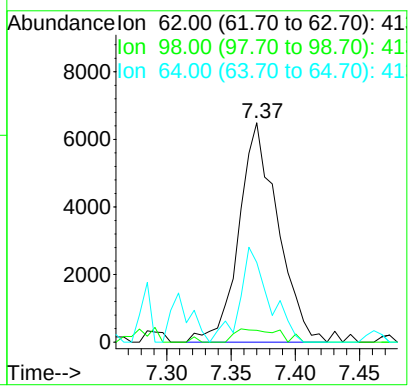


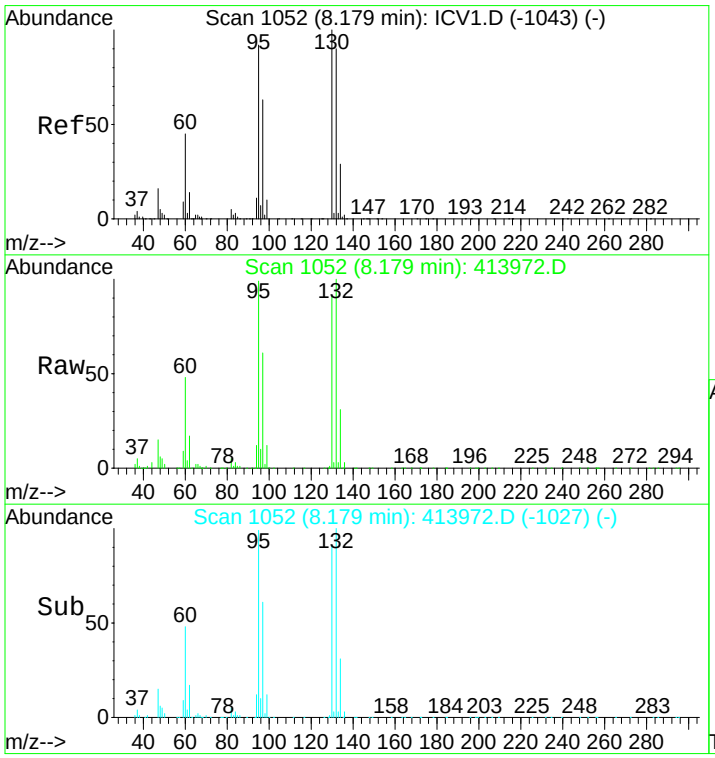


#47
12dichlorota
Concen: 0.62 ug/L
RT: 7.37 min Scan# 919
Delta R.T. -0.01 min
Lab File: 413972.D
Acq: 4 May 2020 14:21

Tgt Ion: 62 Resp: 13662

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	28.6
64	32.5	13.8	53.8

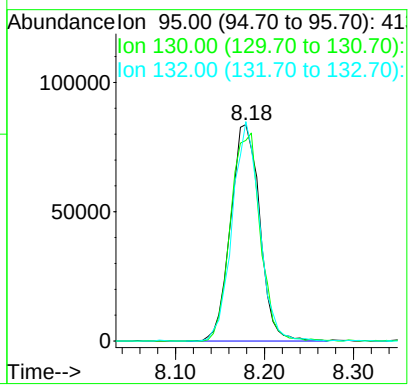




#49
trichloroete
Concen: 12.05 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. 0.00 min
Lab File: 413972.D
Acq: 4 May 2020 14:21

Tgt Ion: 95 Resp: 190504

Ion	Ratio	Lower	Upper
95	100		
130	97.9	76.2	116.2
132	95.0	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413973.D Vial: 15
Acq On : 4 May 2020 14:51 Operator: RLD-DGS
Sample : 170842,413973, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 15:12:21 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1056851	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	812756	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	443877	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	257150	20.275 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %		
45) SURR12DCAd4	7.27	102	71287	19.805 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %		
61) SURRd8Tolule	9.72	98	1043728	20.021 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %		
83) SURR4BrFBenz	13.26	95	422663	19.734 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.10	43	3872	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	3684	Below Cal # 25	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413973.D Vial: 15
Acq On : 4 May 2020 14:51 Operator: RLD-DGS
Sample : 170842,413973, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 15:12:21 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	299099	11.7497	ug/L		96
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.14	119	1105543	63.1606	ug/L		96
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	7.37	62	12464	0.5733	ug/L	#	91
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.18	95	186039	11.9508	ug/L		96
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	0.00	88	0	N.D.			
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	9.80	92	5710	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	0.00	91	0	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	11.84	91	2686	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	12.56	104	4119	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	13.17	55	5202	12.3436	ug/L	#	44
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

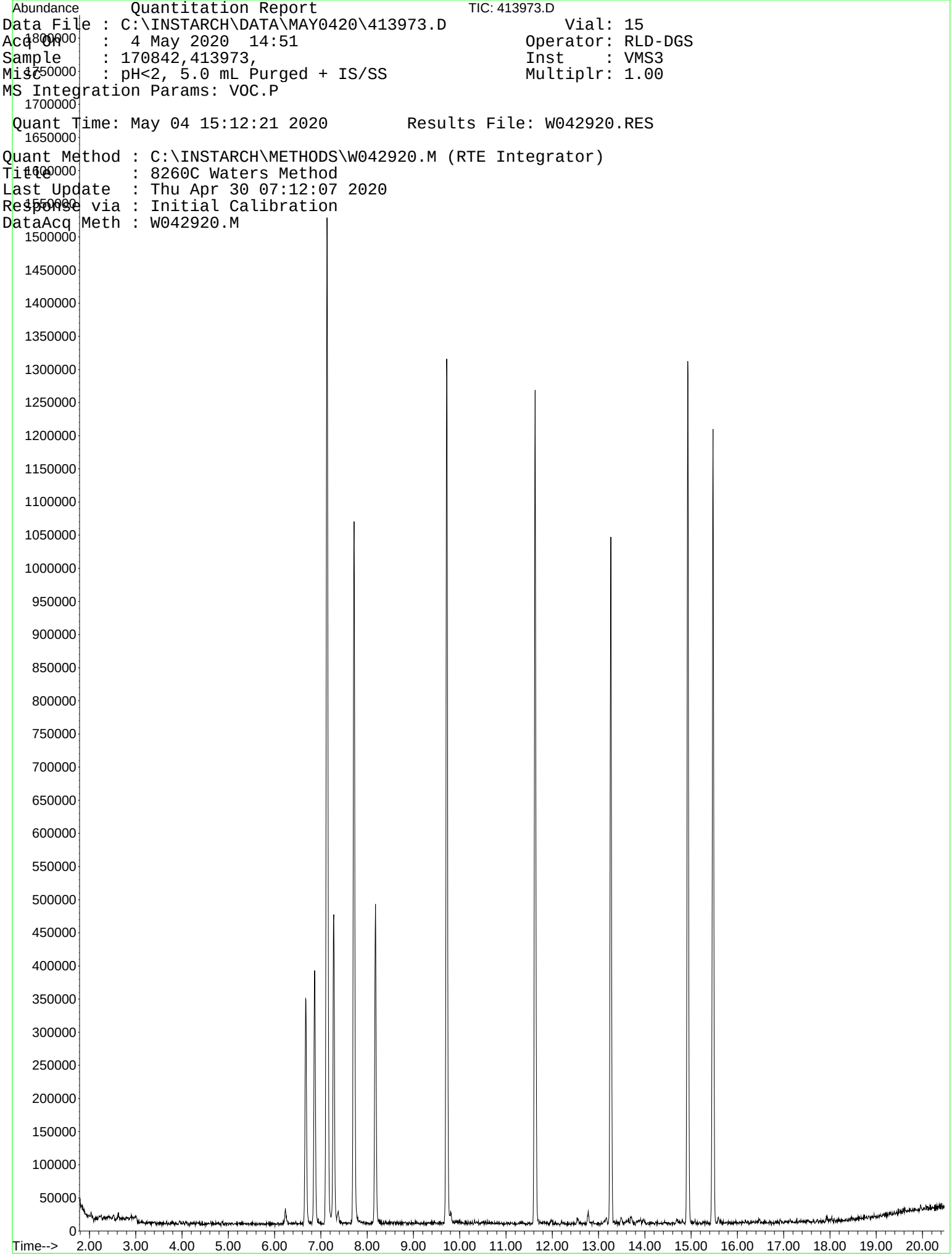
Data File : C:\INSTARCH\DATA\MAY0420\413973.D Vial: 15
Acq On : 4 May 2020 14:51 Operator: RLD-DGS
Sample : 170842,413973, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

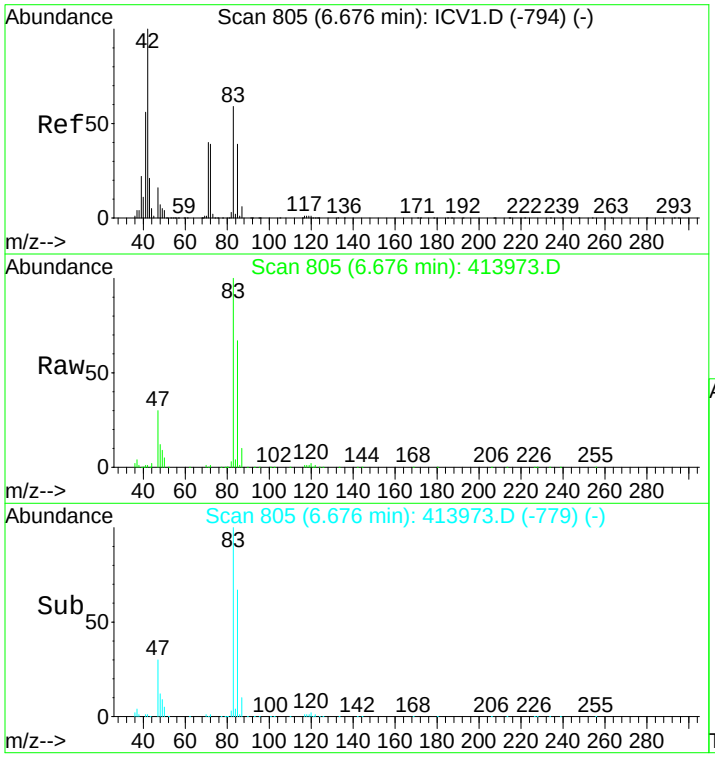
Quant Time: May 04 15:12:21 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

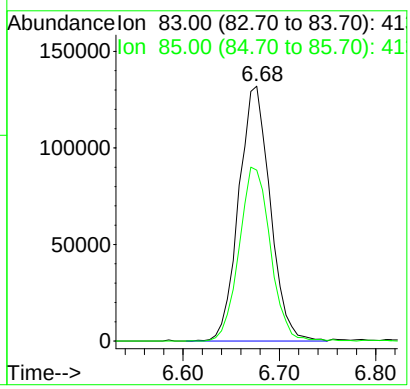

Abundance
Quantitation Report
TIC: 413973.D
Data File : C:\INSTARCH\DATA\MAY0420\413973.D
Vial: 15
Acq On : 4 May 2020 14:51
Operator: RLD-DGS
Sample : 170842,413973,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: May 04 15:12:21 2020
Results File: W042920.RES
Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
Time-->

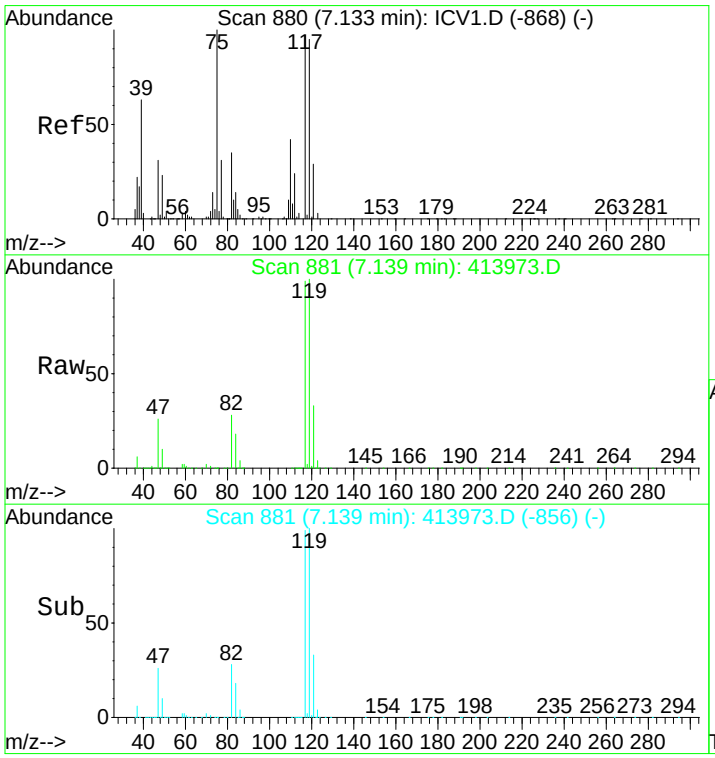


#39
Chloroform
Concen: 11.75 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: 413973.D
Acq: 4 May 2020 14:51

Tgt Ion: 83 Resp: 299099

Ion	Ratio	Lower	Upper
83	100		
85	67.8	44.9	84.9

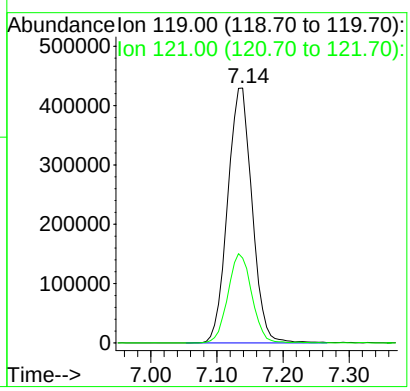


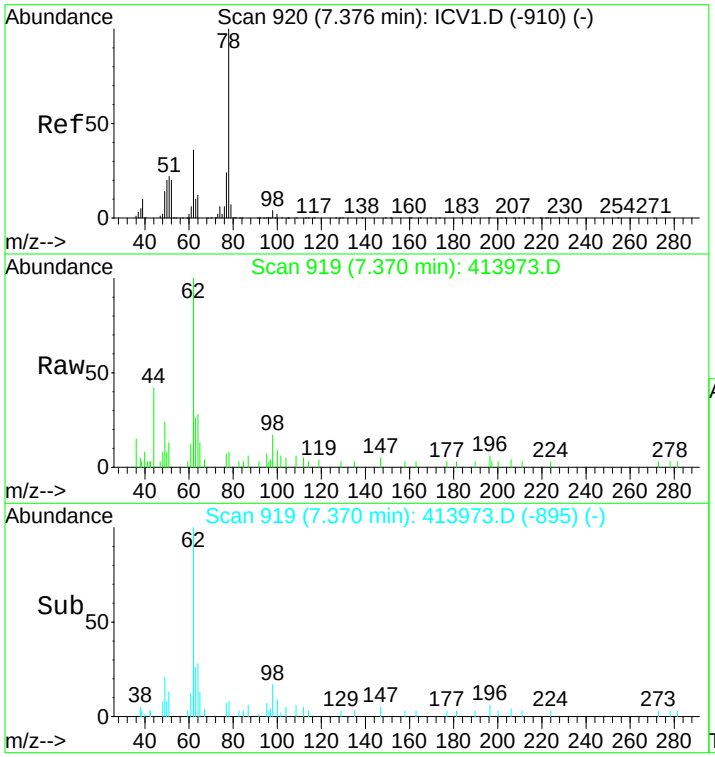


#43
Carbtetraclo
Concen: 63.16 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.00 min
Lab File: 413973.D
Acq: 4 May 2020 14:51

Tgt Ion:119 Resp: 1105543

Ion	Ratio	Lower	Upper
119	100		
121	34.3	12.0	52.0

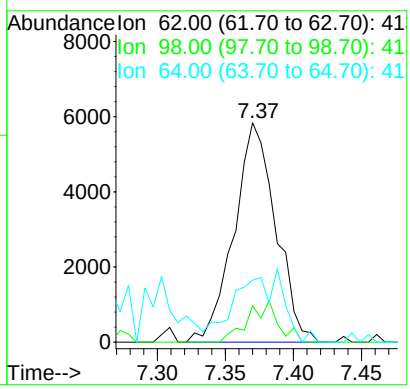


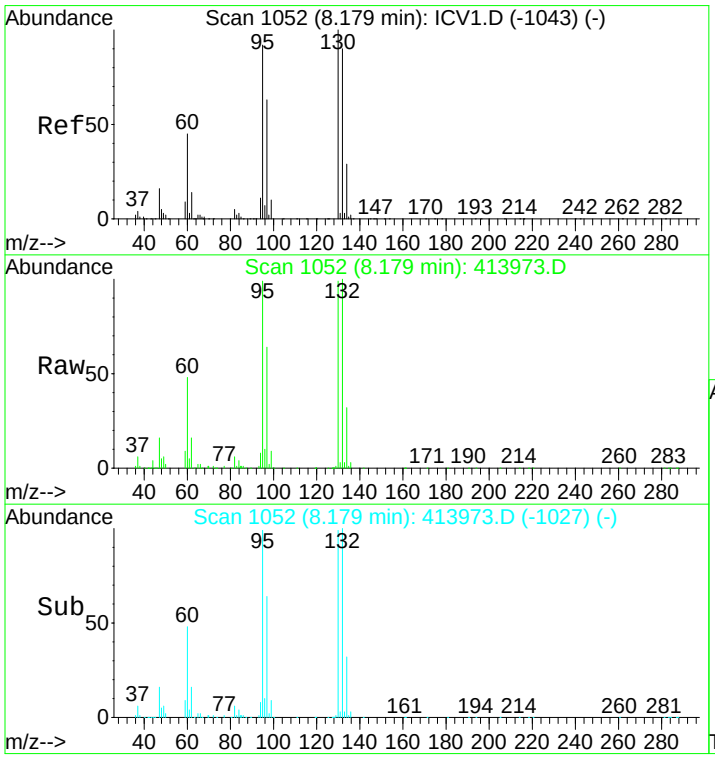


#47
12dichlorota
Concen: 0.57 ug/L
RT: 7.37 min Scan# 919
Delta R.T. -0.01 min
Lab File: 413973.D
Acq: 4 May 2020 14:51

Tgt Ion: 62 Resp: 12464

Ion	Ratio	Lower	Upper
62	100		
98	0.0	0.0	28.6
64	36.7	13.8	53.8

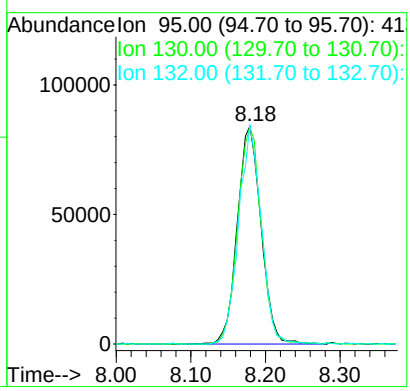




#49
trichloroete
Concen: 11.95 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. 0.00 min
Lab File: 413973.D
Acq: 4 May 2020 14:51

Tgt Ion: 95 Resp: 186039

Ion	Ratio	Lower	Upper
95	100		
130	99.1	76.2	116.2
132	95.4	71.5	111.5



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413974.D Vial: 16
Acq On : 4 May 2020 15:21 Operator: RLD-DGS
Sample : 170842,413974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 15:42:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1044336	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	811762	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	432318	20.00 ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma	6.87	113	264461	21.101 ug/L	0.00	
Spiked Amount 20.000	Range 90 - 110		Recovery = 106 %			
45) SURR12DCAd4	7.27	102	70365	19.783 ug/L	0.00	
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %			
61) SURRd8Tolule	9.72	98	1034793	20.088 ug/L	0.00	
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %			
83) SURR4BrFBenz	13.26	95	416657	19.974 ug/L	0.00	
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	0.00	43	0	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	0.00	76	0	N.D.	
18) allylchloride	4.41	41	2812	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413974.D Vial: 16
Acq On : 4 May 2020 15:21 Operator: RLD-DGS
Sample : 170842,413974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 15:42:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	13.79	105	7481	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.45	105	7055	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\413974.D Vial: 16
Acq On : 4 May 2020 15:21 Operator: RLD-DGS
Sample : 170842,413974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 15:42:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.03	128	4838	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

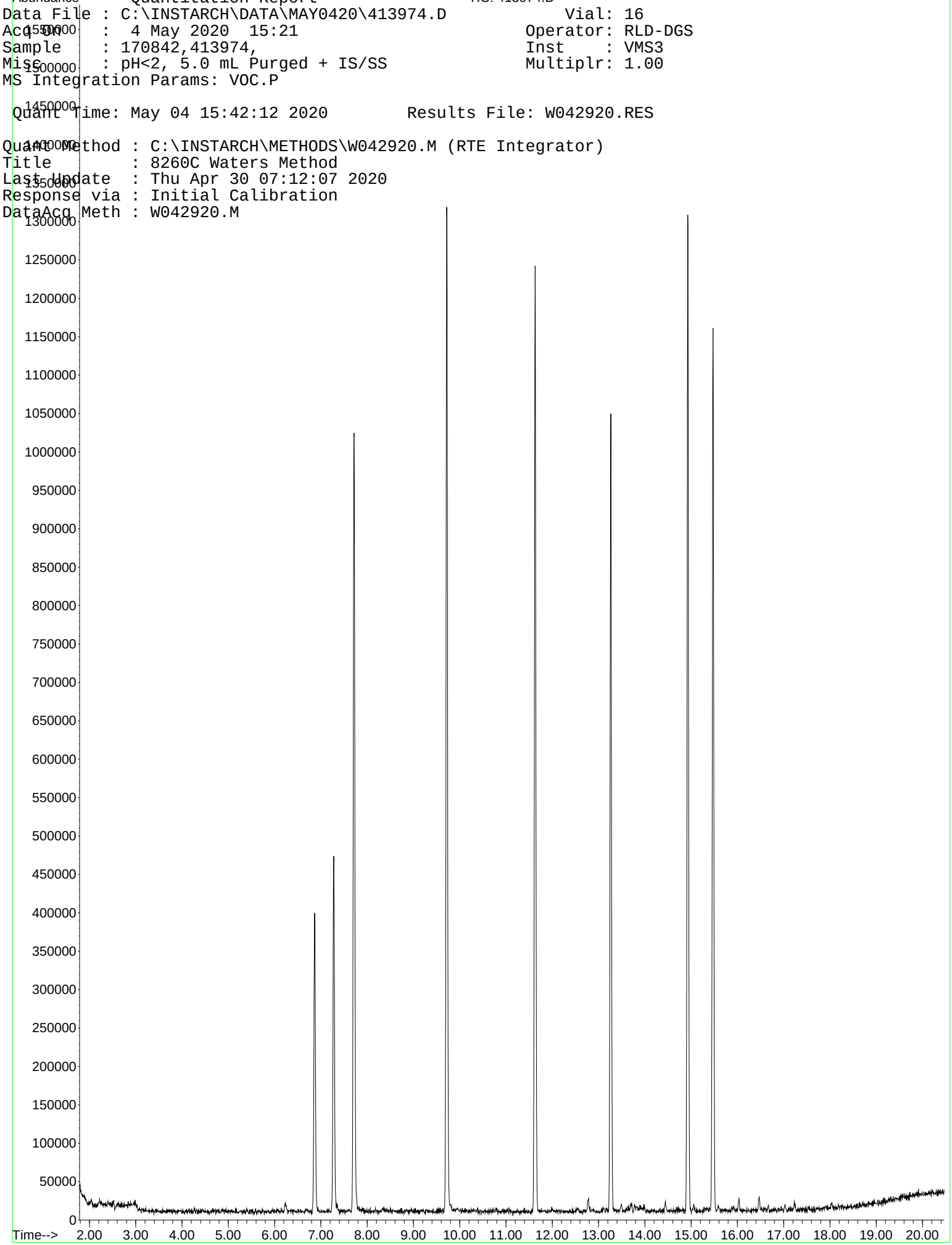
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 413974.D

Data File : C:\INSTARCH\DATA\MAY0420\413974.D Vial: 16
Acq On : 4 May 2020 15:21 Operator: RLD-DGS
Sample : 170842,413974, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 15:42:12 2020 Results File: W042920.RES

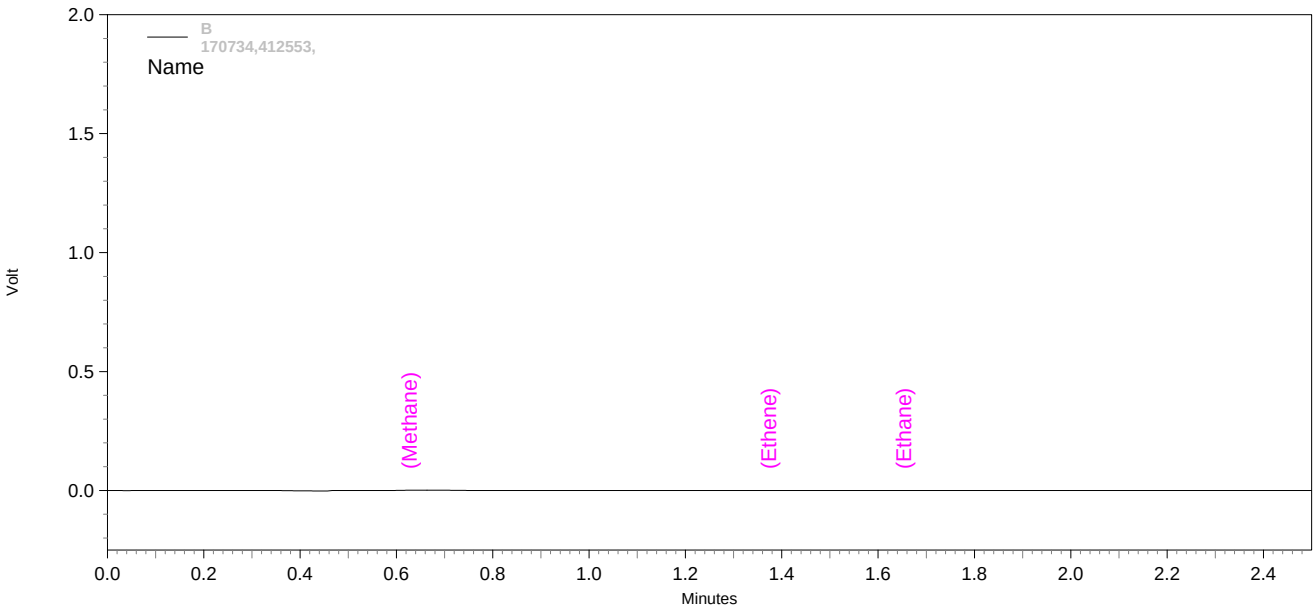
Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\005.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,412553,
Acquired: May 04, 2020 10:17:05
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



B Results

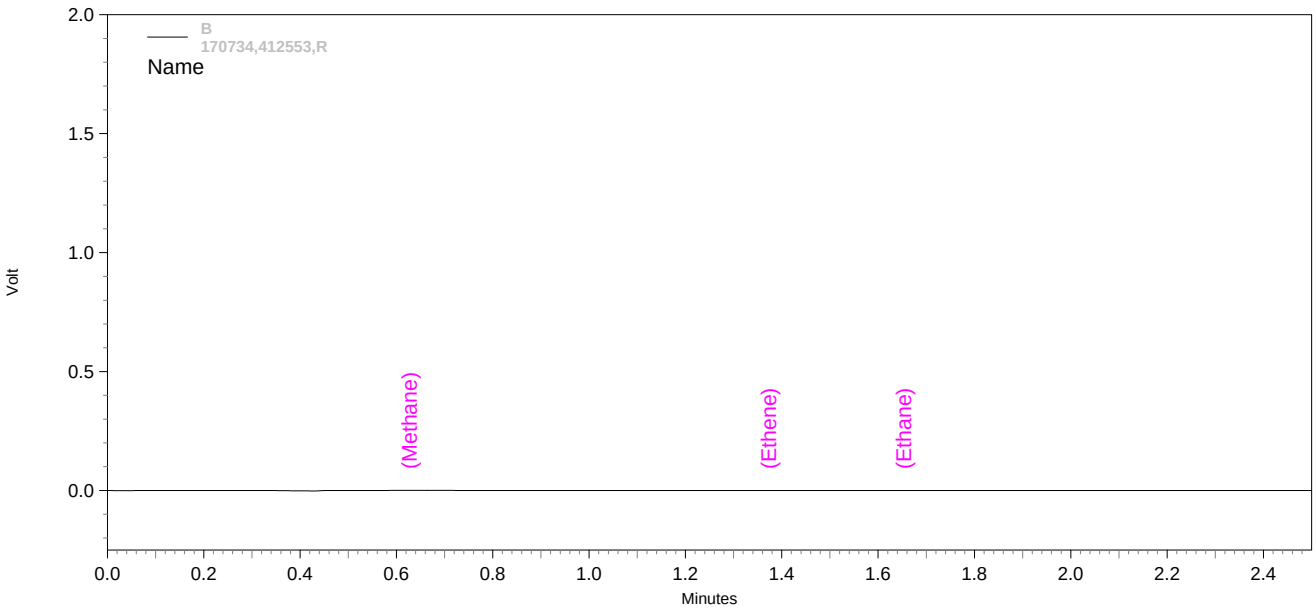
Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

NOT USED

Data File: C:\InStarch\PVOC4\Data\050420 -\006.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,412553,R
Acquired: May 04, 2020 10:22:21
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



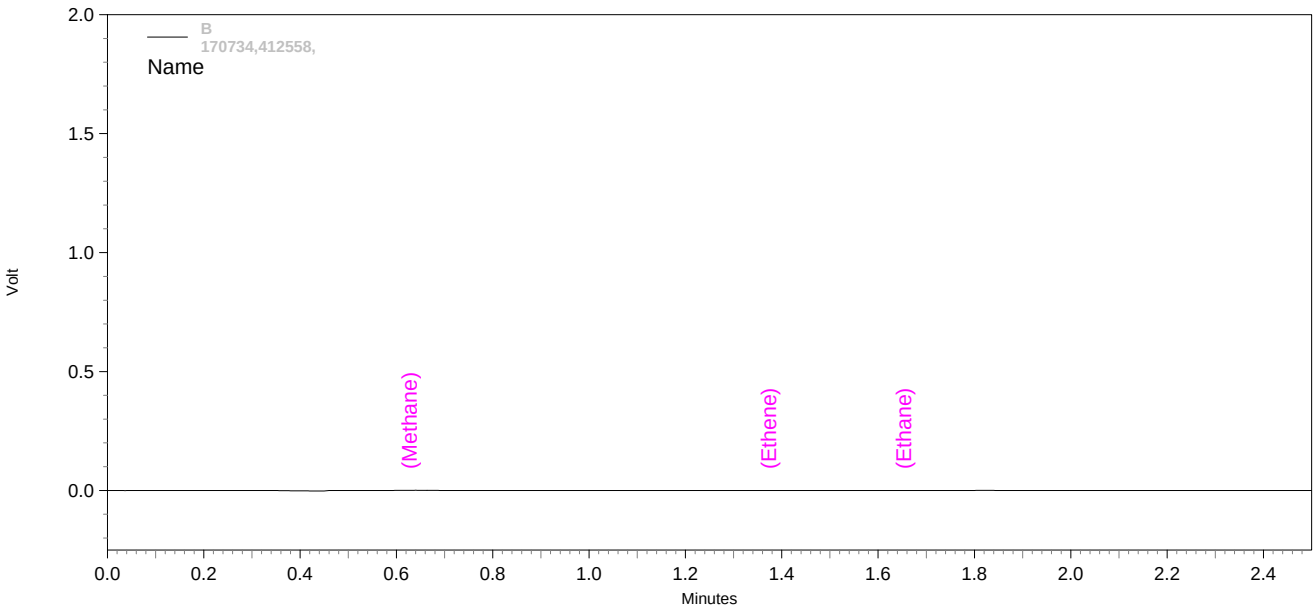
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\007.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,412558,
Acquired: May 04, 2020 10:26:35
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



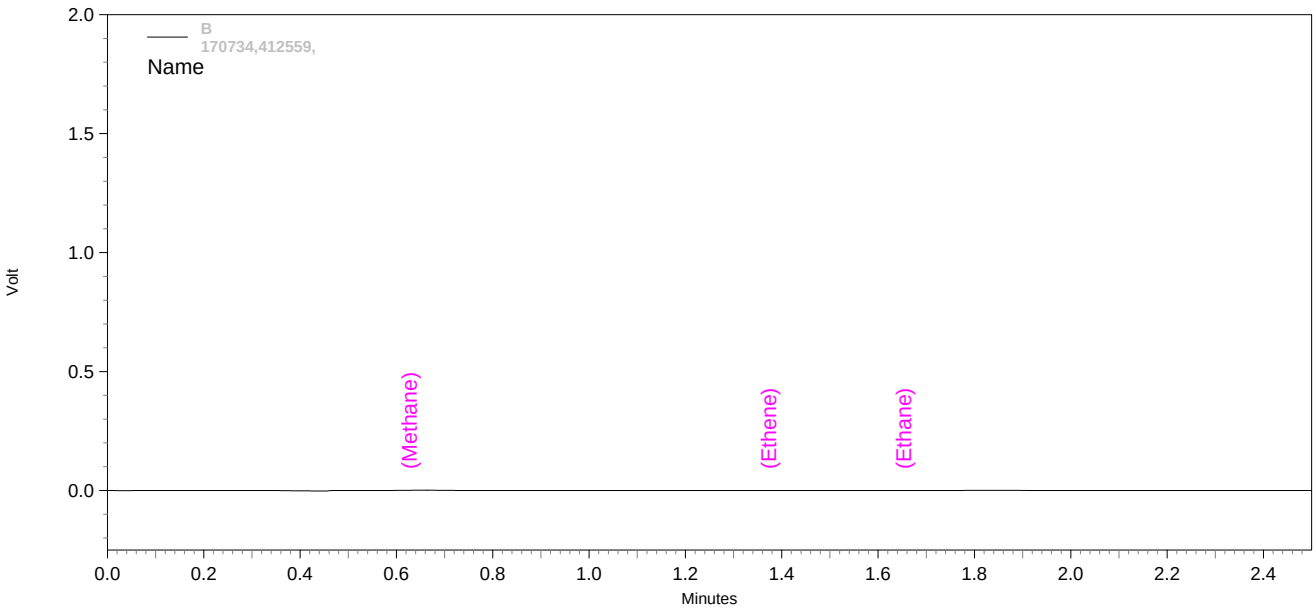
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\008.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,412559,
Acquired: May 04, 2020 10:31:23
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



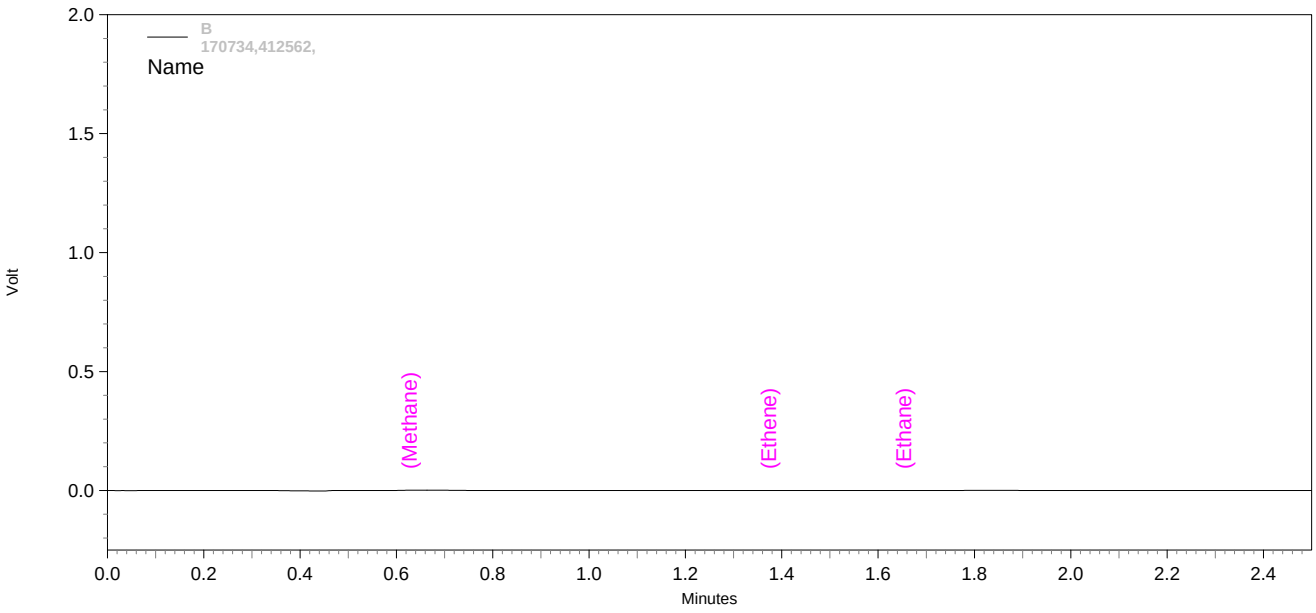
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\009.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,412562,
Acquired: May 04, 2020 10:35:52
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



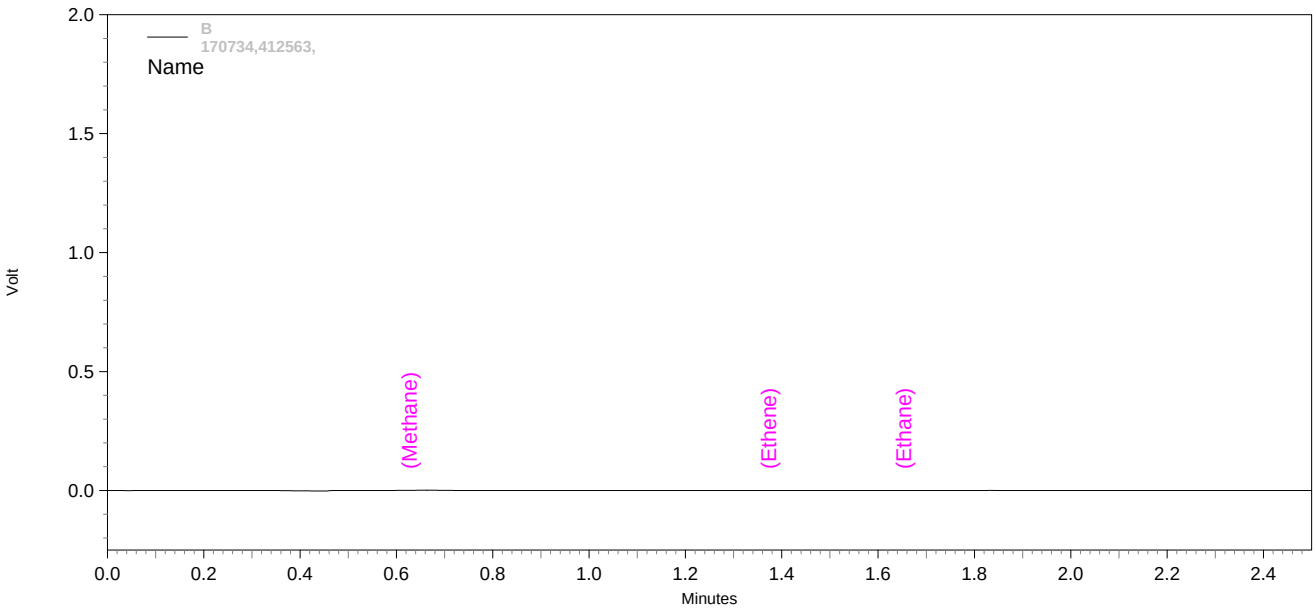
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\010.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,412563,
Acquired: May 04, 2020 10:41:10
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



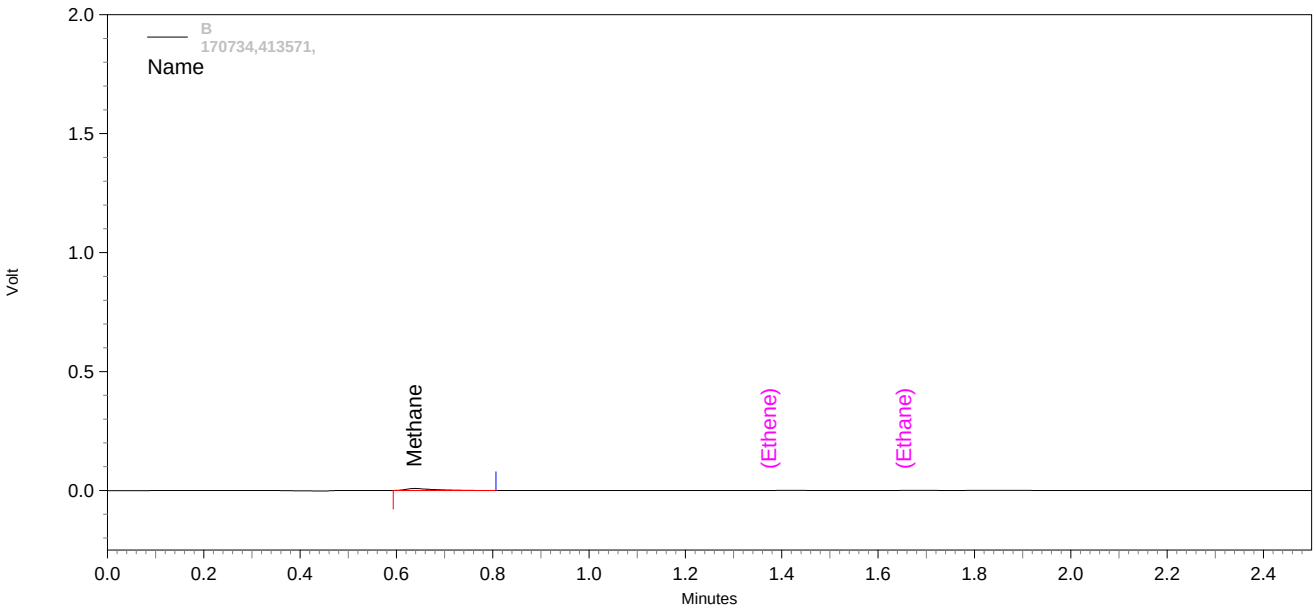
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413571,
Acquired: May 04, 2020 11:00:36
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



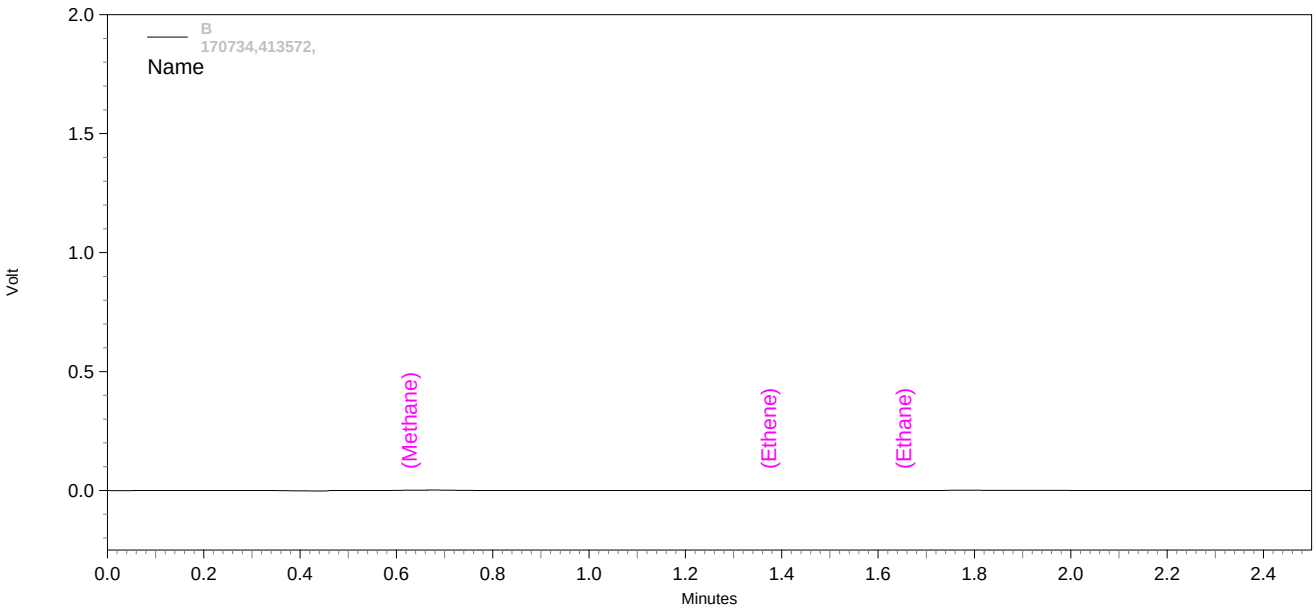
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.637**	**0.627**	**31687**	**7.970**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413572,
Acquired: May 04, 2020 11:05:06
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



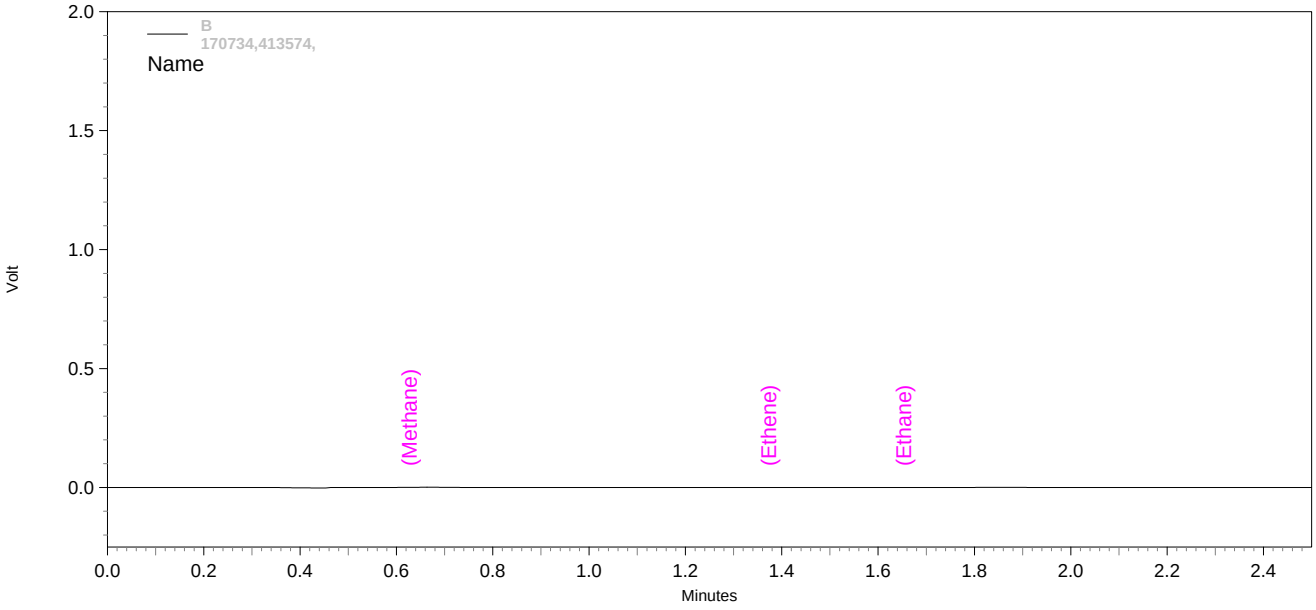
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413574,
Acquired: May 04, 2020 11:10:20
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



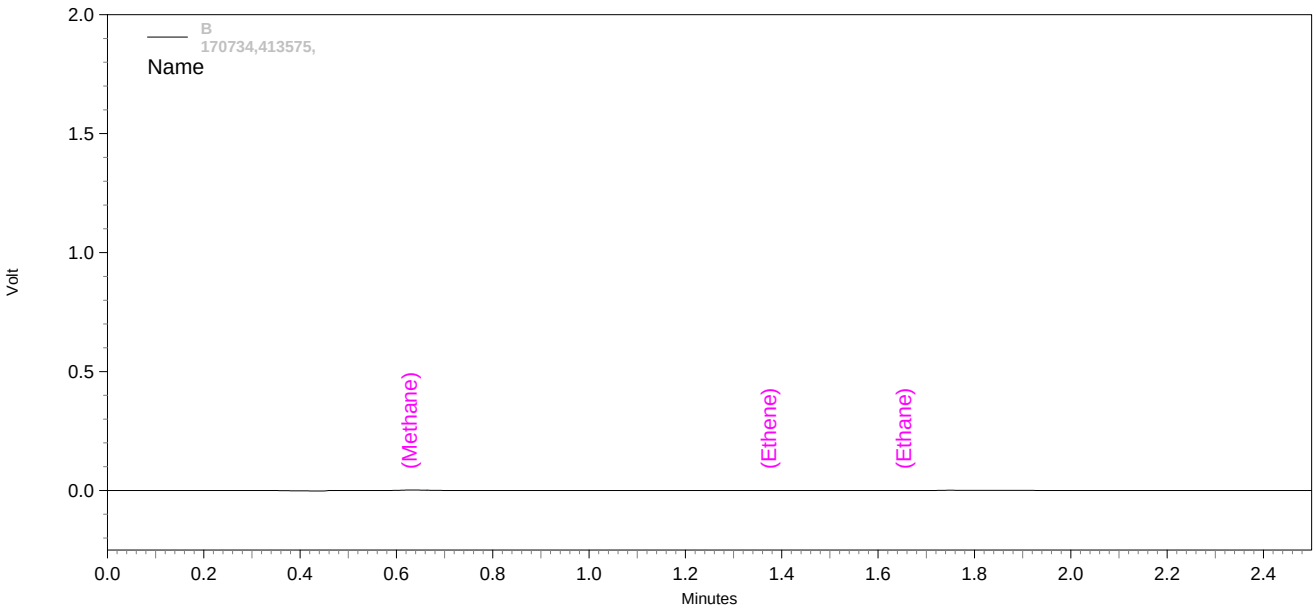
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413575,
Acquired: May 04, 2020 11:15:05
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



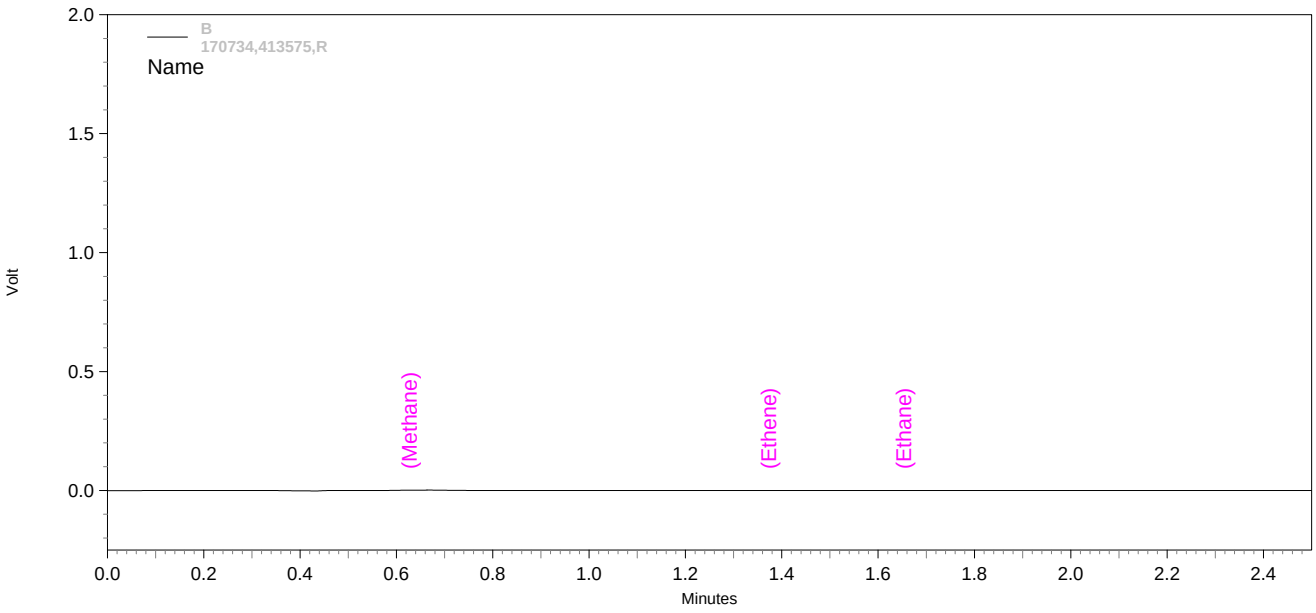
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\017.dat NOT USED
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413575,R
Acquired: May 04, 2020 11:19:27
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



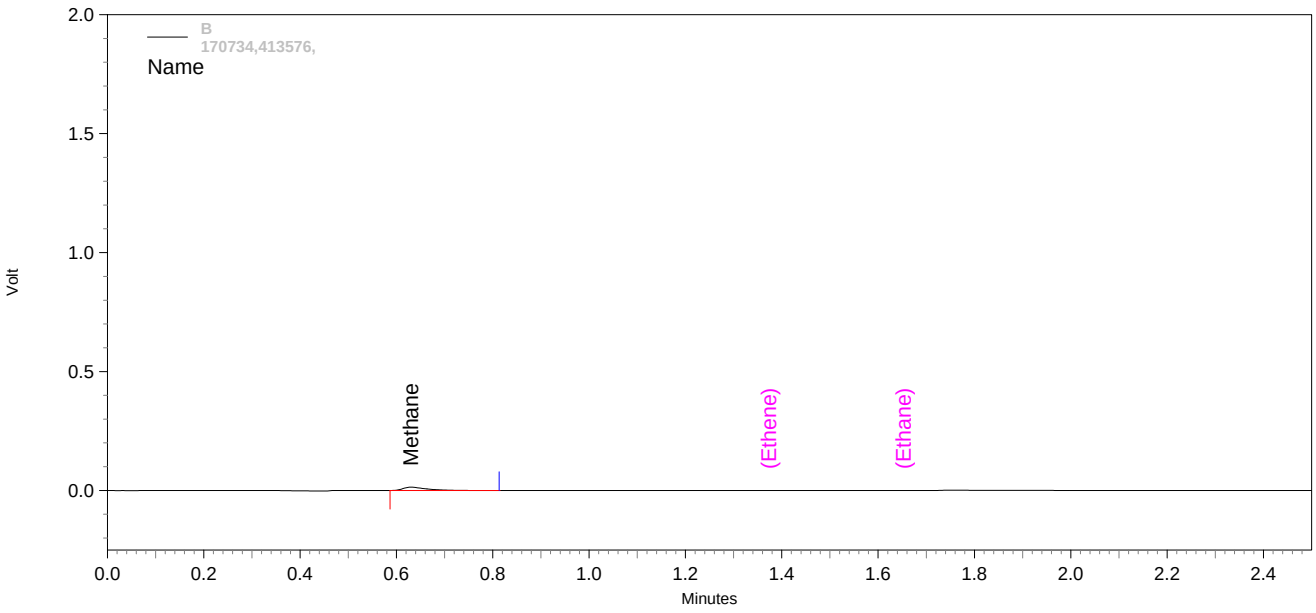
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413576,
Acquired: May 04, 2020 11:25:02
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



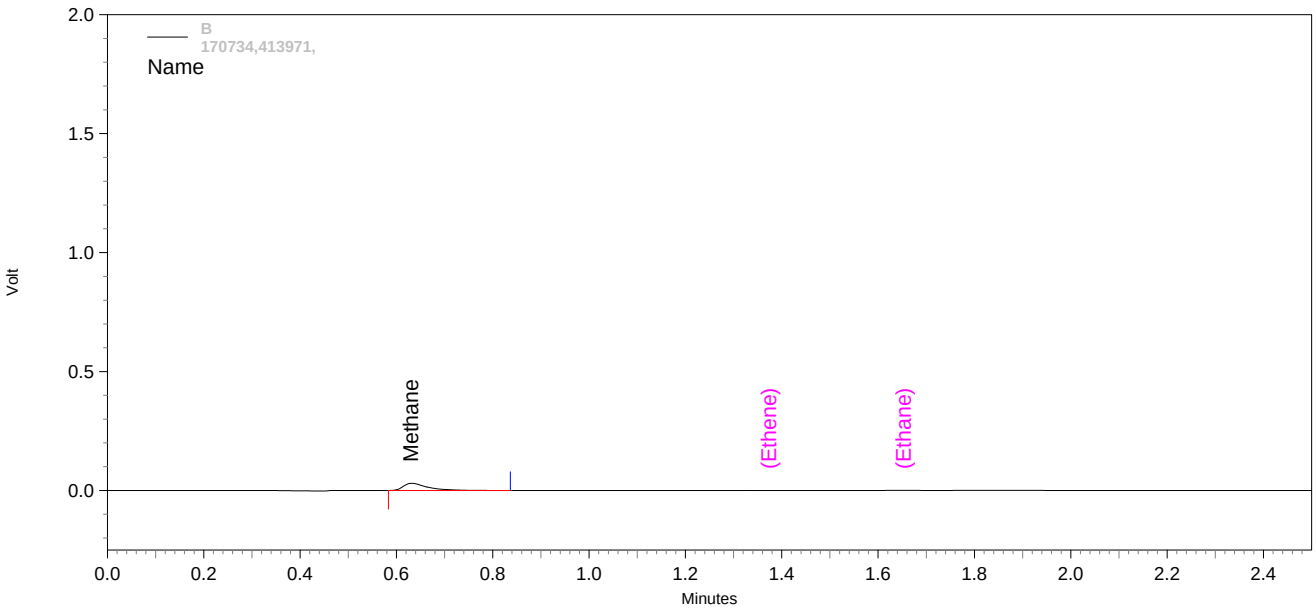
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.630**	**0.627**	**46320**	**12.006**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413971,
Acquired: May 04, 2020 11:36:43
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



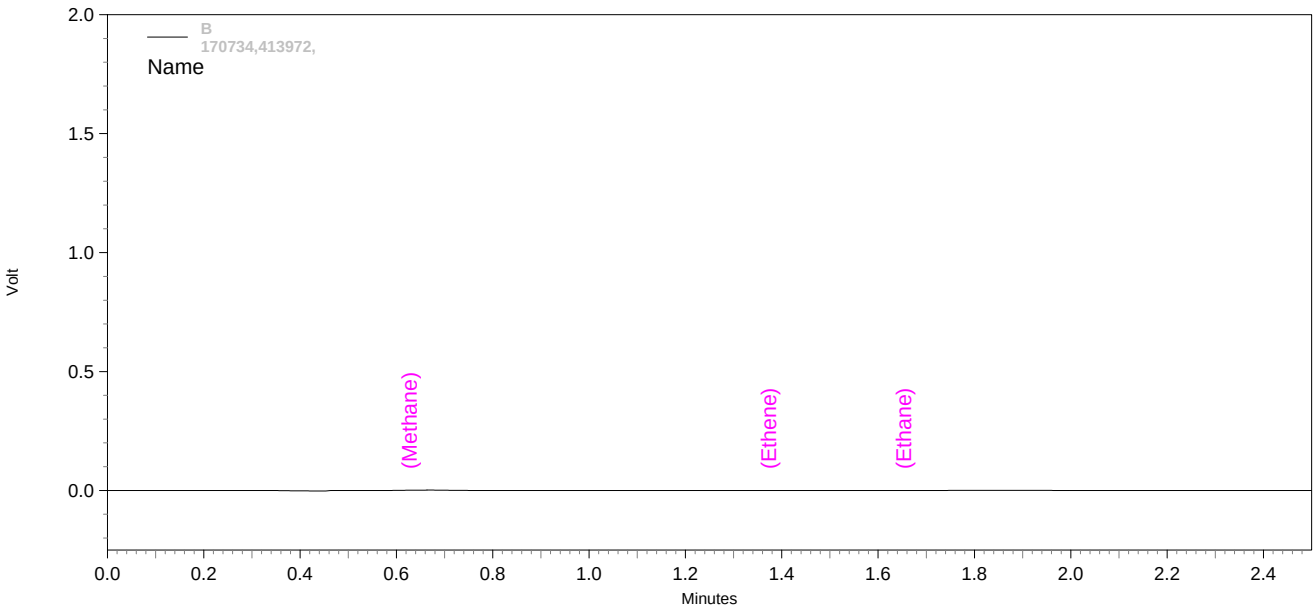
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.630**	**0.627**	**105645**	**28.371**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413972,
Acquired: May 04, 2020 11:40:38
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



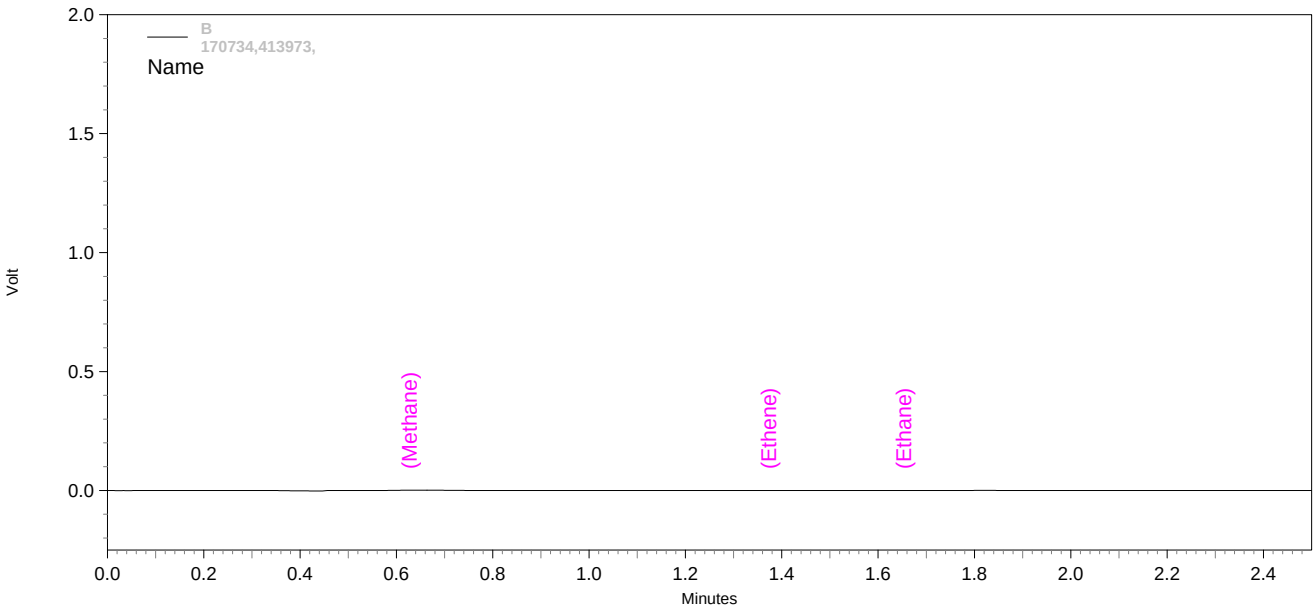
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413973,
Acquired: May 04, 2020 11:45:17
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



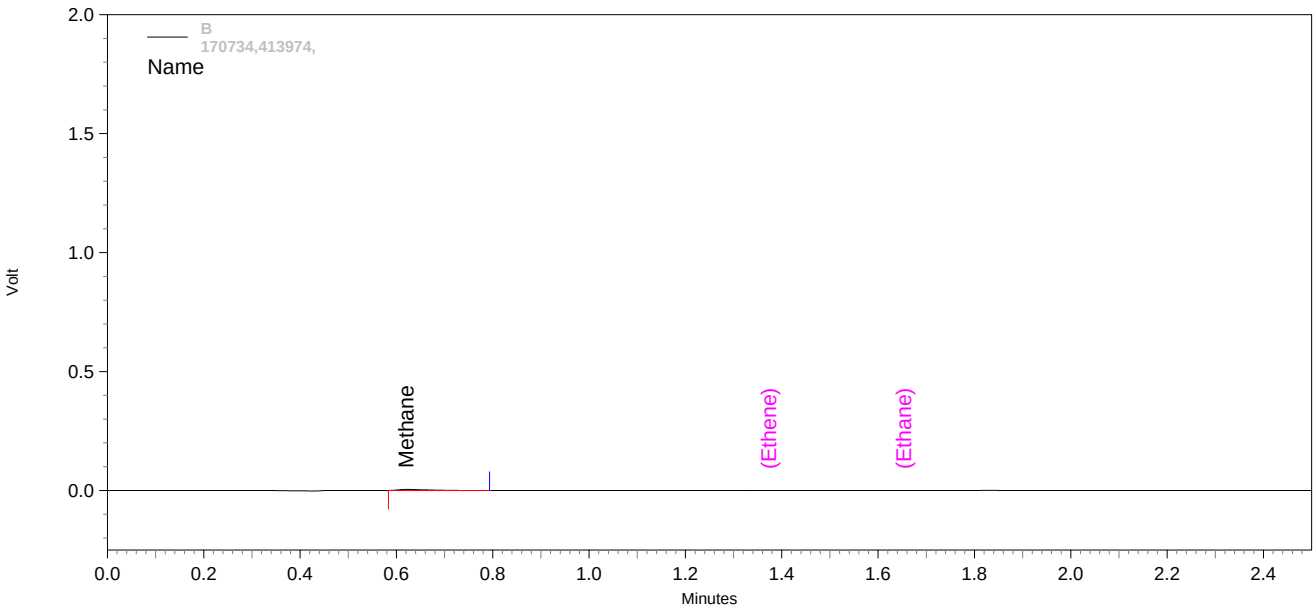
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\026.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,413974,
Acquired: May 04, 2020 12:54:21
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.620**	**0.627**	**17555**	**4.071**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W042920.M
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response Via : Initial Calibration

RJ 05/01/2020

Calibration Files ug/L
1 0.5/5.0 =WCAL1.D 2 1.0/10.0 =WCAL2.D 3 2.0/20.0 =WCAL3.D
4 5.0/50.0 =WCAL4R.D 5 10.0/100.0 =WCAL5.D 6 20.0/200.0 =WCAL6.D
7 30.0/300.0 =WCAL7.D 8 40.0/400.0 =WCAL8.D 9 80.0/800.0 =WCAL9.D

		Compound	1	2	3	4	5	6	7	Avg	%RSD
			8	9							
1)	I	FLUOROBENZENE**ISTD**	----------ISTD----------								
2)	PT	Dichlorodi	0.276	0.344	0.248	0.341	0.311	0.291	0.293	0.292	12.32
			0.280	0.242							
3)	PT	Chloromethan	0.418	0.450	0.410	0.406	0.380	0.356	0.355	0.379	12.67
			0.340	0.292							
4)	PT	VinylChlorid	0.427	0.398	0.317	0.375	0.359	0.344	0.344	0.354	11.77
			0.327	0.292							
5)	PT	Bromomethane		0.207	0.213	0.196	0.180	0.156	0.154	0.177	14.39
			0.155	0.154							
6)	PT	Chloroethane		0.256	0.231	0.236	0.223	0.209	0.207	0.218	10.40
			0.201	0.184							
7)	T	Dichloroflmetha	0.577	0.592	0.529	0.527	0.512	0.486	0.478	0.504	12.48
			0.449	0.388							
8)	PT	Trichlorofma	0.336	0.408	0.334	0.420	0.389	0.371	0.370	0.367	9.28
			0.357	0.321							
9)	T	Ethylether	0.267	0.306	0.262	0.277	0.264	0.264	0.256	0.264	8.17
			0.250	0.226							
10)	T	dichlorotfluoro	0.311	0.331	0.292	0.332	0.317	0.302	0.299	0.304	7.18
			0.292	0.262							
11)	T	propyleneoxide		0.073	0.064	0.064	0.060	0.058	0.058	0.060	13.44
			0.054	0.046							
12)	T	Acrolein		0.071	0.057	0.062	0.057	0.056	0.055	0.057	13.34
			0.052	0.045							
13)	PT	11dichlorthe	0.209	0.259	0.232	0.251	0.241	0.239	0.236	0.234	6.99
			0.227	0.213							
14)	PT	Trichlorotfluor	0.208	0.243	0.197	0.257	0.242	0.234	0.236	0.227	8.91
			0.224	0.204							
15)	PT	Acetone	0.090	0.097	0.090	0.086	0.081	0.079	0.078	0.081#	14.65
			0.070	0.058							
16)	T	Iodomethane		0.056	0.077	0.138	0.178	0.238	0.258	-----	
			0.257	0.237							
								Q	A= -0.005	R=0.998	
									B= 0.288		
									C= -0.058		
17)	PT	Carbon Dislf	0.685	0.743	0.685	0.794	0.735	0.682	0.656	0.671	14.59
			0.602	0.455							
18)	T	allylchloride	0.539	0.581	0.555	0.545	0.524	0.497	0.475	0.501	14.12
			0.437	0.353							
19)	PT	methylacetate		0.063	0.055	0.054	0.055	0.054	0.054	0.055#	6.50
			0.051	0.052							
20)	PT	Methylchlorid	0.350	0.376	0.326	0.310	0.287	0.280	0.281	0.303	13.65
			0.270	0.246							
21)	T	tbutylalcohol	0.026	0.030	0.026	0.023	0.023	0.022	0.021	0.024#	14.26
			0.019								
22)	T	Acrylonitrile		0.134	0.121	0.121	0.114	0.109	0.111	0.112	12.34
			0.103	0.087							
23)	PT	t12dichlorte	0.292	0.294	0.275	0.295	0.276	0.272	0.273	0.275	6.29
			0.261	0.241							
24)	PT	MtBE	0.820	0.904	0.835	0.808	0.760	0.738	0.732	0.765	11.66
			0.690	0.600							
25)	T	Hexane	0.452	0.502	0.381	0.539	0.496	0.458	0.450	0.449	13.42
			0.417	0.348							

```
26) PT  11dichlorota    0.547 0.583 0.570 0.561 0.542 0.534 0.520 0.532   8.44
                        0.492 0.436
27) T   Vinylacetate    0.715 0.789 0.731 0.678 0.565 0.443 0.366 -----
                        0.307
                                                    Q  A= -0.014 R=0.997
                                                       B=  0.572
                                                       C=  0.173
28) T   chloroprene     0.437 0.483 0.456 0.497 0.478 0.450 0.438 0.442  10.83
                        0.405 0.339
29) T   Diisopether     1.016 1.135 1.127 1.101 1.053 0.958 0.919 0.992  12.99
                        0.860 0.759
30) T   ETBE            0.811 0.987 0.921 0.896 0.869 0.857 0.811 0.843  11.18
                        0.780 0.657
31) T   22dichloropr    0.405 0.464 0.418 0.461 0.426 0.410 0.407 0.415   7.93
                        0.389 0.359
32) PT  c12dichlorte    0.331 0.351 0.329 0.316 0.308 0.307 0.304 0.312   7.52
                        0.292 0.270
33) PT  2Butanone             0.040 0.035 0.036 0.032 0.032 0.034 0.033# 10.53
                        0.031 0.028
34) T   propionitrile         0.052 0.044 0.046 0.044 0.042 0.043 0.043  11.79
                        0.039 0.034
35) T   Ethylacetate          0.015 0.013 0.013 0.012 0.012 0.013 0.013#  8.18
                        0.013 0.012
36) T   methacrylonitri       0.163 0.148 0.153 0.133 0.135 0.141 0.141   9.38
                        0.133 0.121
37) T   Bromochlorma    0.150 0.135 0.141 0.139 0.127 0.127 0.130 0.133   6.69
                        0.129 0.121
38) T   Tetrahydofur    0.117 0.116 0.106 0.109 0.098 0.094 0.091 -----
                        0.083 0.068
                                                    Q  A= -0.001 R=1.000
                                                       B=  0.100
                                                       C=  0.011
39) PT  Chloroform      0.523 0.497 0.518 0.509 0.488 0.482 0.466 0.482   7.77
                        0.448 0.406
40) PT  111trichlota    0.438 0.422 0.406 0.436 0.423 0.423 0.412 0.415   4.73
                        0.404 0.374
41) S   SURRDibrflma    0.236 0.241 0.239 0.239 0.237 0.235 0.243 0.240   1.66
                        0.248 0.242
42) PT  Cyclohexane     0.513 0.551 0.436 0.580 0.567 0.548 0.540 0.526   8.74
                        0.527 0.475
43) PT  Carbtetraclo    0.322 0.352 0.285 0.346 0.345 0.335 0.343 0.331   6.19
                        0.336 0.318
44) T   11dicloprope         0.146 0.097 0.141 0.133 0.132 0.136 0.130  11.20
                        0.128 0.129
45) S   SURR12DCAd4     0.067 0.069 0.069 0.071 0.070 0.066 0.067 0.068   2.63
                        0.066 0.068
46) PT  Benzene         1.183 1.329 1.215 1.252 1.183 1.102 1.054 1.121  14.45
                        0.986 0.789
47) PT  12dichlorota    0.421 0.476 0.441 0.434 0.399 0.401 0.401 0.411   9.12
                        0.384 0.344
48) T   TAME            0.764 0.844 0.833 0.816 0.777 0.764 0.743 0.764   8.96
                        0.712 0.621
49) PT  trichloroete    0.322 0.326 0.284 0.308 0.293 0.290 0.288 0.295   6.92
                        0.276 0.265
50) PT  methylcyclohexa 0.498 0.551 0.466 0.619 0.588 0.563 0.570 0.544   8.93
                        0.547 0.498
51) PT  12dicloropra    0.359 0.384 0.361 0.355 0.342 0.354 0.344 0.349   5.94
                        0.334 0.309
52) T   23Dicl1propene       0.516 0.464 0.479 0.459 0.452 0.448 0.458   6.80
                        0.433 0.411
53) T   Dibromometha         0.169 0.181 0.173 0.168 0.167 0.174 0.170   3.49
                        0.168 0.160
54) T   methylmethacryl      0.250 0.221 0.234 0.217 0.227 0.226 0.224   6.02
                        0.217 0.204
55) T   14dioxane            0.002 0.002 0.001 0.002 0.001 0.002 ----- #
                        0.001 0.001
                                                    Q  A= -0.000 R=0.996
                                                       B=  0.002
                                                       C=  0.002
56) PT  Bromodiclrma    0.378 0.349 0.382 0.390 0.373 0.368 0.365 0.366   5.00
```

```
                    0.359 0.330
57) T   2Nitropropane   0.080 0.088 0.081 0.091 0.085 0.086 0.086 0.083   8.92
                    0.080 0.066
58) T   2CLEVE              0.191 0.188 0.193 0.178 0.174 0.173 0.174  11.47
                    0.161 0.132
59) PT  c13dicloproe    0.468 0.532 0.493 0.511 0.487 0.484 0.481 0.482   6.66
                    0.462 0.418
60) PT  4Meth2Pentan    0.297 0.348 0.313 0.306 0.268 0.238 0.214 -----
                    0.182
                                                      Q  A= -0.006 R=1.000
                                                         B=  0.296
                                                         C=  0.022
61) S   SURRd8Tolule    0.970 0.982 0.996 0.992 0.984 0.987 0.977 0.987   0.96
                    0.991 1.000
62) PT  Toluene         0.810 0.831 0.844 0.801 0.782 0.742 0.723 0.757  10.77
                    0.690 0.587
63) PT  t13Dicloprop    0.382 0.432 0.418 0.434 0.420 0.420 0.420 0.412   5.20
                    0.412 0.372
64) T   ethylmethacryla     0.435 0.399 0.434 0.402 0.397 0.387 0.391  10.57
                    0.367 0.305
65) PT  112Triclotha        0.242 0.221 0.228 0.216 0.219 0.210 0.219   5.72
                    0.214 0.200
66) PT  Tetrachlorte    0.266 0.308 0.284 0.322 0.294 0.292 0.294 0.291   5.82
                    0.286 0.273
67) T   13Diclorpropa   0.448 0.520 0.499 0.495 0.464 0.461 0.455 0.465   7.49
                    0.443 0.404

68) I   d5-CHLOROBENZENE**IST ----------------ISTD--------------------
69) PT  2Hexanone           0.337 0.302 0.299 0.268 0.247 0.226 -----
                    0.195
                                                      Q  A= -0.005 R=1.000
                                                         B=  0.302
                                                         C=  0.007
70) PT  Clorodibrmta    0.316 0.342 0.349 0.340 0.329 0.335 0.346 0.335   3.28
                    0.339 0.322
71) PT  12Dibrometha    0.304 0.356 0.346 0.335 0.313 0.320 0.330 0.324   6.00
                    0.317 0.296
72) PT  Chlorobenzen    1.105 1.153 1.056 1.042 1.008 0.976 0.953 0.995  11.74
                    0.894 0.764
73) T   1Clhexane      0.557 0.637 0.469 0.568 0.562 0.541 0.545 0.544   8.96
                    0.530 0.486
74) T   1112Tetclota         0.331 0.333 0.341 0.345 0.343 0.348 0.339   2.14
                    0.341 0.328
75) PT  Ethylbenzene    1.874 1.921 1.806 1.843 1.783 1.695 1.607 1.681  14.95
                    1.471 1.125
76) PT  m p-Xylene      0.722 0.721 0.675 0.677 0.674 0.639 0.621 0.643  11.93
                    0.578 0.479
77) PT  o-Xylene        0.656 0.727 0.673 0.681 0.660 0.665 0.648 0.655   6.80
                    0.621 0.564
78) PT  Styrene         1.039 1.178 1.113 1.116 1.106 1.095 1.052 1.060   9.23
                    1.001 0.838
79) PT  Bromoform           0.208 0.204 0.234 0.216 0.223 0.246 0.226   6.96
                    0.239 0.238
80) PT  Isopropylben    1.589 1.795 1.651 1.721 1.658 1.580 1.519 1.556  13.35
                    1.404 1.092
81) T   cyclohexanone       0.013 0.011 0.009 0.011 0.010 0.011 0.010# 12.37
                    0.009 0.009

82) I   d4-1,4-DICHLOROBENZEN ----------------ISTD--------------------
83) S   SURR4BrFBenz    0.988 0.993 0.996 0.978 0.959 0.957 0.938 0.965   2.51
                    0.933 0.944
84) T   Bromobenzene    0.850 0.882 0.796 0.816 0.748 0.752 0.746 0.773   9.07
                    0.715 0.654
85) PT  1122Tetrclta    0.947 1.068 0.941 0.925 0.836 0.852 0.809 0.870  13.01
                    0.773 0.683
86) T   123Triclproa         1.270 1.092 1.144 1.032 1.052 1.072 1.073   9.63
                    1.001 0.921
87) T   14dichloro2bute       0.350 0.243 0.276 0.242 0.251 0.266 0.262  14.60
                    0.241 0.231
88) T   n-Propylbenz    3.610 4.149 3.818 4.009 3.728 3.448 3.158 3.594  12.16
```

			2.833								
89)	T	2chlorotolue	2.306	2.560	2.432	2.310	2.193	2.143	2.027	2.152	14.59
			1.878	1.518							
90)	T	4chlorotolue	2.551	2.840	2.739	2.698	2.573	2.480	2.320	2.446	14.70
			2.132	1.680							
91)	T	135Trimebenz	2.467	2.562	2.507	2.595	2.494	2.373	2.241	2.329	13.09
			2.078	1.645							
92)	T	tbutylbenzen	2.290	2.301	2.137	2.216	2.150	2.083	1.988	2.060	11.98
			1.850	1.524							
93)	T	124Trimetben	2.411	2.814	2.550	2.607	2.506	2.396	2.254	2.363	14.44
			2.087	1.641							
94)	T	sbutylbenzen	3.079	3.415	2.807	3.321	3.106	2.932	2.762	2.991	10.09
			2.503								
95)	PT	13Diclorbenz	1.573	1.644	1.456	1.408	1.392	1.375	1.334	1.391	11.88
			1.260	1.081							
96)	T	pIsopropylto	2.456	2.696	2.490	2.773	2.571	2.512	2.380	2.421	13.00
			2.194	1.712							
97)	PT	14dichlorobe	1.566	1.519	1.546	1.460	1.401	1.406	1.351	1.404	10.39
			1.283	1.104							
98)	PT	12dichlorobe	1.472	1.529	1.456	1.347	1.271	1.292	1.240	1.310	12.45
			1.171	1.011							
99)	T	nButylbenzen	2.579	2.990	2.375	2.710	2.520	2.443	2.321	2.506	10.62
			2.106								
100)	PT	12dibromo3cl		0.168	0.145	0.153	0.138	0.149	0.159	0.151	6.19
			0.153	0.145							
101)	T	135Trichloroben	0.929	1.012	0.929	0.962	0.890	0.924	0.909	0.911	7.05
			0.861	0.783							
102)	PT	124Trichlobe	0.752	0.849	0.762	0.798	0.742	0.775	0.778	0.765	5.63
			0.741	0.693							
103)	T	Hexachlorobu	0.378	0.413	0.341	0.428	0.398	0.389	0.403	0.391	6.26
			0.389	0.380							
104)	T	Naphthalene	1.714	1.857	1.653	1.796	1.672	1.686	1.699	1.660	9.51
			1.555	1.305							
105)	T	123Trichlben	0.673	0.768	0.667	0.714	0.642	0.679	0.681	0.678	6.26
			0.649	0.626							

Total Average %RSD 9.45

L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

W042920.M Thu Apr 30 12:49:29 2020

BFB

Data File : C:\Instarch\Data\APR2920\BFB1.D Vial: 1
Acq On : 29 Apr 2020 8:38 Operator: RLD-DGS
Sample : BFB DIRECT INJ. Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.681 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.8	15493	PASS
75	95	30	60	55.3	39268	PASS
95	95	100	100	100.0	70986	PASS
96	95	5	9	6.1	4352	PASS
173	174	0.00	2	0.5	324	PASS
174	95	50	100	85.6	60762	PASS
175	174	5	9	8.1	4929	PASS
176	174	95	101	95.5	58056	PASS
177	176	5	9	7.4	4288	PASS

W042920.M Thu Apr 30 12:38:58 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL1.D Vial: 4
Acq On : 29 Apr 2020 9:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:58:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:17 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1235501	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	913962	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	477832	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	291601	19.652	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98 %			
45) SURR12DCAd4	7.28	102	82273	19.664	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98 %			
61) SURRd8Tolule	9.72	98	1198589	19.694	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 98 %			
83) SURR4BrFBenz	13.26	95	471911	20.473	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102 %			
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	8533	0.4713	ug/L	91
3) Chloromethan	2.09	50	12921	0.5383	ug/L	92
4) VinylChlorid	2.25	62	13189	0.5900	ug/L	95
5) Bromomethane	2.72	94	6264	0.5374	ug/L	99
6) Chloroethane	2.89	64	6426	0.4660	ug/L	96
7) Dichloroflmethane	3.20	67	17810	0.5560	ug/L	97
8) Trichlorofma	3.27	101	10380	0.4508	ug/L	90
9) Ethylether	3.73	59	8234	0.4922	ug/L	88
10) dichlorotfluoroethan	3.73	67	9617	0.5015	ug/L	95
11) propyleneoxide	3.78	58	19955	5.2405	ug/L	95
12) Acrolein	3.86	56	9039	2.4953	ug/L	98
13) 11dichlorthe	3.99	96	6453	0.4359	ug/L	97
14) Trichlorotfluoroeth	4.03	101	12876	0.9038	ug/L	97
15) Acetone	4.08	43	27923m	5.2954	ug/L	100
16) Iodomethane	4.18	142	3816	0.3418	ug/L #	81
17) Carbon Dislf	4.27	76	42289m	0.9820	ug/L	96
18) allylchloride	4.49	41	33312	1.0490	ug/L	96
19) methylacetate	4.56	74	1098	0.3193	ug/L #	39
20) Methylchlorid	4.64	84	10806	0.5613	ug/L #	83
21) tbutylalcohol	4.86	59	39415	26.6295	ug/L	95
22) Acrylonitrile	4.95	53	16151	2.2645	ug/L	82
23) t12dichlorte	5.01	96	9004	0.5170	ug/L	95
24) MtBE	5.06	73	25321	0.5219	ug/L	97
25) Hexane	5.42	57	27893	0.9956	ug/L #	91
26) 11dichlorota	5.54	63	16899	0.5002	ug/L	99
27) Vinylacetate	5.64	43	220927	6.5230	ug/L	91
28) chloroprene	5.68	53	26995	0.9632	ug/L	96
29) Diisopether	5.70	45	31369	0.4995	ug/L	90
30) ETBE	6.17	59	25065	0.4673	ug/L	93
31) 22dichloropr	6.28	77	12503	0.4769	ug/L	97
32) c12dichlorte	6.28	96	10232	0.5128	ug/L	89
33) 2Butanone	6.31	72	10782	5.0848	ug/L	94
34) propionitrile	6.35	54	12983	4.7216	ug/L	91
35) Ethylacetate	6.41	88	2038	2.4516	ug/L #	92
36) methacrylonitrile	6.54	67	8478	0.9451	ug/L	96
37) Bromochlorma	6.57	128	4630	0.5488	ug/L #	92
38) Tetrahydofur	6.68	42	36022m	5.7137	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL1.D Vial: 4
Acq On : 29 Apr 2020 9:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:58:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:17 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.68	83	16159	0.5265 ug/L	95
40) 111trichlota	6.91	97	13542	0.5142 ug/L	85
42) Cyclohexane	7.01	56	15860	0.4783 ug/L	96
43) Carbtetraclo	7.14	119	9954	0.4764 ug/L	99
44) 11dicloprope	7.12	110	4533	0.5541 ug/L #	75
46) Benzene	7.38	78	36537	0.5127 ug/L	93
47) 12dichlorota	7.37	62	13018	0.4986 ug/L	96
48) TAME	7.56	73	23604	0.4862 ug/L	93
49) trichloroete	8.17	95	9952	0.5333 ug/L	94
50) methylcyclohexane	8.45	83	15392	0.4540 ug/L	96
51) 12dicloropra	8.44	63	11091	0.4982 ug/L	91
52) 23Dicl1propene	8.50	75	14924	0.5124 ug/L	88
53) Dibromometha	8.58	93	5706	0.5242 ug/L	93
54) methylmethacrylate	8.61	69	7763	0.5470 ug/L	93
55) 14dioxane	8.63	88	2906	26.5584 ug/L #	72
56) Bromodiclrma	8.77	83	11669	0.5013 ug/L	96
57) 2Nitropropane	9.05	43	24740	4.7538 ug/L	94
58) 2CLEVE	9.17	63	26171	2.3707 ug/L	96
59) c13dicloproe	9.36	75	14450	0.4707 ug/L	95
60) 4Meth2Pentan	9.57	43	91799m	5.6856 ug/L	96
62) Toluene	9.81	92	25034	0.5188 ug/L	98
63) t13Dicloprop	10.06	75	11785	0.4510 ug/L	82
64) ethylmethacrylate	10.22	69	23123	0.9309 ug/L	92
65) 112Triclotha	10.30	83	7271	0.5235 ug/L	96
66) Tetrachlorte	10.54	166	8214	0.4513 ug/L	93
67) 13Diclorpropa	10.52	76	13829	0.4652 ug/L	93
69) 2Hexanone	10.66	43	64508	5.4252 ug/L	95
70) Clorodibrmta	10.83	129	7216	0.4600 ug/L	94
71) 12Dibrometha	10.98	107	6937	0.4580 ug/L	95
72) Chlorobenzen	11.67	112	25250	0.5389 ug/L #	67
73) 1Clhexane	11.64	91	12731	0.5000 ug/L #	48
74) 1112Tetclota	11.78	131	7454	0.4675 ug/L	95
75) Ethylbenzene	11.83	91	42815	0.5403 ug/L	92
76) m p-Xylene	11.99	106	32975	1.0853 ug/L	98
77) o-Xylene	12.54	106	14997	0.4871 ug/L	93
78) Styrene	12.55	104	23730	0.4739 ug/L	99
79) Bromoform	12.78	173	5051	0.4820 ug/L	94
80) Isopropylben	13.06	105	36304	0.4965 ug/L	96
81) cyclohexanone	13.17	55	6388	12.6481 ug/L #	73
84) Bromobenzene	13.47	156	10155	0.5345 ug/L	92
85) 1122Tetrclta	13.45	83	11316	0.5309 ug/L	92
86) 123Triclproa	13.51	75	14307	0.5391 ug/L	93
87) 14dichloro2butene	13.54	53	3445	0.5395 ug/L	91
88) n-Propylbenz	13.65	91	43121	0.5099 ug/L	99
89) 2chlorotolue	13.76	91	27546	0.5186 ug/L	100
90) 4chlorotolue	13.91	91	30475	0.5015 ug/L	94
91) 135Trimebenz	13.91	105	29467	0.5123 ug/L	98
92) tbutylbenzen	14.38	119	27361	0.5381 ug/L	99
93) 124Trimetben	14.44	105	28805	0.4928 ug/L	96
94) sbutylbenzen	14.70	105	36783	0.5203 ug/L	90
95) 13Diclorbenz	14.83	146	18796	0.5430 ug/L	93
96) pIsopropylto	14.91	119	29341	0.4940 ug/L #	97
97) 14dichlorobe	14.97	146	18708	0.5391 ug/L #	74
98) 12dichlorobe	15.50	146	17583	0.5465 ug/L #	78
99) nButylbenzen	15.51	91	30812	0.5198 ug/L	95
100) 12dibromo3cl	16.60	157	2041	0.5528 ug/L	94
101) 135Trichlorobenzene	16.92	180	11095	0.4957 ug/L	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL1.D Vial: 4
Acq On : 29 Apr 2020 9:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:58:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:17 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.73	180	8980	0.4766	ug/L	95
103) Hexachlorobu	17.98	225	4520	0.4746	ug/L	89
104) Naphthalene	18.03	128	20479	0.5019	ug/L	98
105) 123Trichlben	18.34	180	8040	0.4849	ug/L	98

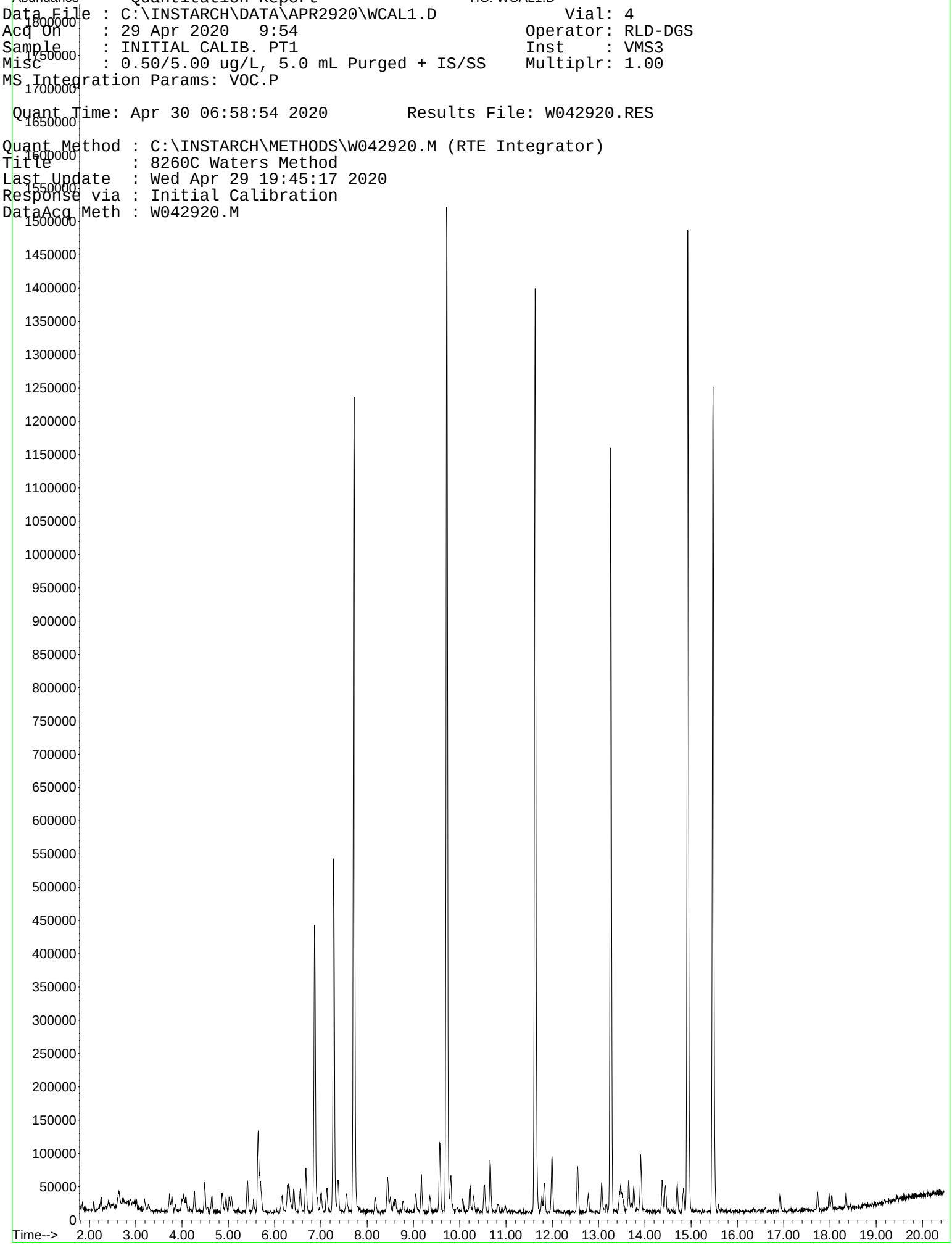
(#) = qualifier out of range (m) = manual integration

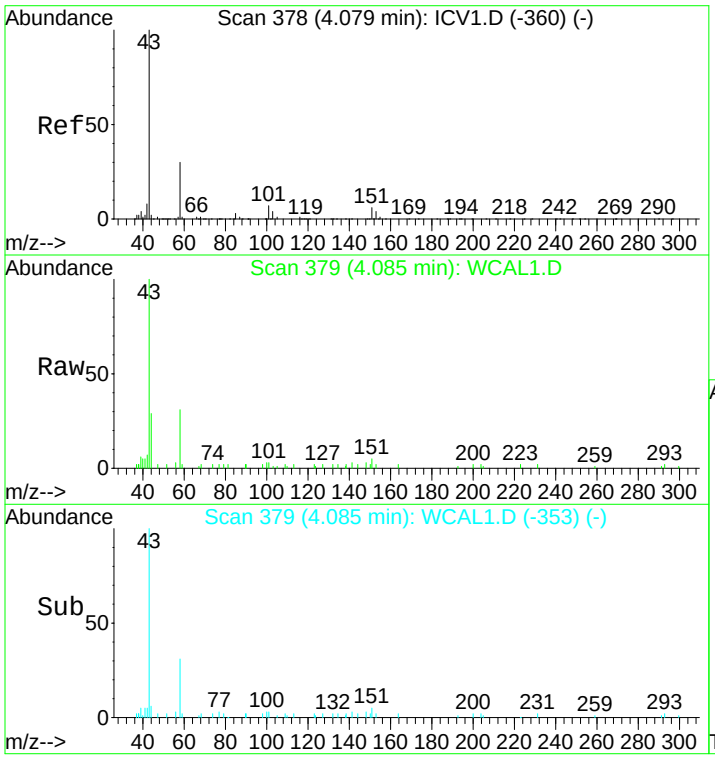
Abundance Quantitation Report TIC: WCAL1.D

Data File : C:\INSTARCH\DATA\APR2920\WCAL1.D Vial: 4
Acq On : 29 Apr 2020 9:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:58:54 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:17 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

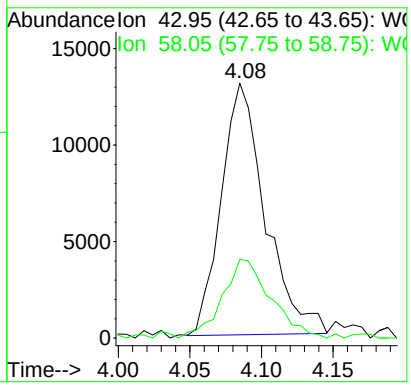




#15
Acetone
Concen: 5.30 ug/L m
RT: 4.08 min Scan# 379
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

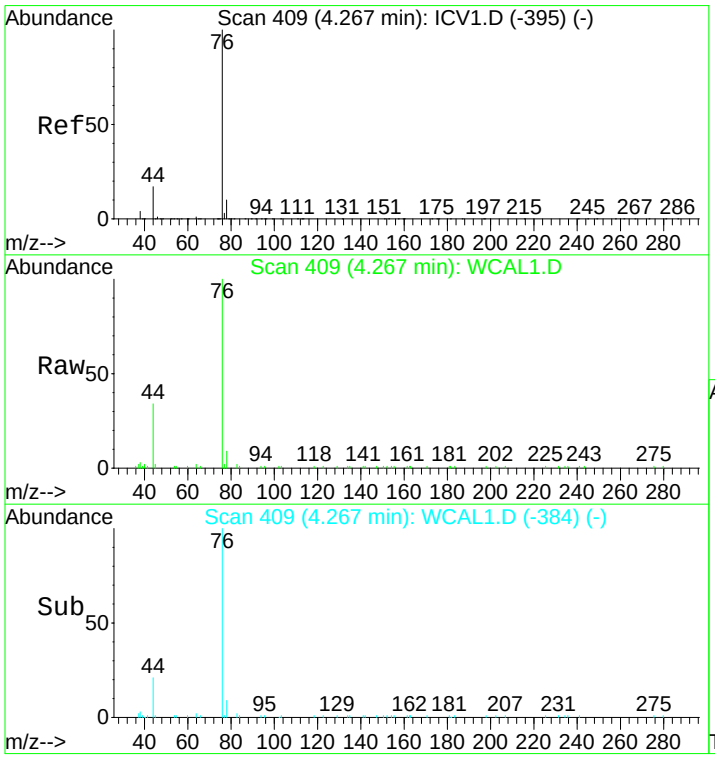
Tgt Ion: 43 Resp: 27923

Ion	Ratio	Lower	Upper
43	100		
58	34.2	11.6	51.6



After Manual Integration

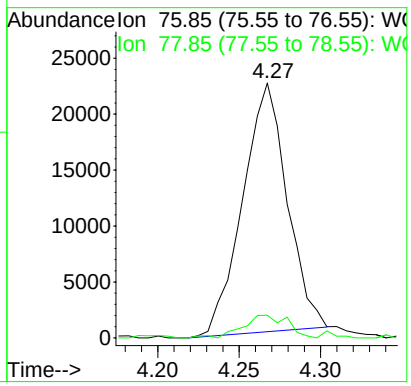
DGS 04/30/2020



#17
Carbon Dislf
Concen: 0.98 ug/L m
RT: 4.27 min Scan# 409
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

Tgt Ion: 76 Resp: 42289

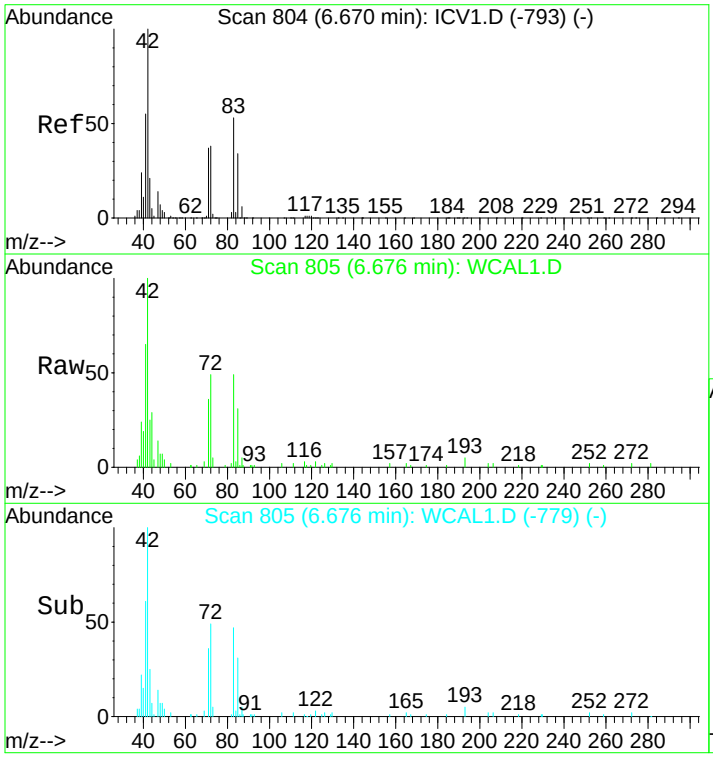
Ion	Ratio	Lower	Upper
76	100		
78	9.3	0.0	30.2



RJ 05/01/2020

After Manual Integration

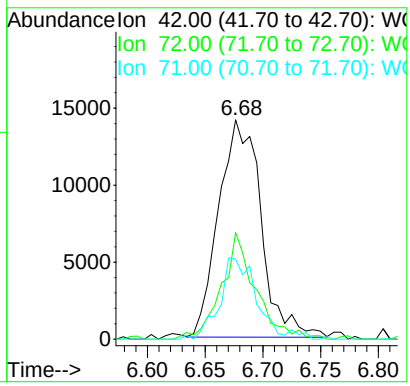
DGS 04/30/2020

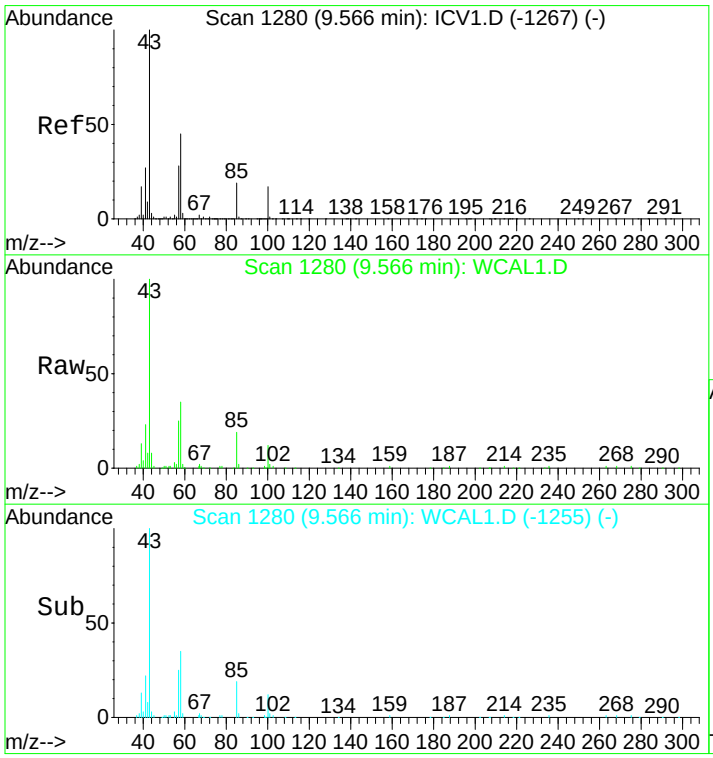


#38
Tetrahydofur
Concen: 5.71 ug/L m
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

Tgt Ion: 42 Resp: 36022

Ion	Ratio	Lower	Upper
42	100		
72	39.3	18.3	58.3
71	31.6	15.7	55.7

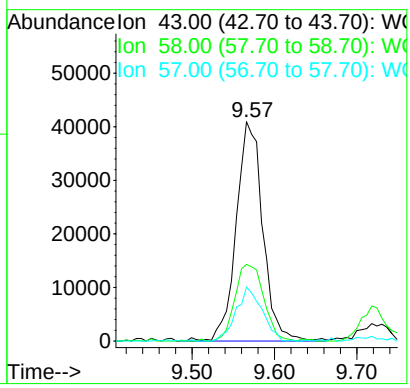




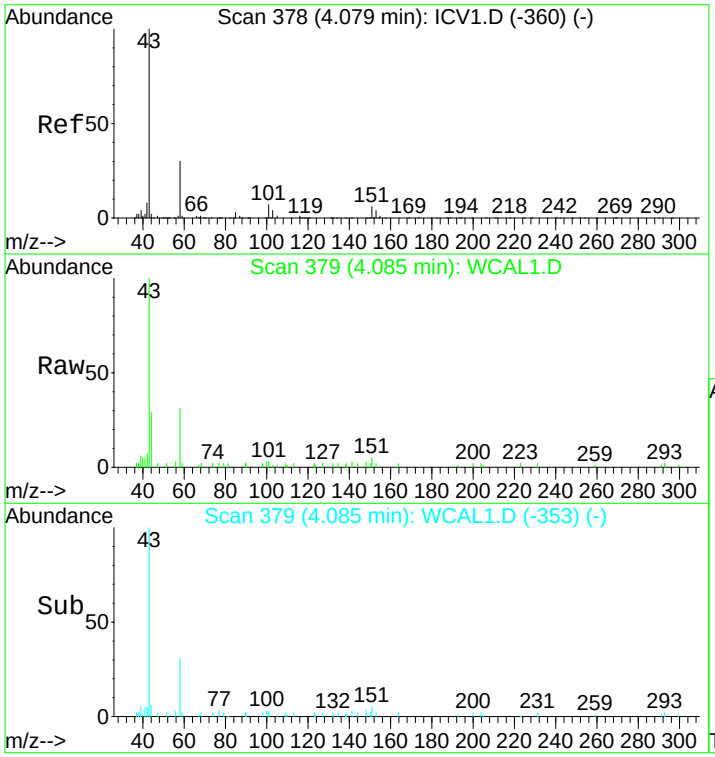
#60
4Meth2Pentan
Concen: 5.69 ug/L m
RT: 9.57 min Scan# 1280
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

Tgt Ion: 43 Resp: 91799

Ion	Ratio	Lower	Upper
43	100		
58	37.7	21.2	61.2
57	23.9	6.2	46.2



RJ 05/01/2020



#15
Acetone
Concen: 6.01 ug/L
RT: 4.08 min Scan# 379
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

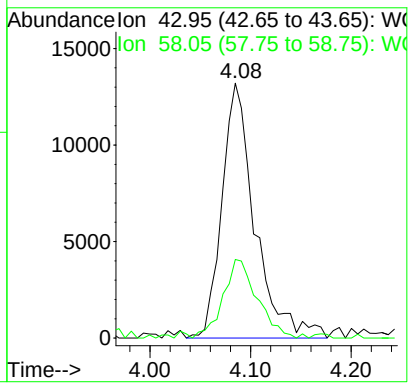
Tgt Ion: 43 Resp: 30105

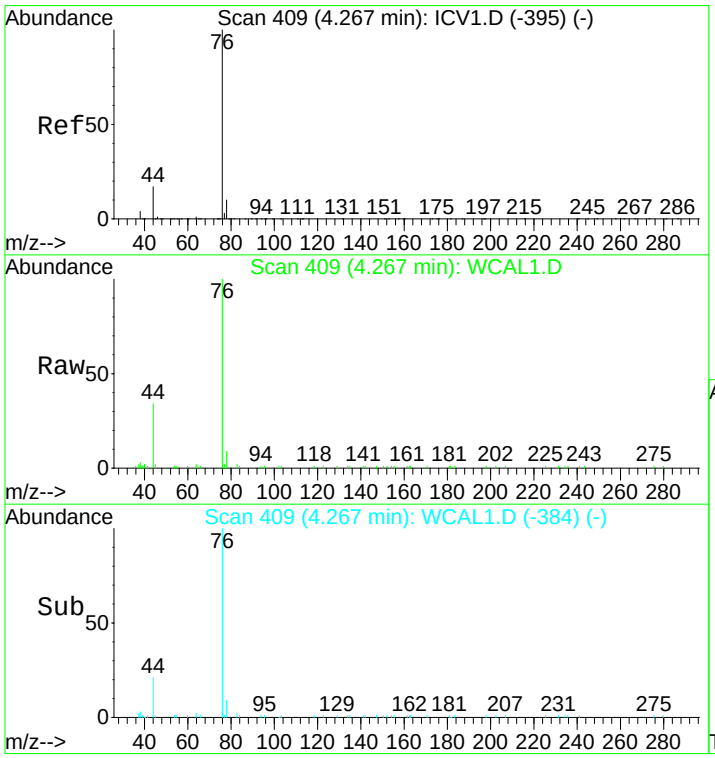
Ion	Ratio	Lower	Upper
43	100		
58	31.7	11.6	51.6

Before Manual Integration

REASON # 2

DGS 04/30/2020

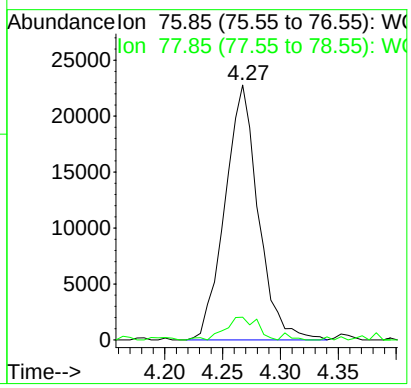




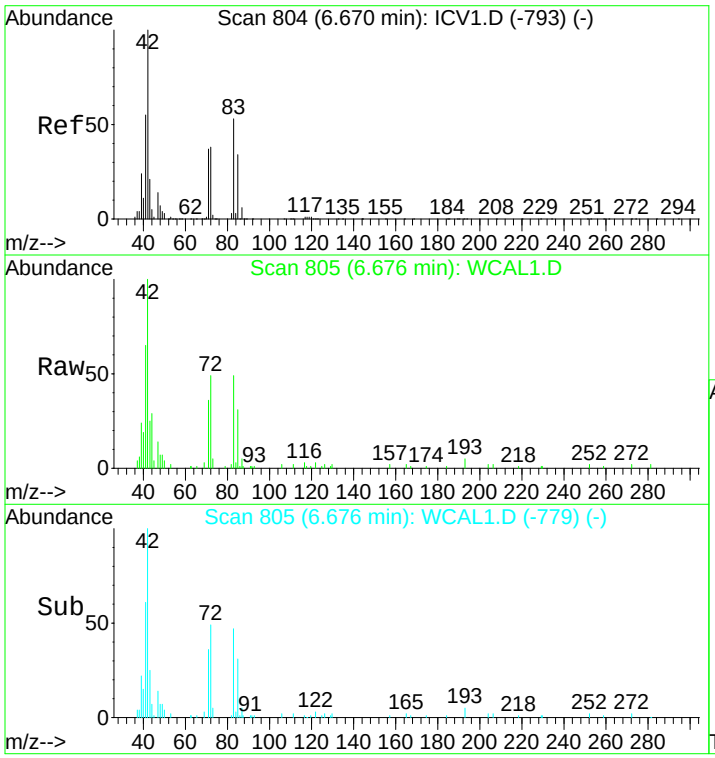
#17
Carbon Dislf
Concen: 1.10 ug/L
RT: 4.27 min Scan# 409
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

Tgt Ion: 76 Resp: 45763

Ion	Ratio	Lower	Upper
76	100		
78	8.6	0.0	30.2



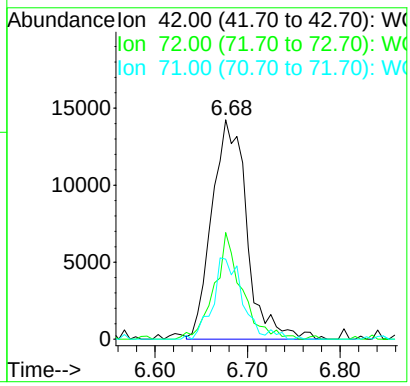
RJ 05/01/2020



#38
Tetrahydofur
Concen: 3.78 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

Tgt Ion: 42 Resp: 37378

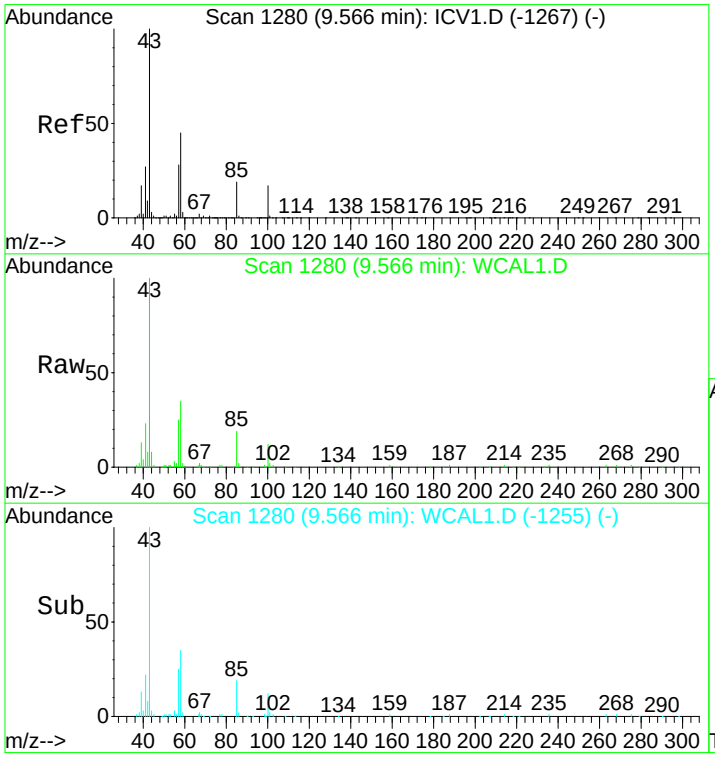
Ion	Ratio	Lower	Upper
42	100		
72	37.9	18.3	58.3
71	30.5	15.7	55.7



Before Manual Integration

REASON # 2

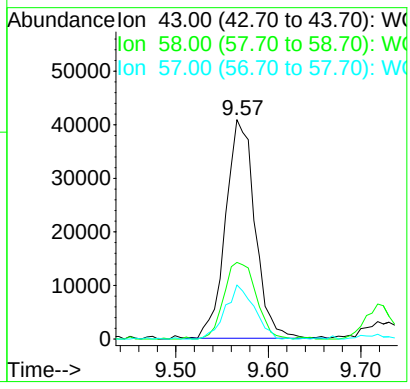
DGS 04/30/2020



#60
4Meth2Pentan
Concen: 3.47 ug/L
RT: 9.57 min Scan# 1280
Delta R.T. 0.00 min
Lab File: WCAL1.D
Acq: 29 Apr 2020 9:54

Tgt Ion: 43 Resp: 90030

Ion	Ratio	Lower	Upper
43	100		
58	38.5	21.2	61.2
57	24.3	6.2	46.2



RJ 05/01/2020

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL2.D Vial: 5
Acq On : 29 Apr 2020 10:23 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:04:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:03 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1086359	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	816694	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	425027	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	261603	20.051	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	74987	20.383	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1066589	19.931	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	422005	20.583	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	18684	1.1735	ug/L	96
3) Chloromethan	2.09	50	24445	1.1581	ug/L	96
4) VinylChlorid	2.25	62	21624	1.1001	ug/L	88
5) Bromomethane	2.73	94	11223m	1.0949	ug/L	95
6) Chloroethane	2.89	64	13925	1.1484	ug/L	97
7) Dichloroflmethane	3.20	67	32173	1.1423	ug/L	96
8) Trichlorofma	3.27	101	22165	1.0948	ug/L	93
9) Ethylether	3.72	59	16647	1.1318	ug/L	94
10) dichlorotfluoroethan	3.73	67	17976	1.0660	ug/L	96
11) propyleneoxide	3.78	58	39651	11.8425	ug/L	98
12) Acrolein	3.85	56	19357	6.0774	ug/L	99
13) 11dichlorthe	4.01	96	14086	1.0822	ug/L	97
14) Trichlorotfluoroeth	4.04	101	26402	2.1076	ug/L	97
15) Acetone	4.08	43	52949m	11.4200	ug/L	93
16) Iodomethane	4.17	142	6033	0.6146	ug/L	76
17) Carbon Dislf	4.27	76	80690m	2.1309	ug/L	99
18) allylchloride	4.49	41	63151	2.2616	ug/L	98
19) methylacetate	4.55	74	3403	1.1256	ug/L	96
20) Methylchlorid	4.64	84	20438	1.2074	ug/L	96
21) tbutylalcohol	4.86	59	81221m	62.4078	ug/L	98
22) Acrylonitrile	4.95	53	36324	5.7922	ug/L	98
23) t12dichlorte	5.02	96	15946	1.0412	ug/L	98
24) MtBE	5.06	73	49080	1.1506	ug/L	100
25) Hexane	5.41	57	54501	2.2125	ug/L	97
26) 11dichlorota	5.55	63	31682	1.0664	ug/L	97
27) Vinylacetate	5.64	43	428838	14.4000	ug/L	95
28) chloroprene	5.68	53	52460	2.1288	ug/L	98
29) Diisopether	5.70	45	61630	1.1161	ug/L	97
30) ETBE	6.16	59	53599	1.1364	ug/L	97
31) 22dichloropr	6.28	77	25209	1.0936	ug/L	99
32) c12dichlorte	6.28	96	19082	1.0877	ug/L	97
33) 2Butanone	6.32	72	21524	11.5443	ug/L	96
34) propionitrile	6.35	54	28311	11.7095	ug/L	92
35) Ethylacetate	6.40	88	4173	5.7090	ug/L #	88
36) methacrylonitrile	6.55	67	17707	2.2450	ug/L	97
37) Bromochlorma	6.57	128	7343	0.9898	ug/L #	88
38) Tetrahydofur	6.68	42	63004m	11.3654	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL2.D Vial: 5
Acq On : 29 Apr 2020 10:23 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:04:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:03 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.67	83	27006	1.0008	ug/L		91
40)	111trichlota	6.92	97	22943	0.9908	ug/L		93
42)	Cyclohexane	7.00	56	29955	1.0275	ug/L		99
43)	Carbtetraclo	7.13	119	19098	1.0395	ug/L		99
44)	11dicloprope	7.13	110	7926	1.1018	ug/L		97
46)	Benzene	7.38	78	72165	1.1517	ug/L		98
47)	12dichlorota	7.37	62	25865	1.1268	ug/L		93
48)	TAME	7.55	73	45830	1.0735	ug/L		98
49)	trichloroete	8.18	95	17709	1.0792	ug/L		93
50)	methylcyclohexane	8.45	83	29941	1.0043	ug/L		90
51)	12dicloropra	8.43	63	20866	1.0660	ug/L	#	98
52)	23Dicl1propene	8.50	75	28019	1.0941	ug/L		99
53)	Dibromometha	8.57	93	9177	0.9588	ug/L		95
54)	methylmethacrylate	8.62	69	13556	1.0864	ug/L		95
55)	14dioxane	8.64	88	6667	69.2957	ug/L		88
56)	Bromodiclrma	8.78	83	18932	0.9249	ug/L		90
57)	2Nitropropane	9.05	43	47846	10.4558	ug/L		94
58)	2CLEVE	9.17	63	51775	5.3340	ug/L		97
59)	c13dicloproe	9.35	75	28901	1.0708	ug/L		98
60)	4Meth2Pentan	9.57	43	188852	13.3023	ug/L		94
62)	Toluene	9.81	92	45124	1.0635	ug/L		92
63)	t13Dicloprop	10.06	75	23478	1.0218	ug/L		92
64)	ethylmethacrylate	10.22	69	47309	2.1661	ug/L		99
65)	112Triclotha	10.30	83	13139	1.0759	ug/L		94
66)	Tetrachlorte	10.53	166	16713	1.0444	ug/L		96
67)	13Diclorpropa	10.53	76	28251	1.0807	ug/L		96
69)	2Hexanone	10.66	43	137804	12.9699	ug/L		96
70)	Clorodibrmta	10.83	129	13980	0.9972	ug/L		98
71)	12Dibrometha	10.98	107	14519	1.0729	ug/L		94
72)	Chlorobenzen	11.66	112	47086	1.1247	ug/L		88
73)	1Clhexane	11.65	91	26029	1.1439	ug/L	#	77
74)	1112Tetclota	11.77	131	13526	0.9493	ug/L		87
75)	Ethylbenzene	11.83	91	78440	1.1079	ug/L		98
76)	m p-Xylene	11.99	106	58875	2.1686	ug/L		94
77)	o-Xylene	12.54	106	29691	1.0792	ug/L		99
78)	Styrene	12.55	104	48092	1.0748	ug/L		95
79)	Bromoform	12.78	173	8490	0.9066	ug/L		93
80)	Isopropylben	13.07	105	73297	1.1218	ug/L		95
81)	cyclohexanone	13.17	55	10556	23.3900	ug/L		85
84)	Bromobenzene	13.48	156	18735	1.1086	ug/L		96
85)	1122Tetrclta	13.45	83	22691	1.1968	ug/L		93
86)	123Triclproa	13.51	75	26994	1.1434	ug/L		99
87)	14dichloro2butene	13.53	53	7435	1.3089	ug/L		78
88)	n-Propylbenz	13.65	91	88164	1.1721	ug/L		94
89)	2chlorotolue	13.76	91	54405	1.1515	ug/L		96
90)	4chlorotolue	13.92	91	60347m	1.1166	ug/L		95
91)	135Trimebenz	13.91	105	54442	1.0641	ug/L		95
92)	tbutylbenzen	14.38	119	48905	1.0812	ug/L		98
93)	124Trimetben	14.45	105	59799	1.1501	ug/L		98
94)	sbutylbenzen	14.70	105	72569m	1.1540	ug/L		96
95)	13Diclorbenz	14.84	146	34932	1.1346	ug/L		96
96)	pIsopropylto	14.91	119	57300	1.0845	ug/L		99
97)	14dichlorobe	14.97	146	32271	1.0455	ug/L		83
98)	12dichlorobe	15.50	146	32501	1.1357	ug/L		91
99)	nButylbenzen	15.51	91	63540m	1.2050	ug/L		92
100)	12dibromo3cl	16.59	157	3579	1.0899	ug/L		94
101)	135Trichlorobenzene	16.92	180	21505	1.0801	ug/L		94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL2.D Vial: 5
Acq On : 29 Apr 2020 10:23 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:04:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:03 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	18042	1.0765	ug/L	92
103) Hexachlorobu	17.99	225	8767	1.0350	ug/L	90
104) Naphthalene	18.03	128	39457	1.0871	ug/L	97
105) 123Trichlben	18.35	180	16326	1.1069	ug/L	94

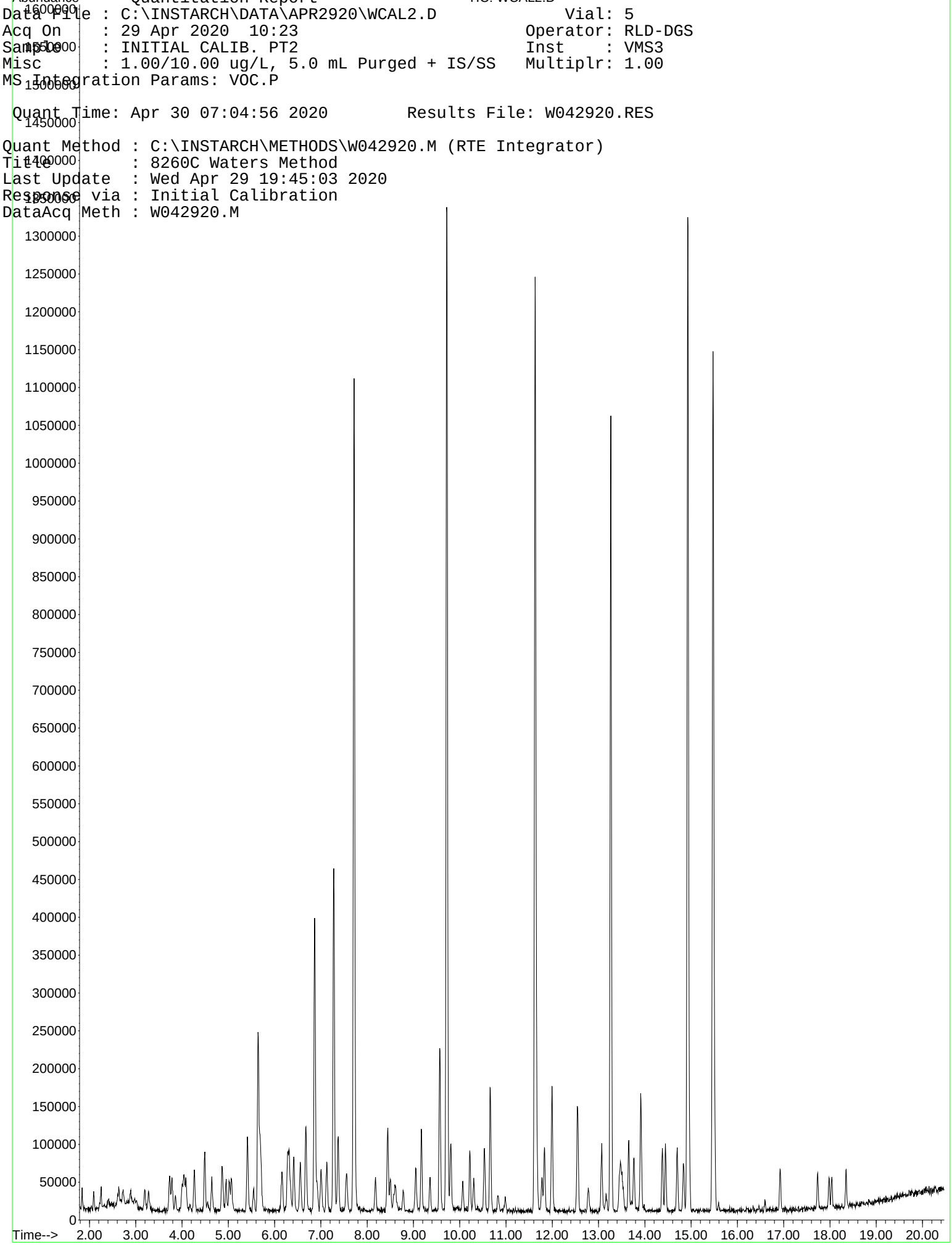
(#) = qualifier out of range (m) = manual integration

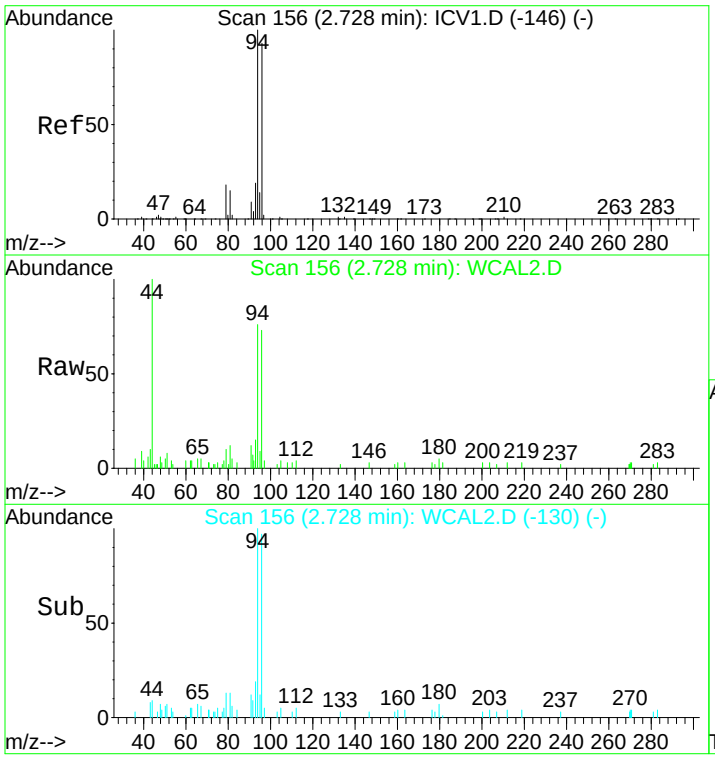
Abundance Quantitation Report TIC: WCAL2.D

Data File : C:\INSTARCH\DATA\APR2920\WCAL2.D Vial: 5
Acq On : 29 Apr 2020 10:23 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:04:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:03 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

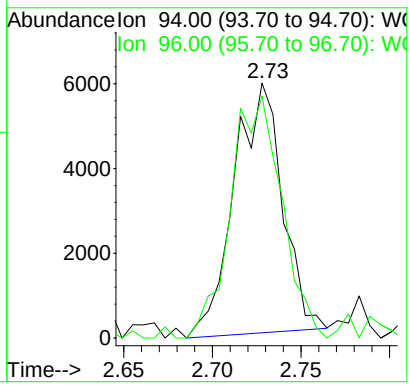




#5
Bromomethane
Concen: 1.09 ug/L m
RT: 2.73 min Scan# 156
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

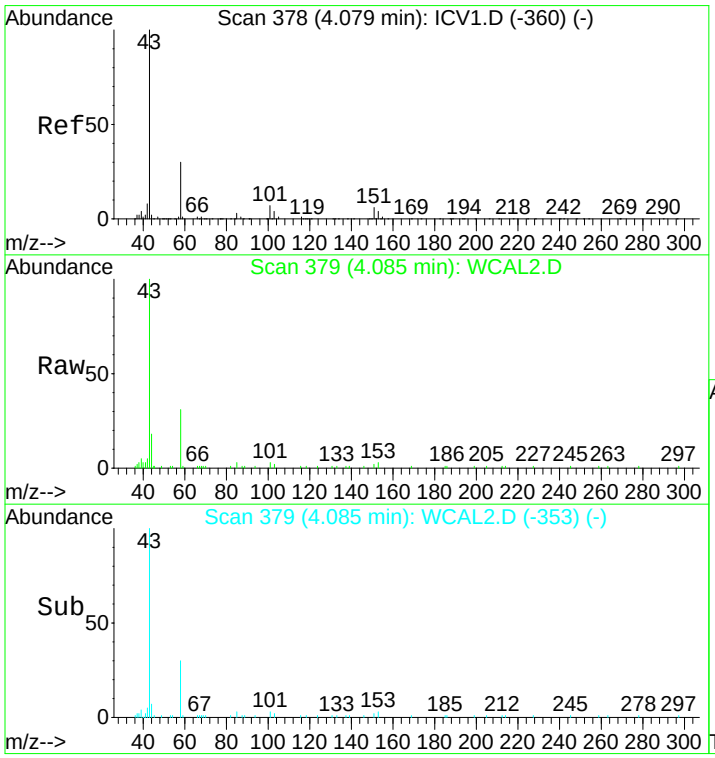
Tgt Ion: 94 Resp: 11223

Ion	Ratio	Lower	Upper
94	100		
96	101.7	71.9	111.9



After Manual Integration

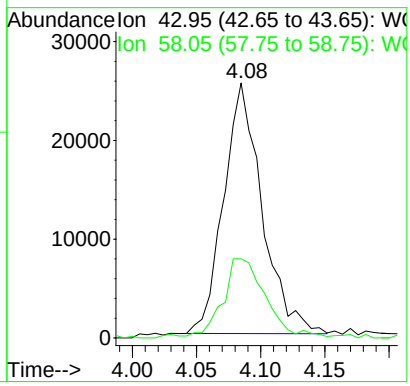
DGS 04/30/2020



#15
Acetone
Concen: 11.42 ug/L m
RT: 4.08 min Scan# 379
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 43 Resp: 52949

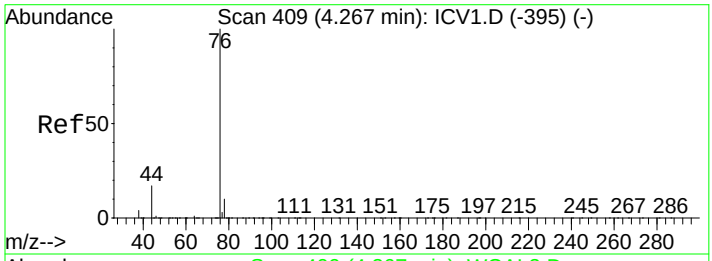
Ion	Ratio	Lower	Upper
43	100		
58	36.1	11.6	51.6

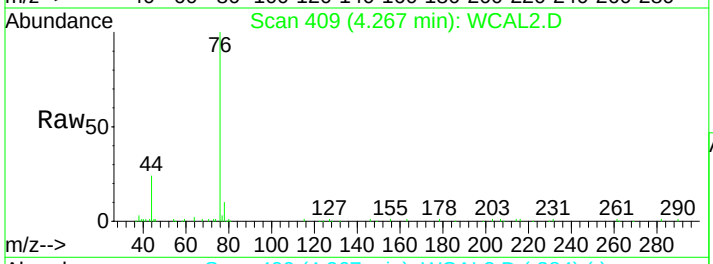


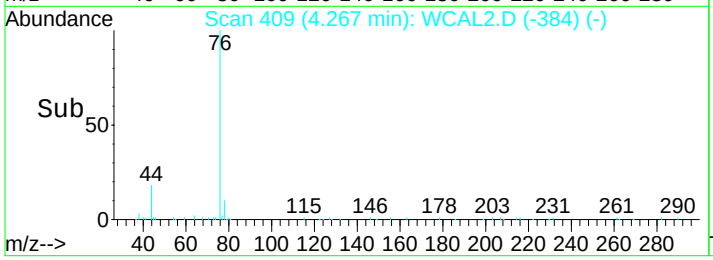
RJ 05/01/2020

After Manual Integration

DGS 04/30/2020



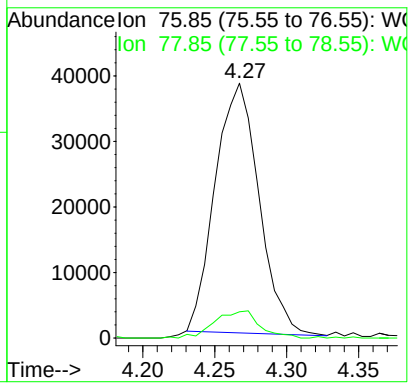


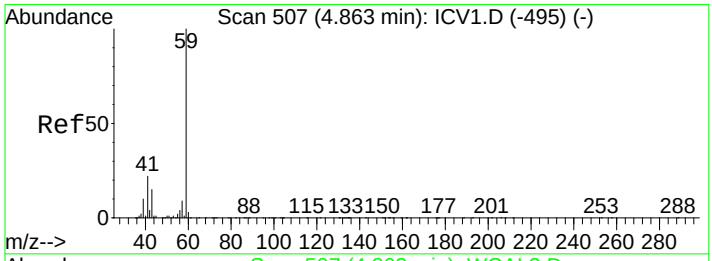


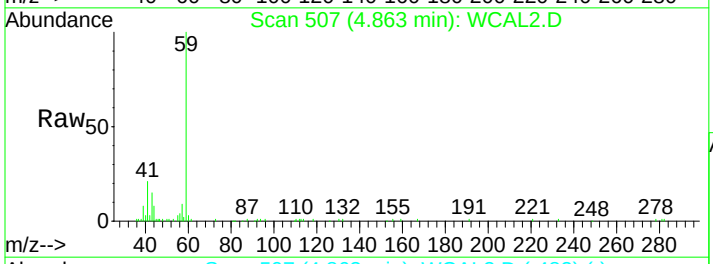
#17
Carbon Dislf
Concen: 2.13 ug/L m
RT: 4.27 min Scan# 409
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

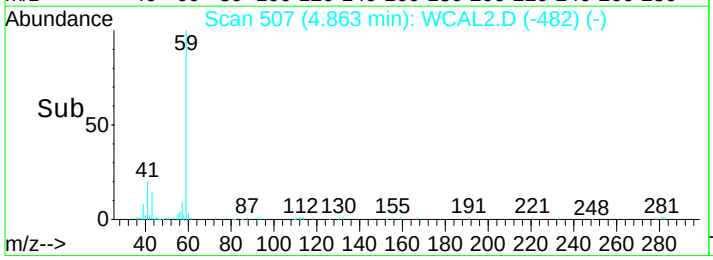
Tgt Ion: 76 Resp: 80690

Ion	Ratio	Lower	Upper
76	100		
78	11.3	0.0	30.2





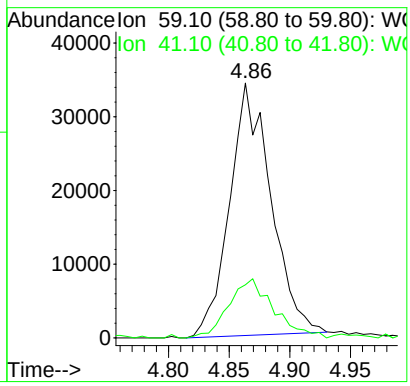




#21
tbutylalcohol
Concen: 62.41 ug/L m
RT: 4.86 min Scan# 507
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 59 Resp: 81221

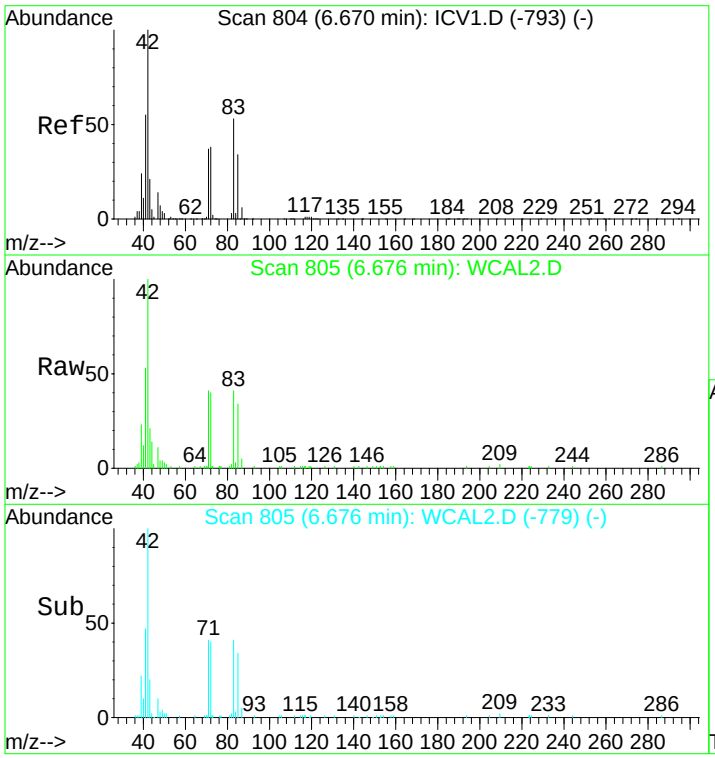
Ion	Ratio	Lower	Upper
59	100		
41	25.4	4.9	44.9



RJ 05/01/2020

After Manual Integration

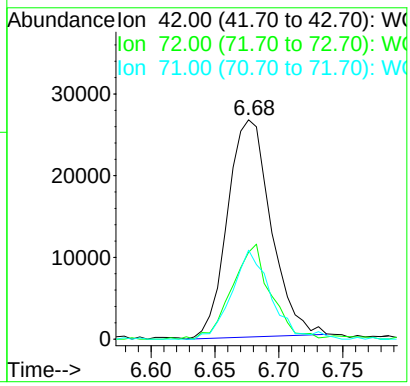
DGS 04/30/2020

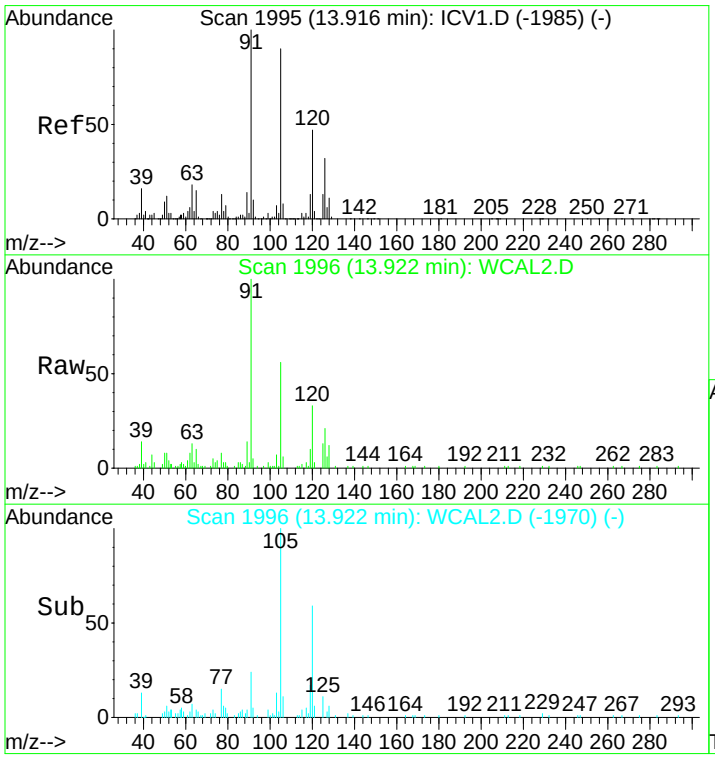


#38
Tetrahydofur
Concen: 11.37 ug/L m
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 42 Resp: 63004

Ion	Ratio	Lower	Upper
42	100		
72	38.8	18.3	58.3
71	36.9	15.7	55.7

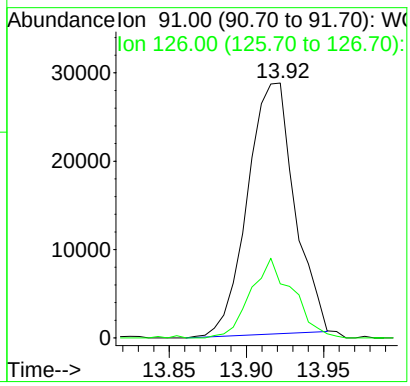




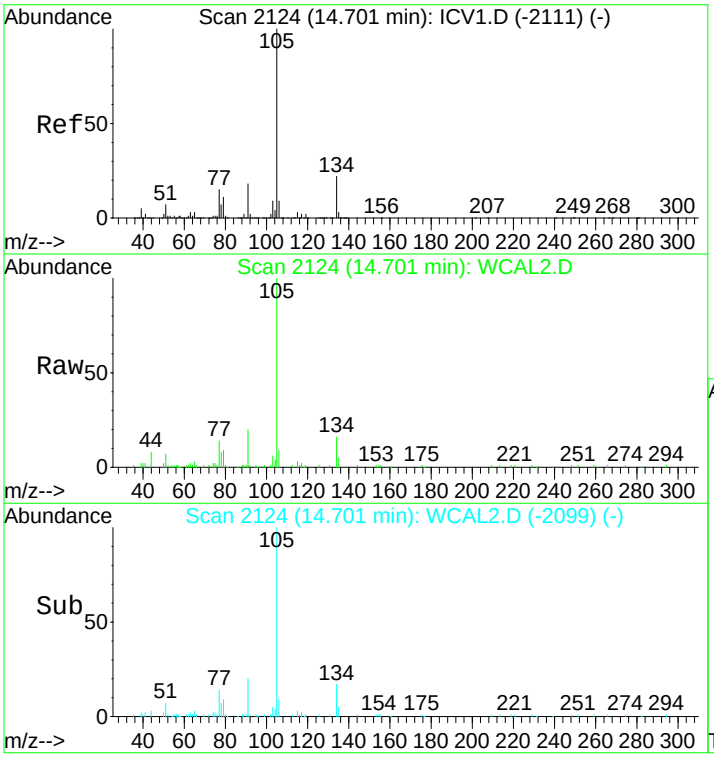
#90
4chlorotolue
Concen: 1.12 ug/L m
RT: 13.92 min Scan# 1996
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 91 Resp: 60347

Ion	Ratio	Lower	Upper
91	100		
126	28.6	10.0	50.0



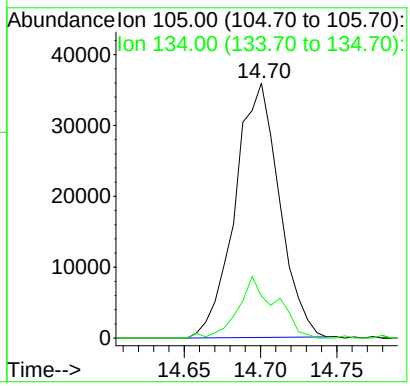
RJ 05/01/2020

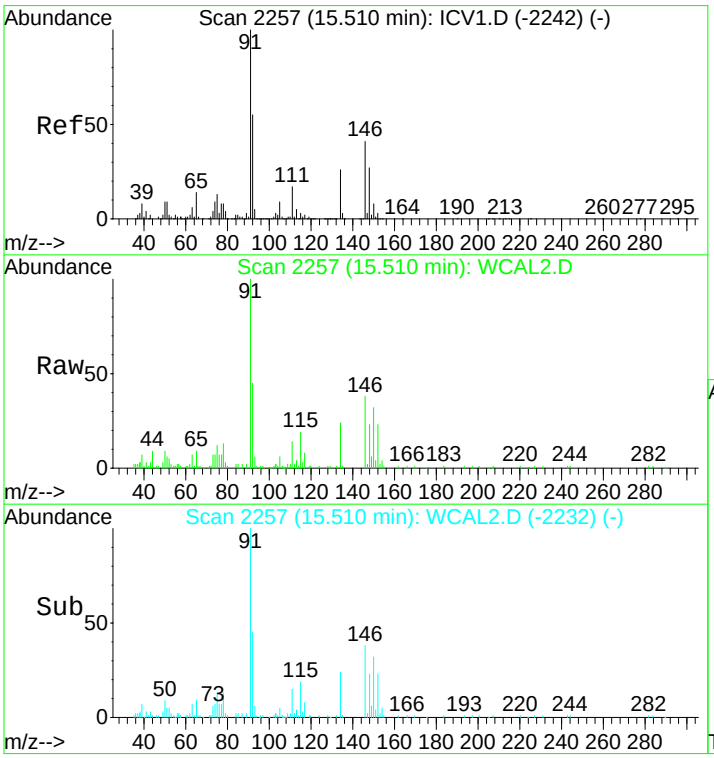


#94
sbutylbenzen
Concen: 1.15 ug/L m
RT: 14.70 min Scan# 2124
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion:105 Resp: 72569

Ion	Ratio	Lower	Upper
105	100		
134	20.7	2.5	42.5

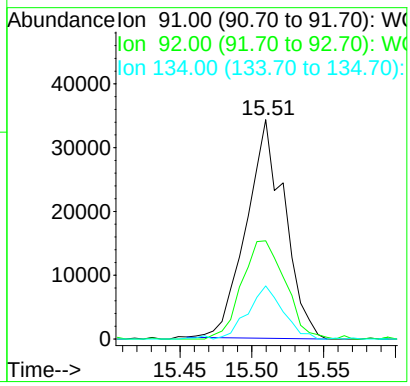




#99
nButylbenzen
Concen: 1.21 ug/L m
RT: 15.51 min Scan# 2257
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 91 Resp: 63540

Ion	Ratio	Lower	Upper
91	100		
92	50.9	35.1	75.1
134	22.1	6.3	46.3



After Manual Integration

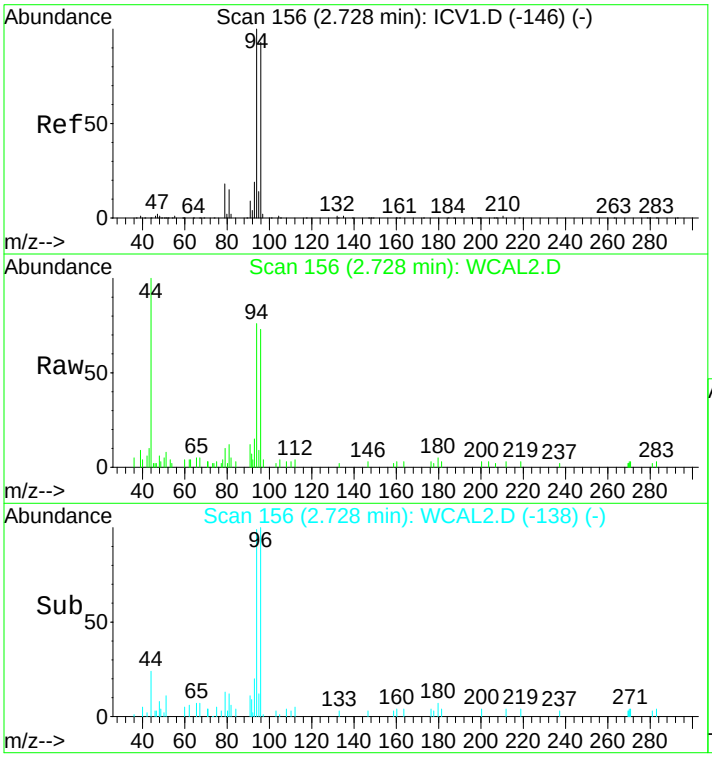
DGS 04/30/2020

RJ 05/01/2020

Before Manual Integration

DGS 04/30/2020

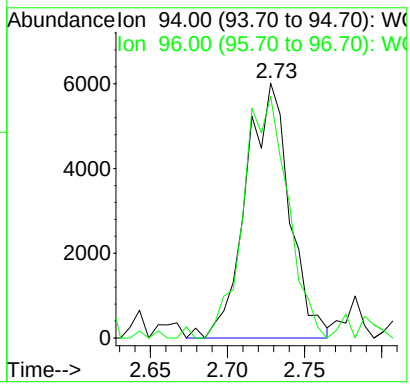
REASON # 2

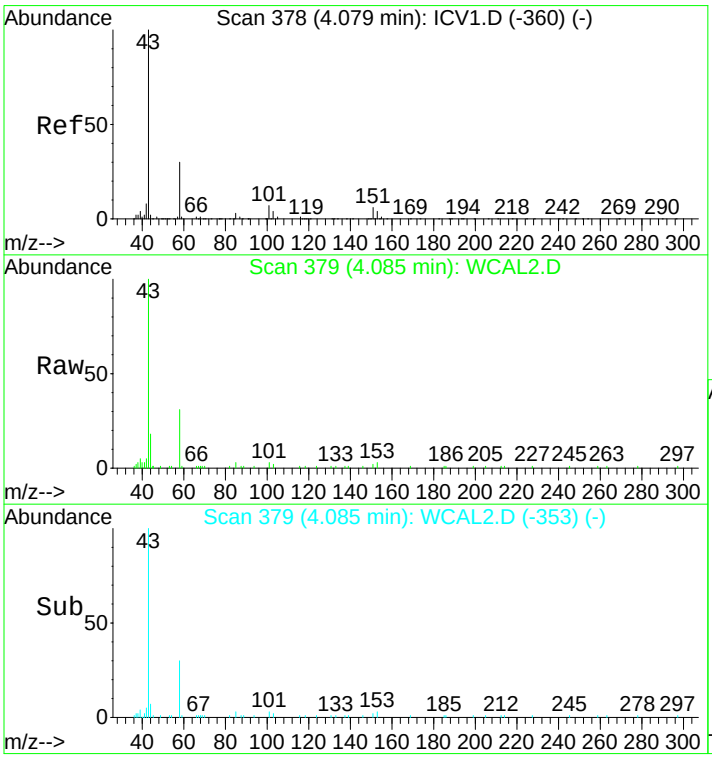


#5
Bromomethane
Concen: 1.23 ug/L
RT: 2.73 min Scan# 156
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 94 Resp: 11855

Ion	Ratio	Lower	Upper
94	100		
96	96.3	71.9	111.9

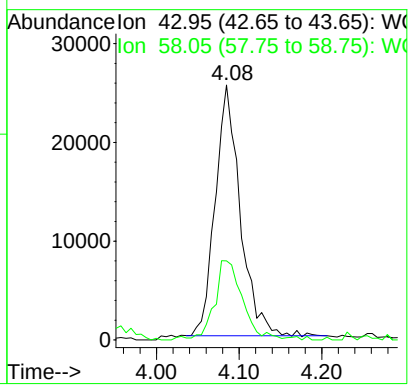




#15
Acetone
Concen: 12.15 ug/L
RT: 4.08 min Scan# 379
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 43 Resp: 53510

Ion	Ratio	Lower	Upper
43	100		
58	35.7	11.6	51.6

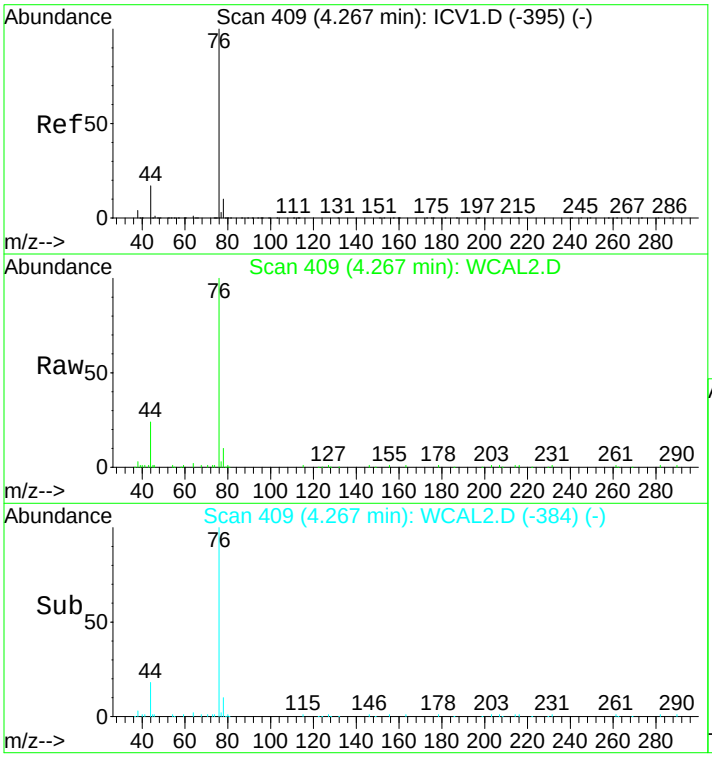


RJ 05/01/2020

Before Manual Integration

DGS 04/30/2020

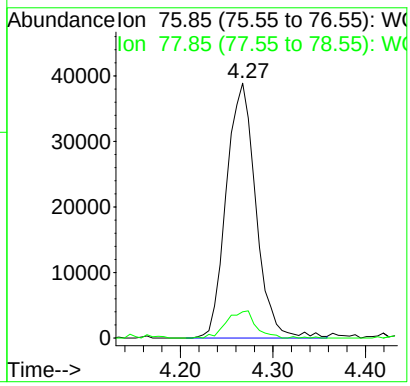
REASON # 2

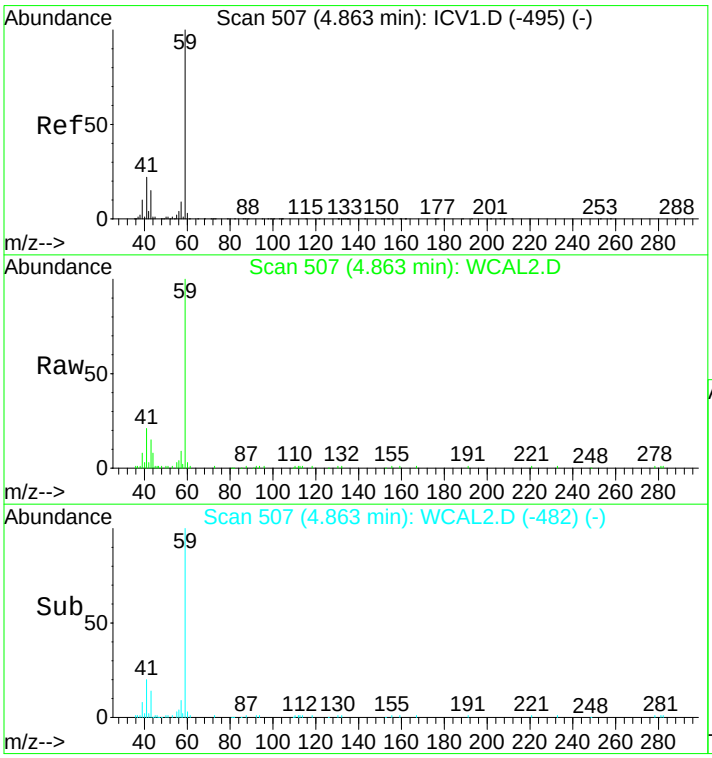


#17
Carbon Dislf
Concen: 2.37 ug/L
RT: 4.27 min Scan# 409
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 76 Resp: 86389

Ion	Ratio	Lower	Upper
76	100		
78	10.5	0.0	30.2

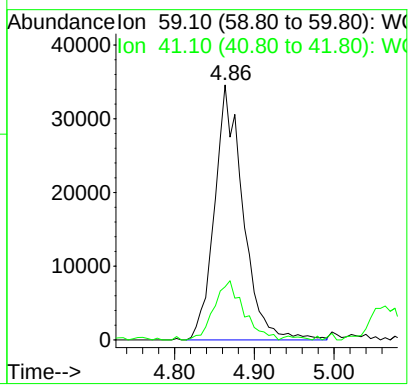




#21
tbutylalcohol
Concen: 66.68 ug/L
RT: 4.86 min Scan# 507
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 59 Resp: 85880

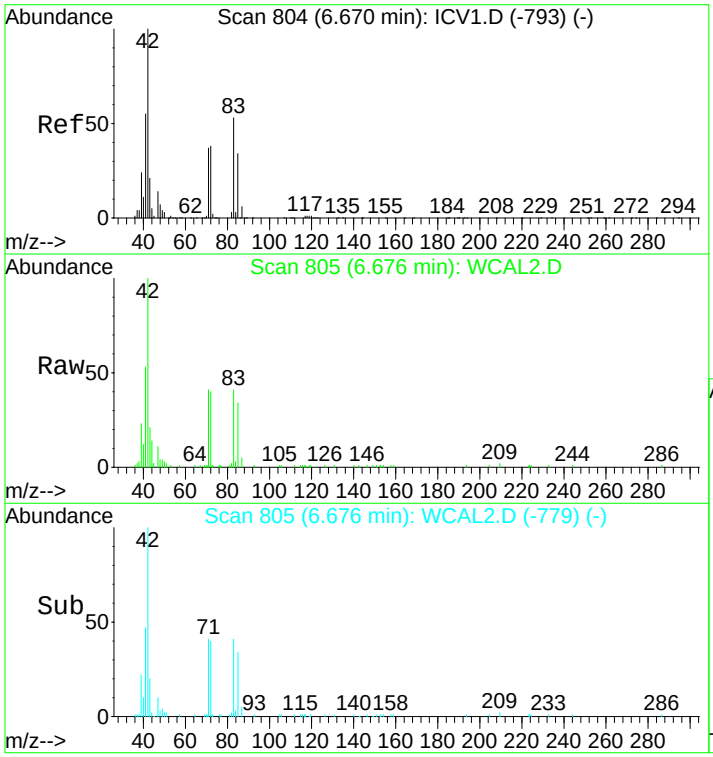
Ion	Ratio	Lower	Upper
59	100		
41	24.1	4.9	44.9



RJ 05/01/2020

Before Manual Integration

DGS 04/30/2020

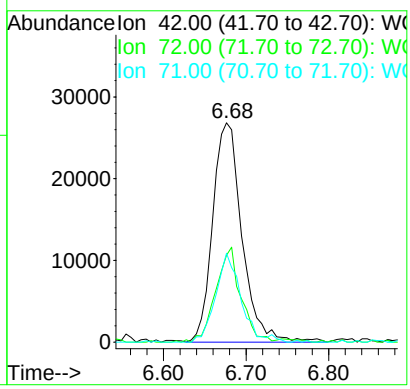


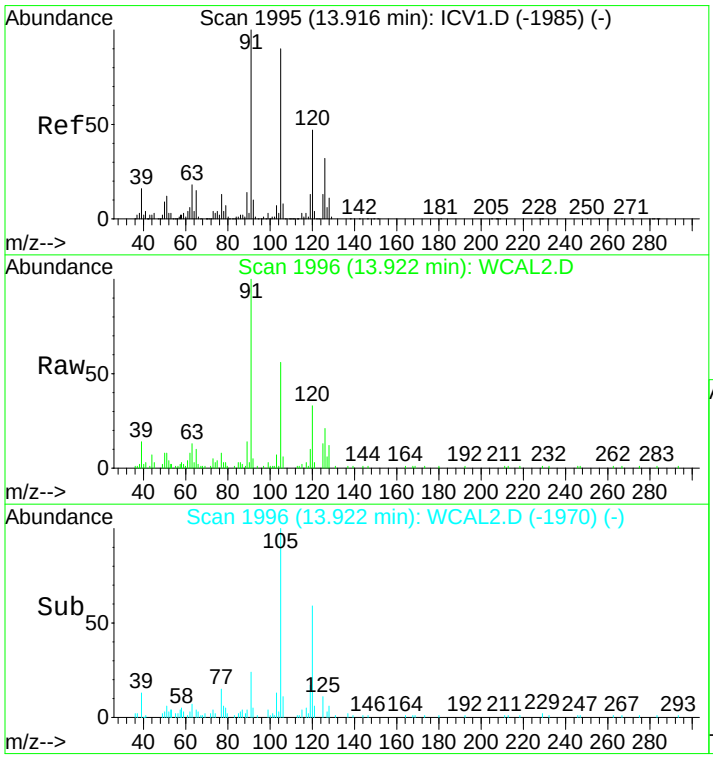
#38
Tetrahydofur
Concen: 9.91 ug/L
RT: 6.68 min Scan# 805
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 42 Resp: 66131

Ion	Ratio	Lower	Upper
42	100		
72	37.0	18.3	58.3
71	35.1	15.7	55.7

REASON # 2

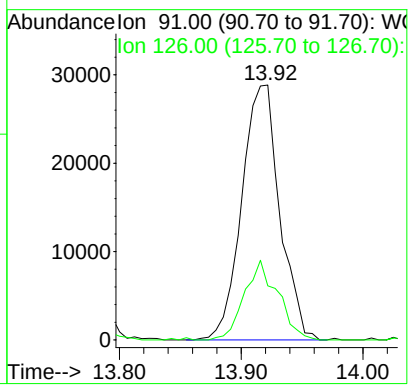




#90
4chlorotolue
Concen: 1.20 ug/L
RT: 13.92 min Scan# 1996
Delta R.T. 0.01 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 91 Resp: 62581

Ion	Ratio	Lower	Upper
91	100		
126	27.5	10.0	50.0

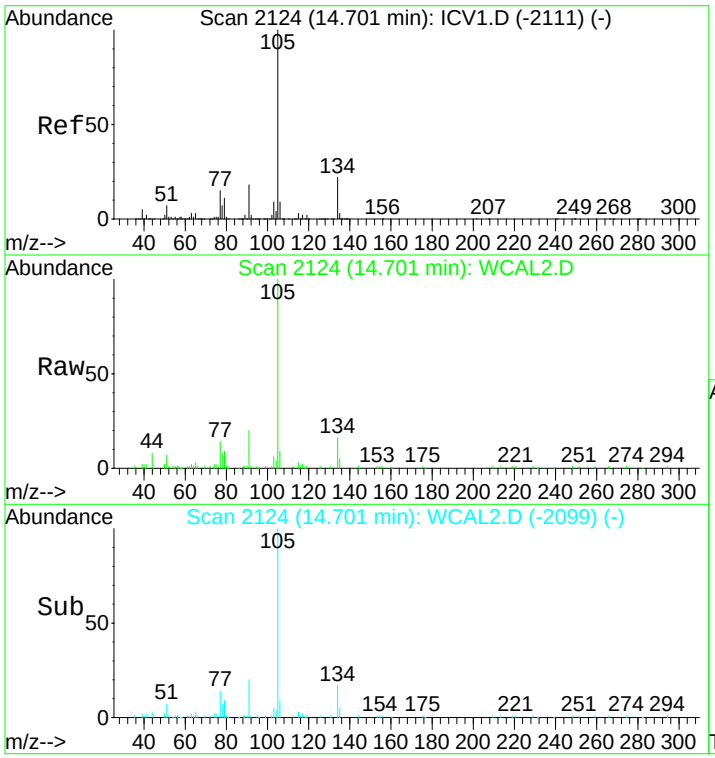


RJ 05/01/2020

Before Manual Integration

DGS 04/30/2020

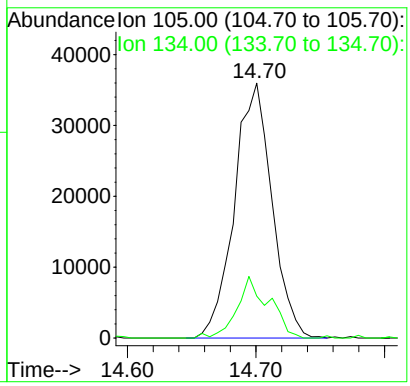
REASON # 2

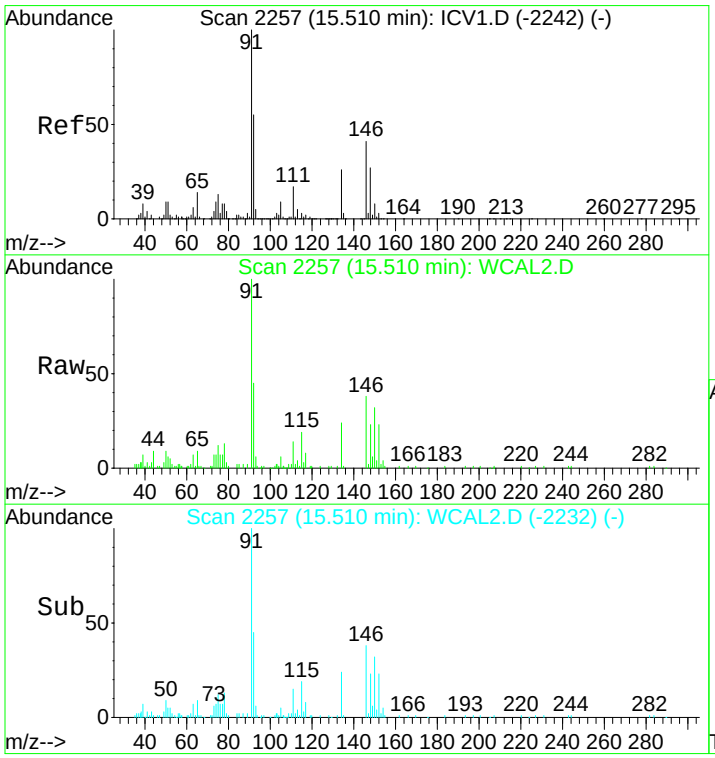


#94
sbutylbenzen
Concen: 1.15 ug/L
RT: 14.70 min Scan# 2124
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion:105 Resp: 73081

Ion	Ratio	Lower	Upper
105	100		
134	20.6	2.5	42.5

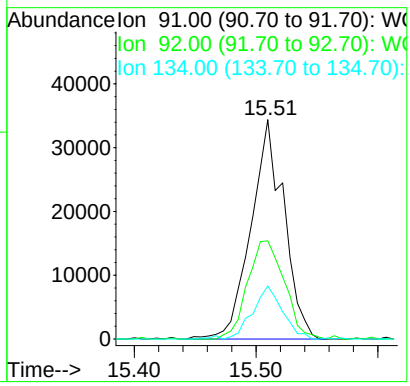




#99
nButylbenzen
Concen: 1.21 ug/L
RT: 15.51 min Scan# 2257
Delta R.T. 0.00 min
Lab File: WCAL2.D
Acq: 29 Apr 2020 10:23

Tgt Ion: 91 Resp: 64605

Ion	Ratio	Lower	Upper
91	100		
92	50.1	35.1	75.1
134	21.7	6.3	46.3



RJ 05/01/2020

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL3.D Vial: 6
Acq On : 29 Apr 2020 10:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:59:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 06:59:39 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1199239	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	900717	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	478837	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	286132	19.882 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %		
45) SURR12DCAd4	7.28	102	83220	20.375 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %		
61) SURRd8Tolule	9.72	98	1193962	20.184 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.26	95	476847	20.639 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103 %		
Target Compounds					Qvalue
2) Dichlorodi	1.84	85	29696	1.6979 ug/L	98
3) Chloromethan	2.10	50	49167	2.1655 ug/L	98
4) VinylChlorid	2.25	62	38049	1.7942 ug/L	97
5) Bromomethane	2.72	94	25550	2.3894 ug/L	91
6) Chloroethane	2.89	64	27753	2.1187 ug/L	93
7) Dichloroflmethane	3.20	67	63497	2.0994 ug/L	99
8) Trichlorofma	3.28	101	40052	1.8183 ug/L	97
9) Ethylether	3.73	59	31408	1.9878 ug/L	91
10) dichlorotfluoroethan	3.73	67	35007	1.9186 ug/L	93
11) propyleneoxide	3.78	58	77106	21.5829 ug/L	97
12) Acrolein	3.85	56	34222	10.0385 ug/L	89
13) 11dichlorthe	4.00	96	27854	1.9831 ug/L	92
14) Trichlorotfluoroeth	4.04	101	47179	3.4636 ug/L	98
15) Acetone	4.08	43	107851	21.9795 ug/L	97
16) Iodomethane	4.18	142	18579	1.7230 ug/L	96
17) Carbon Dislf	4.27	76	164390	4.0515 ug/L	99
18) allylchloride	4.49	41	133197	4.4367 ug/L	98
19) methylacetate	4.55	74	6550	1.9989 ug/L	98
20) Methylchlorid	4.64	84	39066	2.1503 ug/L	98
21) tbutylalcohol	4.86	59	156241	113.5088 ug/L	98
22) Acrylonitrile	4.95	53	72351	10.7365 ug/L	95
23) t12dichlorte	5.02	96	32930	1.9955 ug/L	95
24) MtBE	5.07	73	100113	2.1824 ug/L	99
25) Hexane	5.42	57	91408	3.3946 ug/L	100
26) 11dichlorota	5.54	63	68357	2.1441 ug/L	98
27) Vinylacetate	5.64	43	876349	27.4860 ug/L	95
28) chloroprene	5.68	53	109291	4.1195 ug/L	97
29) Diisopether	5.70	45	135153	2.2722 ug/L	100
30) ETBE	6.15	59	110505	2.1855 ug/L	98
31) 22dichloropr	6.28	77	50123	2.0119 ug/L	99
32) c12dichlorte	6.27	96	39397	2.1050 ug/L	99
33) 2Butanone	6.31	72	42285	21.0618 ug/L	97
34) propionitrile	6.34	54	53219	20.5796 ug/L	97
35) Ethylacetate	6.41	88	7887	10.1369 ug/L	96
36) methacrylonitrile	6.54	67	35589	4.2100 ug/L	95
37) Bromochlorma	6.56	128	16925	2.1193 ug/L	98
38) Tetrahydofur	6.67	42	127342	21.5486 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL3.D Vial: 6
Acq On : 29 Apr 2020 10:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:59:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 06:59:39 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	62072	2.1489	ug/L		96
40)	111trichlota	6.92	97	48705	1.9556	ug/L		96
42)	Cyclohexane	7.00	56	52227	1.6548	ug/L		95
43)	Carbtetraclo	7.13	119	34211	1.7224	ug/L		99
44)	11dicloprope	7.13	110	11692	1.4950	ug/L	#	61
46)	Benzene	7.37	78	145730	2.1672	ug/L		99
47)	12dichlorota	7.38	62	52913	2.1449	ug/L		94
48)	TAME	7.55	73	99871	2.1811	ug/L		97
49)	trichloroete	8.19	95	34095	1.9302	ug/L		98
50)	methylcyclohexane	8.45	83	55880	1.7117	ug/L		97
51)	12dicloropra	8.44	63	43315	2.0689	ug/L		96
52)	23Dicl1propene	8.50	75	55670	2.0276	ug/L		96
53)	Dibromometha	8.57	93	21650	2.1233	ug/L		96
54)	methylmethacrylate	8.61	69	26471	1.9676	ug/L		98
55)	14dioxane	8.63	88	12164	124.0727	ug/L		84
56)	Bromodiclrma	8.78	83	45830	2.0880	ug/L		99
57)	2Nitropropane	9.05	43	97317	19.6627	ug/L		97
58)	2CLEVE	9.17	63	112592	10.8086	ug/L		98
59)	c13dicloproe	9.36	75	59162	2.0475	ug/L		100
60)	4Meth2Pentan	9.57	43	375655	24.6490	ug/L		95
62)	Toluene	9.81	92	101261	2.2313	ug/L		97
63)	t13Dicloprop	10.06	75	50076	2.0258	ug/L		97
64)	ethylmethacrylate	10.22	69	95634	4.0822	ug/L		97
65)	112Triclotha	10.30	83	26487	2.0205	ug/L		97
66)	Tetrachlorte	10.53	166	34088	1.9543	ug/L		99
67)	13Diclorpropa	10.53	76	59852	2.1449	ug/L		98
69)	2Hexanone	10.66	43	271807	24.0418	ug/L		97
70)	Clorodibrmta	10.83	129	31403	2.0796	ug/L		99
71)	12Dibrometha	10.98	107	31191	2.1374	ug/L		97
72)	Chlorobenzen	11.66	112	95130	2.1239	ug/L		91
73)	1Clhexane	11.65	91	42279	1.7256	ug/L	#	81
74)	1112Tetclota	11.77	131	29954	1.9639	ug/L		96
75)	Ethylbenzene	11.83	91	162679	2.1493	ug/L		97
76)	m p-Xylene	12.00	106	121535	4.1984	ug/L		94
77)	o-Xylene	12.54	106	60655	2.0560	ug/L		99
78)	Styrene	12.55	104	100209	2.1001	ug/L		99
79)	Bromoform	12.78	173	18336	1.8018	ug/L		97
80)	Isopropylben	13.07	105	148717	2.1216	ug/L		96
81)	cyclohexanone	13.17	55	20182	43.2122	ug/L		97
84)	Bromobenzene	13.47	156	38115	2.0590	ug/L		97
85)	1122Tetrclta	13.45	83	45051	2.1619	ug/L		96
86)	123Triclproa	13.51	75	52285	2.0353	ug/L		100
87)	14dichloro2butene	13.53	53	11627	1.8511	ug/L		95
88)	n-Propylbenz	13.65	91	182800	2.2312	ug/L		98
89)	2chlorotolue	13.77	91	116470	2.2608	ug/L		98
90)	4chlorotolue	13.92	91	131164	2.2293	ug/L		97
91)	135Trimebenz	13.91	105	120057	2.1530	ug/L		96
92)	tbutylbenzen	14.38	119	102345	2.0751	ug/L		96
93)	124Trimetben	14.45	105	122110	2.1585	ug/L		99
94)	sbutylbenzen	14.69	105	134387	1.9544	ug/L		97
95)	13Diclorbenz	14.83	146	69726	2.0931	ug/L		98
96)	pIsopropylto	14.91	119	119251	2.0576	ug/L		99
97)	14dichlorobe	14.96	146	74021	2.2024	ug/L		95
98)	12dichlorobe	15.50	146	69706	2.2227	ug/L		95
99)	nButylbenzen	15.51	91	113738	1.9651	ug/L		98
100)	12dibromo3cl	16.59	157	6923	1.9103	ug/L		91
101)	135Trichlorobenzene	16.93	180	44468	2.0390	ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\APR2920\WCAL3.D Vial: 6
Acq On : 29 Apr 2020 10:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:59:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 06:59:39 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	36477	1.9905	ug/L	92
103) Hexachlorobu	17.98	225	16327	1.7445	ug/L	94
104) Naphthalene	18.04	128	79134	1.9917	ug/L	99
105) 123Trichlben	18.35	180	31923	1.9676	ug/L	96

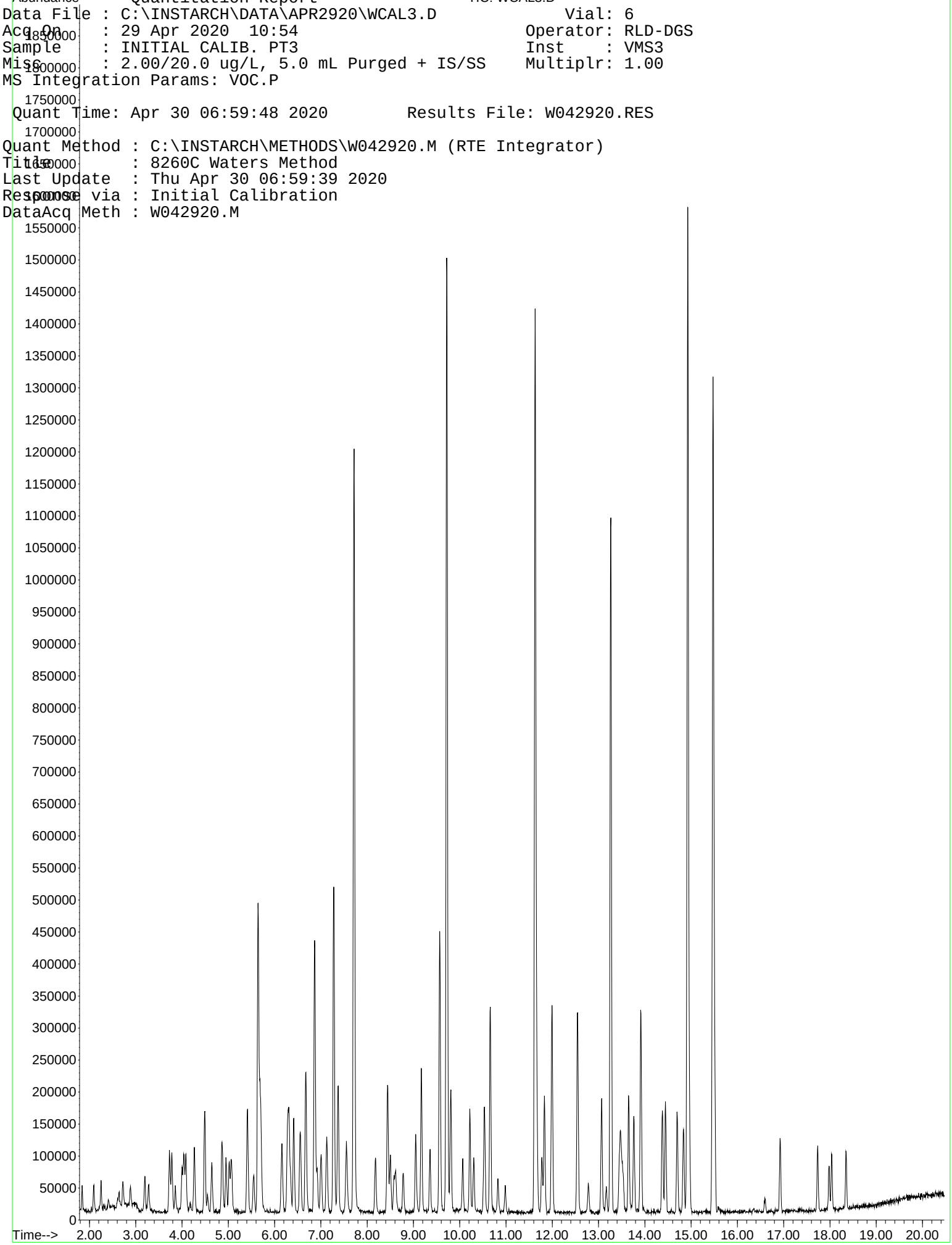
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL3.D

Data File : C:\INSTARCH\DATA\APR2920\WCAL3.D Vial: 6
Acq On : 29 Apr 2020 10:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 06:59:48 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 06:59:39 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL4.D Vial: 7
Acq On : 29 Apr 2020 11:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Purge/Prep Error!

Quant Time: Apr 29 19:43:46 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:38 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

NOT USED

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	959088	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	716415	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	379509	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	231214	20.242	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	64592	19.601	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.72	98	940132	19.948	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	370298	19.837	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	84899	6.0090	ug/L	97
3) Chloromethan	2.09	50	118768	5.9733	ug/L	98
4) VinylChlorid	2.25	62	107518	5.9719	ug/L	95
5) Bromomethane	2.72	94	66883	6.8672	ug/L	95
6) Chloroethane	2.89	64	65665	5.7783	ug/L	98
7) Dichloroflmethane	3.20	67	156925	5.9217	ug/L	97
8) Trichlorofma	3.28	101	112371	6.3909	ug/L	99
9) Ethylether	3.73	59	82063	6.2260	ug/L	96
10) dichlorotfluoroethan	3.73	67	92891	6.1907	ug/L	96
11) propyleneoxide	3.78	58	193013	61.3487	ug/L	97
12) Acrolein	3.86	56	90919	30.7282	ug/L	99
13) 11dichlorthe	4.00	96	71826	6.3610	ug/L	96
14) Trichlorotfluoroeth	4.04	101	138063	12.9413	ug/L	97
15) Acetone	4.08	43	265121	59.2826	ug/L	100
16) Iodomethane	4.18	142	69409	13.9446	ug/L	99
17) Carbon Dislf	4.27	76	442210	12.4754	ug/L	98
18) allylchloride	4.49	41	318930	12.0916	ug/L	98
19) methylacetate	4.55	74	14929	5.4295	ug/L	85
20) Methylchlorid	4.64	84	92948	5.7901	ug/L	98
21) tbutylalcohol	4.86	59	383527	300.8997	ug/L	99
22) Acrylonitrile	4.95	53	174101	29.5255	ug/L	97
23) t12dichlorte	5.02	96	85258	6.2633	ug/L	96
24) MtBE	5.06	73	237372	5.9665	ug/L	100
25) Hexane	5.42	57	277419	12.6409	ug/L	99
26) 11dichlorota	5.55	63	167372	6.2268	ug/L	99
27) Vinylacetate	5.64	43	1983633	59.0782	ug/L	97
28) chloroprene	5.68	53	286892	12.9100	ug/L	98
29) Diisopether	5.70	45	317020	6.1063	ug/L	99
30) ETBE	6.16	59	268893	6.2505	ug/L	99
31) 22dichloropr	6.29	77	129731	6.3161	ug/L	100
32) c12dichlorte	6.28	96	99086	6.2663	ug/L	97
33) 2Butanone	6.31	72	102685	59.8639	ug/L	97
34) propionitrile	6.34	54	136047	60.4720	ug/L	98
35) Ethylacetate	6.41	88	20459	31.2080	ug/L #	90
36) methacrylonitrile	6.55	67	89571	12.6087	ug/L	91
37) Bromochlorma	6.57	128	40613	6.1233	ug/L	96
38) Tetrahydofur	6.67	42	325716	60.8226	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL4.D Vial: 7
Acq On : 29 Apr 2020 11:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:43:46 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:38 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	154603	6.3669	ug/L	99
40)	111trichlota	6.92	97	128129	6.3242	ug/L	97
42)	Cyclohexane	7.01	56	161502	6.5171	ug/L	99
43)	Carbtetraclo	7.13	119	98083	6.2753	ug/L	98
44)	11dicloprope	7.13	110	37761	6.2692	ug/L	98
46)	Benzene	7.38	78	369541	6.2781	ug/L	99
47)	12dichlorota	7.37	62	128170	6.1535	ug/L	99
48)	TAME	7.55	73	243717	6.3186	ug/L	99
49)	trichloroete	8.17	95	89927	6.1231	ug/L	99
50)	methylcyclohexane	8.45	83	157920	6.2631	ug/L	94
51)	12dicloropra	8.44	63	109389	6.3077	ug/L	100
52)	23Dicl1propene	8.50	75	141028	6.1290	ug/L	98
53)	Dibromometha	8.57	93	53337	6.4468	ug/L	98
54)	methylmethacrylate	8.60	69	66431	6.0438	ug/L	98
55)	14dioxane	8.64	88	28491	292.1430	ug/L	96
56)	Bromodiclrma	8.78	83	116849	6.5768	ug/L	97
57)	2Nitropropane	9.05	43	254942	63.6943	ug/L	98
58)	2CLEVE	9.18	63	279115	31.3731	ug/L	98
59)	c13dicloproe	9.36	75	155011	6.5280	ug/L	98
60)	4Meth2Pentan	9.57	43	902870	61.7264	ug/L	97
62)	Toluene	9.81	92	244613	6.2449	ug/L	97
63)	t13Dicloprop	10.06	75	127401	6.4335	ug/L	98
64)	ethylmethacrylate	10.22	69	251667	12.7391	ug/L	99
65)	112Triclotha	10.30	83	66503	6.1283	ug/L	99
66)	Tetrachlorte	10.54	166	85256	6.1760	ug/L	95
67)	13Diclorpropa	10.53	76	152873	6.6045	ug/L	97
69)	2Hexanone	10.65	43	665910	61.4674	ug/L	98
70)	Clorodibrmta	10.83	129	73831	6.1724	ug/L	99
71)	12Dibrometha	10.98	107	71873	6.0856	ug/L	97
72)	Chlorobenzen	11.67	112	236079	6.0992	ug/L	98
73)	1Clhexane	11.65	91	123031	6.1712	ug/L	98
74)	1112Tetclota	11.78	131	75818	6.2923	ug/L	96
75)	Ethylbenzene	11.83	91	415900	6.2896	ug/L	100
76)	m p-Xylene	11.99	106	313611	12.5455	ug/L	98
77)	o-Xylene	12.54	106	152023	6.2492	ug/L	98
78)	Styrene	12.55	104	258355	6.5057	ug/L	99
79)	Bromoform	12.78	173	46711	6.2329	ug/L	97
80)	Isopropylben	13.07	105	378611	6.3169	ug/L	96
81)	cyclohexanone	13.17	55	52615	126.6097	ug/L	98
84)	Bromobenzene	13.48	156	96255	6.1951	ug/L	97
85)	1122Tetrclta	13.44	83	106335	5.9114	ug/L	99
86)	123Triclproa	13.51	75	137321	6.3973	ug/L	98
87)	14dichloro2butene	13.53	53	29943	5.6745	ug/L	95
88)	n-Propylbenz	13.65	91	480523	6.6186	ug/L	98
89)	2chlorotolue	13.76	91	280135	6.2220	ug/L	97
90)	4chlorotolue	13.92	91	329156	6.4195	ug/L	99
91)	135Trimebenz	13.90	105	313171	6.5817	ug/L	99
92)	tbutylbenzen	14.38	119	268627	6.3775	ug/L	97
93)	124Trimetben	14.44	105	318836	6.5370	ug/L	96
94)	sbutylbenzen	14.70	105	389444	6.6040	ug/L	94
95)	13Diclorbenz	14.83	146	182598	6.3460	ug/L	95
96)	pIsopropylto	14.91	119	319038	6.5842	ug/L	97
97)	14dichlorobe	14.96	146	180098	6.2949	ug/L	99
98)	12dichlorobe	15.50	146	159208	5.8595	ug/L	97
99)	nButylbenzen	15.51	91	311476	6.2446	ug/L	99
100)	12dibromo3cl	16.60	157	16955	5.9400	ug/L	96
101)	135Trichlorobenzene	16.93	180	113518	6.3661	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL4.D Vial: 7
Acq On : 29 Apr 2020 11:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:43:46 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:38 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	95508	6.4852	ug/L	94
103) Hexachlorobu	17.99	225	47148	6.4956	ug/L	99
104) Naphthalene	18.04	128	211722	6.4720	ug/L	99
105) 123Trichlben	18.34	180	81695	6.2631	ug/L	98

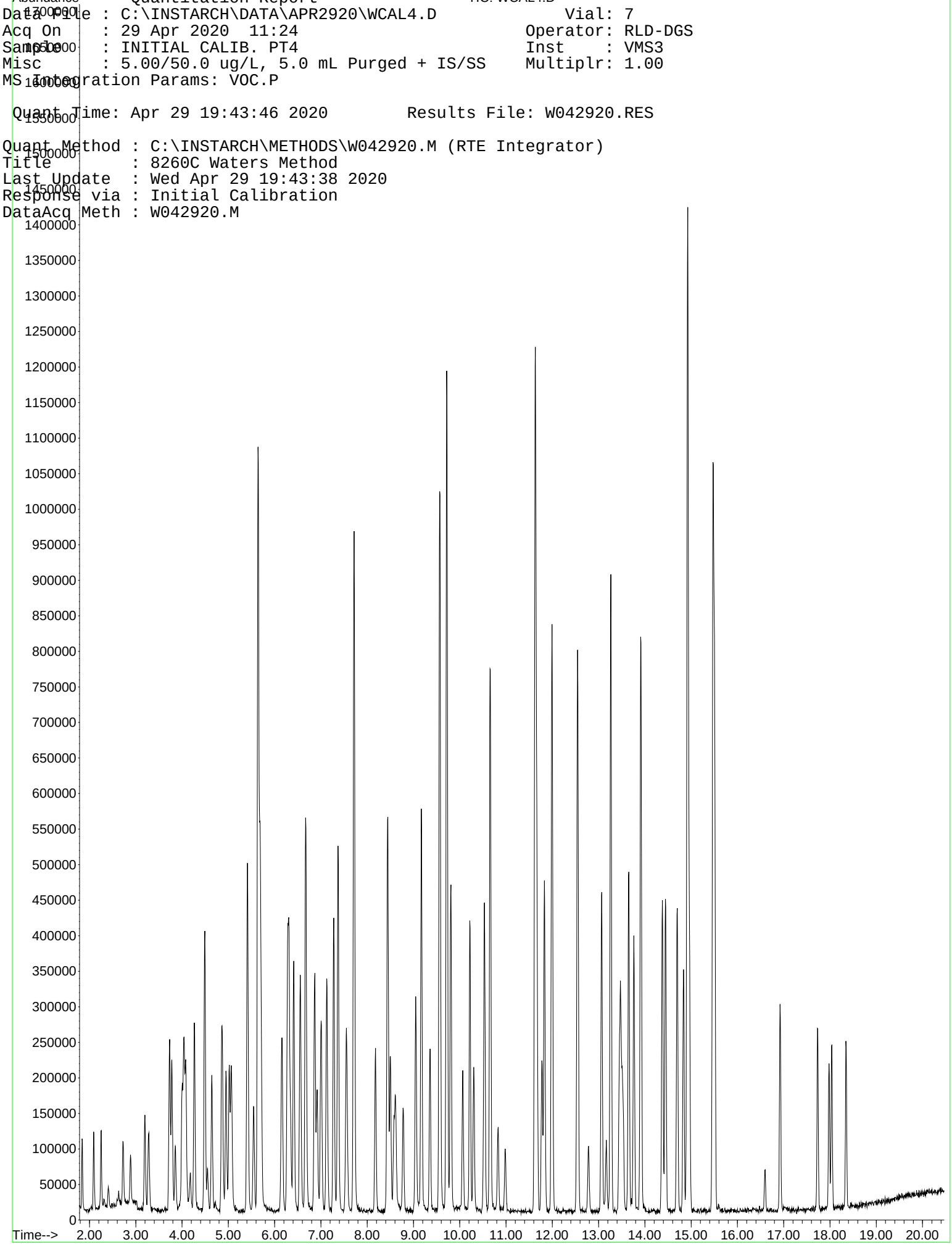
(#) = qualifier out of range (m) = manual integration

Quantitation Report (TIC: WCAL4.D)

Data File : C:\INSTARCH\DATA\APR2920\WCAL4.D Vial: 7
Acq On : 29 Apr 2020 11:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:43:46 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:38 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL5.D Vial: 8
Acq On : 29 Apr 2020 11:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:43:59 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:52 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1216693	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	914475	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	506497	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	288808	19.883	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99	%		
45) SURR12DCAd4	7.28	102	84994	20.413	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1196899	20.029	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	485571	19.522	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	188978	10.1346	ug/L	100
3) Chloromethan	2.09	50	231276	8.8254	ug/L	100
4) VinylChlorid	2.25	62	218632	9.2142	ug/L	100
5) Bromomethane	2.72	94	109722	8.1222	ug/L	100
6) Chloroethane	2.89	64	135747	9.0635	ug/L	100
7) Dichloroflmethane	3.20	67	311494	8.9363	ug/L	100
8) Trichlorofma	3.28	101	236368	10.0383	ug/L	100
9) Ethylether	3.73	59	160898	9.1727	ug/L	100
10) dichlorotfluoroethan	3.73	67	193080	9.6822	ug/L	100
11) propyleneoxide	3.78	58	362140	85.8624	ug/L	100
12) Acrolein	3.86	56	173986	43.8413	ug/L	100
13) 11dichlorthe	4.00	96	146757	9.7162	ug/L	100
14) Trichlorotfluoroeth	4.04	101	293968	20.5142	ug/L	100
15) Acetone	4.08	43	495559	84.2214	ug/L	100
16) Iodomethane	4.18	142	217048	31.2881	ug/L	100
17) Carbon Dislf	4.27	76	894600	18.9560	ug/L	100
18) allylchloride	4.49	41	637804	18.2960	ug/L	100
19) methylacetate	4.55	74	33304	9.3471	ug/L	100
20) Methylchlorid	4.64	84	174689	8.3152	ug/L	100
21) tbutylalcohol	4.86	59	703194	417.8732	ug/L	100
22) Acrylonitrile	4.95	53	348227	44.5362	ug/L	100
23) t12dichlorte	5.02	96	167761	9.2476	ug/L	100
24) MtBE	5.06	73	462546	8.8237	ug/L	100
25) Hexane	5.42	57	603797	20.5996	ug/L	100
26) 11dichlorota	5.55	63	329538	9.2121	ug/L	100
27) Vinylacetate	5.64	43	3438261	77.8917	ug/L	100
28) chloroprene	5.68	53	581671	19.4982	ug/L	100
29) Diisopether	5.70	45	640792	9.3171	ug/L	100
30) ETBE	6.16	59	528447	9.2218	ug/L	100
31) 22dichloropr	6.28	77	259418	9.4580	ug/L	100
32) c12dichlorte	6.28	96	187298	8.8869	ug/L	100
33) 2Butanone	6.31	72	197243	86.3832	ug/L	100
34) propionitrile	6.34	54	269163	89.6177	ug/L	100
35) Ethylacetate	6.41	88	38002	43.0238	ug/L	99
36) methacrylonitrile	6.55	67	161870	16.8620	ug/L	100
37) Bromochlorma	6.57	128	77271	8.7888	ug/L	100
38) Tetrahydofur	6.67	42	594613	83.8943	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL5.D Vial: 8
Acq On : 29 Apr 2020 11:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:43:59 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:52 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.67	83	296569	9.1284	ug/L	100
40)	111trichlota	6.92	97	257330	9.5085	ug/L	100
42)	Cyclohexane	7.00	56	344696	10.3373	ug/L	100
43)	Carbtetraclo	7.14	119	209645	10.0599	ug/L	100
44)	11dicloprope	7.13	110	81152	9.9868	ug/L	100
46)	Benzene	7.37	78	719790	9.1705	ug/L	100
47)	12dichlorota	7.38	62	242440	8.7706	ug/L	100
48)	TAME	7.55	73	472467	9.1719	ug/L	100
49)	trichloroete	8.18	95	177947	9.1404	ug/L	100
50)	methylcyclohexane	8.45	83	357522	10.6396	ug/L	100
51)	12dicloropra	8.44	63	208146	8.9908	ug/L	100
52)	23Dicl1propene	8.50	75	279503	9.0636	ug/L	99
53)	Dibromometha	8.57	93	102261	9.0860	ug/L	100
54)	methylmethacrylate	8.61	69	132211	9.0114	ug/L	100
55)	14dioxane	8.63	88	49204	381.6263	ug/L	100
56)	Bromodiclrma	8.78	83	227207	9.4826	ug/L	100
57)	2Nitropropane	9.05	43	514265	96.0203	ug/L	100
58)	2CLEVE	9.17	63	541911	45.1386	ug/L	100
59)	c13dicloproe	9.36	75	296532	9.2769	ug/L	100
60)	4Meth2Pentan	9.57	43	1628840	83.8482	ug/L	100
62)	Toluene	9.80	92	475513	9.1156	ug/L	100
63)	t13Dicloprop	10.07	75	255784	9.6296	ug/L	100
64)	ethylmethacrylate	10.22	69	488728	18.2512	ug/L	100
65)	112Triclotha	10.30	83	131481	9.0407	ug/L	100
66)	Tetrachlorte	10.54	166	178607	9.7408	ug/L	100
67)	13Diclorpropa	10.53	76	282174	9.0300	ug/L	100
69)	2Hexanone	10.65	43	1225753	83.8324	ug/L	100
70)	Clorodibrmta	10.83	129	150377	9.4078	ug/L	100
71)	12Dibrometha	10.98	107	143288	9.1092	ug/L	100
72)	Chlorobenzen	11.67	112	460862	8.9349	ug/L	100
73)	1Clhexane	11.65	91	257082	9.6501	ug/L	100
74)	1112Tetclota	11.77	131	157900	9.6432	ug/L	100
75)	Ethylbenzene	11.83	91	815304	9.1855	ug/L	100
76)	m p-Xylene	11.99	106	616641	18.3889	ug/L	100
77)	o-Xylene	12.54	106	301608	9.2507	ug/L	100
78)	Styrene	12.55	104	505575	9.4071	ug/L	100
79)	Bromoform	12.78	173	98837	9.7321	ug/L	100
80)	Isopropylben	13.06	105	758066	9.4128	ug/L	100
81)	cyclohexanone	13.17	55	96385	170.3684	ug/L	99
84)	Bromobenzene	13.48	156	189315	8.7132	ug/L	100
85)	1122Tetrclta	13.45	83	211714	8.5086	ug/L	100
86)	123Triclproa	13.51	75	261238	8.5234	ug/L	100
87)	14dichloro2butene	13.54	53	61179	8.4038	ug/L	100
88)	n-Propylbenz	13.65	91	944201	9.1521	ug/L	100
89)	2chlorotolue	13.76	91	555251	8.8099	ug/L	100
90)	4chlorotolue	13.92	91	651732	9.0121	ug/L	100
91)	135Trimebenz	13.91	105	631717	9.3558	ug/L	100
92)	tbutylbenzen	14.38	119	544493	9.1800	ug/L	100
93)	124Trimetben	14.44	105	634696	9.1856	ug/L	100
94)	sbutylbenzen	14.70	105	786685	9.3930	ug/L	100
95)	13Diclorbenz	14.83	146	352555	8.7117	ug/L	100
96)	pIsopropylto	14.91	119	651208	9.4698	ug/L	100
97)	14dichlorobe	14.96	146	354685	8.8315	ug/L	100
98)	12dichlorobe	15.50	146	321780	8.5787	ug/L	100
99)	nButylbenzen	15.51	91	638142	9.1315	ug/L	100
100)	12dibromo3cl	16.60	157	35019	8.7800	ug/L	100
101)	135Trichlorobenzene	16.92	180	225273	8.9754	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL5.D Vial: 8
Acq On : 29 Apr 2020 11:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:43:59 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:52 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.73	180	187894	9.0236	ug/L	100
103) Hexachlorobu	17.98	225	100840	9.8220	ug/L	100
104) Naphthalene	18.04	128	423508	9.1608	ug/L	100
105) 123Trichlben	18.34	180	162499	8.8856	ug/L	100

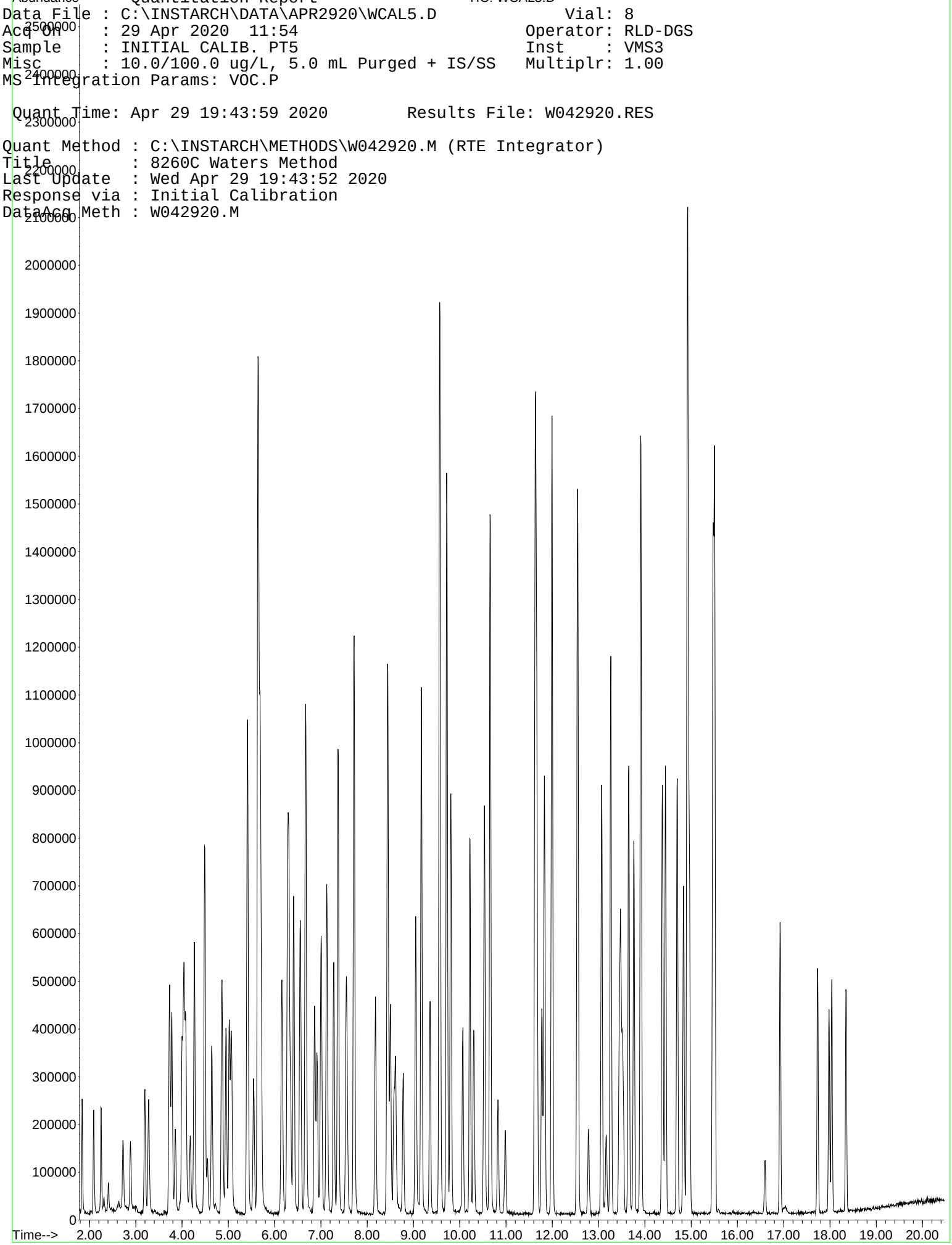
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : C:\INSTARCH\DATA\APR2920\WCAL5.D Vial: 8
Acq On : 29 Apr 2020 11:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:43:59 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:43:52 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL6.D Vial: 9
Acq On : 29 Apr 2020 12:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:13 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:06 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1213791	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	909681	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	508069	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	285103	19.674	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 98	%		
45) SURR12DCAd4	7.28	102	79725	19.193	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 96	%		
61) SURRd8Tolule	9.72	98	1197834	20.093	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	486095	19.483	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	352751	18.9627	ug/L	99
3) Chloromethan	2.09	50	432423	16.5405	ug/L	96
4) VinylChlorid	2.25	62	417388	17.6328	ug/L	100
5) Bromomethane	2.73	94	189086	13.9932	ug/L	99
6) Chloroethane	2.89	64	253936	16.9953	ug/L	99
7) Dichloroflmethane	3.20	67	589987	16.9664	ug/L	97
8) Trichlorofma	3.28	101	450682	19.1858	ug/L	99
9) Ethylether	3.73	59	320325	18.3052	ug/L	99
10) dichlorotfluoroethan	3.73	67	366599	18.4275	ug/L	98
11) propyleneoxide	3.78	58	707812	168.2215	ug/L	99
12) Acrolein	3.85	56	337940	85.2134	ug/L	97
13) 11dichlorthe	4.00	96	290504	19.2810	ug/L	98
14) Trichlorotfluoroeth	4.04	101	568793	39.7906	ug/L	98
15) Acetone	4.08	43	958404	163.2725	ug/L	99
16) Iodomethane	4.18	142	578748	83.6276	ug/L	99
17) Carbon Dislf	4.27	76	1656539	35.1850	ug/L	99
18) allylchloride	4.49	41	1206166	34.6826	ug/L	99
19) methylacetate	4.55	74	65657	18.4714	ug/L	98
20) Methylchlorid	4.64	84	340239	16.2341	ug/L	97
21) tbutylalcohol	4.86	59	1326127	789.9355	ug/L	99
22) Acrylonitrile	4.95	53	661492	84.8032	ug/L	96
23) t12dichlorte	5.02	96	330118	18.2408	ug/L	96
24) MtBE	5.06	73	895611	17.1258	ug/L	98
25) Hexane	5.41	57	1112177	38.0345	ug/L	97
26) 11dichlorota	5.54	63	647851	18.1537	ug/L	99
27) Vinylacetate	5.64	43	5381429	122.2045	ug/L	94
28) chloroprene	5.68	53	1091957	36.6911	ug/L	99
29) Diisopether	5.70	45	1163236	16.9538	ug/L	95
30) ETBE	6.16	59	1040509	18.2011	ug/L	99
31) 22dichloropr	6.29	77	497238	18.1719	ug/L	99
32) c12dichlorte	6.28	96	373152	17.7476	ug/L	97
33) 2Butanone	6.31	72	386013	169.4599	ug/L	97
34) propionitrile	6.34	54	509497	170.0424	ug/L	98
35) Ethylacetate	6.41	88	74679	84.7496	ug/L #	93
36) methacrylonitrile	6.55	67	327095	34.1549	ug/L	96
37) Bromochlorma	6.56	128	153750	17.5293	ug/L	99
38) Tetrahydofur	6.67	42	1135919	160.6507	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL6.D Vial: 9
Acq On : 29 Apr 2020 12:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:13 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:06 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.68	83	584891	18.0461 ug/L	99
40) 111trichlota	6.91	97	512849	18.9954 ug/L	99
42) Cyclohexane	7.00	56	665579	20.0081 ug/L	99
43) Carbtetraclo	7.13	119	406386	19.5472 ug/L	98
44) 11dicloprope	7.12	110	160259	19.7690 ug/L	98
46) Benzene	7.37	78	1337536	17.0817 ug/L	97
47) 12dichlorota	7.37	62	487147	17.6653 ug/L	99
48) TAME	7.55	73	926761	18.0340 ug/L	98
49) trichloroete	8.18	95	351470	18.0967 ug/L	98
50) methylcyclohexane	8.45	83	683923	20.4017 ug/L	99
51) 12dicloropra	8.44	63	429685	18.6045 ug/L	98
52) 23Dicl1propene	8.50	75	548488	17.8286 ug/L	97
53) Dibromometha	8.58	93	203272	18.1041 ug/L	98
54) methylmethacrylate	8.61	69	275260	18.8063 ug/L	98
55) 14dioxane	8.64	88	90981	707.3359 ug/L	96
56) Bromodiclrma	8.78	83	446904	18.6964 ug/L	100
57) 2Nitropropane	9.05	43	1045789	195.7299 ug/L	98
58) 2CLEVE	9.17	63	1058413	88.3715 ug/L	99
59) c13dicloproe	9.36	75	587696	18.4299 ug/L	96
60) 4Meth2Pentan	9.57	43	2892211	149.2320 ug/L	94
62) Toluene	9.81	92	901208	17.3174 ug/L	99
63) t13Dicloprop	10.06	75	510140	19.2514 ug/L	98
64) ethylmethacrylate	10.22	69	963590	36.0706 ug/L	98
65) 112Triclotha	10.30	83	265615	18.3075 ug/L	98
66) Tetrachlorte	10.54	166	354969	19.4054 ug/L	98
67) 13Diclorpropa	10.53	76	559751	17.9557 ug/L	100
69) 2Hexanone	10.66	43	2250934	154.7584 ug/L	96
70) Clorodibrmta	10.83	129	305099	19.1880 ug/L	96
71) 12Dibrometha	10.98	107	290832	18.5864 ug/L	97
72) Chlorobenzen	11.67	112	887591	17.2988 ug/L	99
73) 1Clhexane	11.65	91	492055	18.5677 ug/L	98
74) 1112Tetclota	11.78	131	311588	19.1294 ug/L	97
75) Ethylbenzene	11.83	91	1541994	17.4643 ug/L	98
76) m p-Xylene	11.99	106	1162921	34.8623 ug/L	96
77) o-Xylene	12.55	106	605366	18.6653 ug/L	93
78) Styrene	12.55	104	996239	18.6344 ug/L	99
79) Bromoform	12.78	173	202582	20.0526 ug/L	96
80) Isopropylben	13.07	105	1437181	17.9393 ug/L	98
81) cyclohexanone	13.17	55	185069	329.7513 ug/L	96
84) Bromobenzene	13.47	156	381917	17.5233 ug/L	99
85) 1122Tetrclta	13.45	83	432819	17.3408 ug/L	97
86) 123Triclproa	13.51	75	534436	17.3830 ug/L	98
87) 14dichloro2butene	13.53	53	127272	17.4284 ug/L	96
88) n-Propylbenz	13.65	91	1752001	16.9294 ug/L	97
89) 2chlorotolue	13.76	91	1088872	17.2232 ug/L	99
90) 4chlorotolue	13.92	91	1259804	17.3666 ug/L	98
91) 135Trimebenz	13.91	105	1205582	17.7996 ug/L	98
92) tbutylbenzen	14.38	119	1058480	17.7905 ug/L	98
93) 124Trimetben	14.45	105	1217395	17.5642 ug/L	95
94) sbutylbenzen	14.70	105	1489532	17.7299 ug/L	100
95) 13Diclorbenz	14.83	146	698398	17.2041 ug/L	99
96) pIsopropylto	14.91	119	1276417	18.5041 ug/L	99
97) 14dichlorobe	14.96	146	714249	17.7295 ug/L	98
98) 12dichlorobe	15.50	146	656629	17.4516 ug/L	98
99) nButylbenzen	15.51	91	1241255	17.7068 ug/L	97
100) 12dibromo3cl	16.60	157	75728	18.9278 ug/L	98
101) 135Trichlorobenzene	16.93	180	469249	18.6382 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL6.D Vial: 9
Acq On : 29 Apr 2020 12:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:13 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:06 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

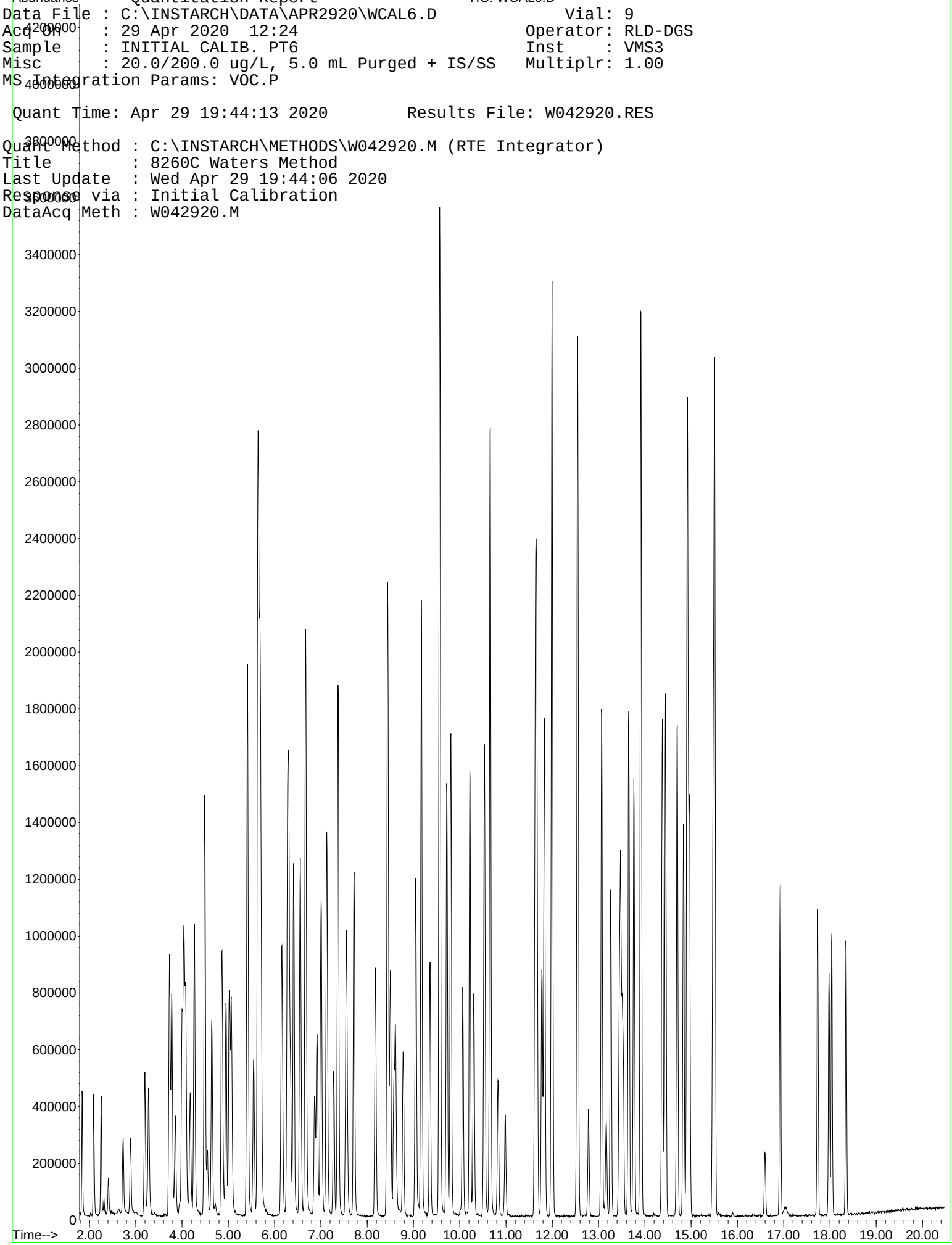
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	393666	18.8473	ug/L	98
103) Hexachlorobu	17.99	225	197673	19.1942	ug/L	97
104) Naphthalene	18.04	128	856410	18.4675	ug/L	99
105) 123Trichlben	18.34	180	344879	18.7999	ug/L	98

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\APR2920\WCAL6.D Vial: 9
Acq On : 29 Apr 2020 12:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:13 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:06 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL7.D Vial: 10
Acq On : 29 Apr 2020 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:29 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:21 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1277567	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	962888	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	558253	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	310187	20.392	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.28	102	85583	19.708	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1248500	19.882	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.26	95	523785	19.189	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	561537	28.9295	ug/L	100
3) Chloromethan	2.09	50	680223	25.4540	ug/L	97
4) VinylChlorid	2.25	62	658385	26.9571	ug/L	99
5) Bromomethane	2.72	94	295169	22.0797	ug/L	97
6) Chloroethane	2.89	64	395960	25.9576	ug/L	99
7) Dichloroflmethane	3.20	67	916046	25.6770	ug/L	98
8) Trichlorofma	3.28	101	709407	28.8882	ug/L	100
9) Ethylether	3.73	59	491152	27.0481	ug/L	99
10) dichlorotfluoroethan	3.73	67	572738	27.7154	ug/L	100
11) propyleneoxide	3.78	58	1110369	258.9503	ug/L	98
12) Acrolein	3.85	56	530868	131.0546	ug/L	95
13) 11dichlorthe	4.00	96	452503	28.7057	ug/L	98
14) Trichlorotfluoroeth	4.04	101	903268	60.0872	ug/L	99
15) Acetone	4.08	43	1488819	248.5801	ug/L	96
16) Iodomethane	4.18	142	988349	111.3869	ug/L	98
17) Carbon Dislf	4.27	76	2514101	51.7726	ug/L	97
18) allylchloride	4.49	41	1818834	50.8146	ug/L	96
19) methylacetate	4.55	74	104022	28.2354	ug/L	94
20) Methylchlorid	4.64	84	539270	25.2382	ug/L	98
21) tbutylalcohol	4.86	59	2050288	1202.4281	ug/L	98
22) Acrylonitrile	4.95	53	1058817	133.0067	ug/L	97
23) t12dichlorte	5.02	96	522883	27.8582	ug/L	97
24) MtBE	5.06	73	1402427	26.1037	ug/L	98
25) Hexane	5.42	57	1724449	56.4919	ug/L	97
26) 11dichlorota	5.54	63	996333	26.9394	ug/L	97
27) Vinylacetate	5.64	43	7012027	161.7717	ug/L	87
28) chloroprene	5.68	53	1677264	54.2933	ug/L	96
29) Diisopether	5.70	45	1760947	25.0192	ug/L	93
30) ETBE	6.16	59	1554447	26.2269	ug/L	96
31) 22dichloropr	6.29	77	780784	27.5293	ug/L	98
32) c12dichlorte	6.28	96	583063	26.8509	ug/L	95
33) 2Butanone	6.31	72	645767	277.8249	ug/L	97
34) propionitrile	6.34	54	819732	267.9520	ug/L	99
35) Ethylacetate	6.41	88	123367	137.1990	ug/L	93
36) methacrylonitrile	6.55	67	540017	55.1859	ug/L	94
37) Bromochlorma	6.57	128	249545	27.5990	ug/L	94
38) Tetrahydofur	6.66	42	1747517	242.7709	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL7.D Vial: 10
Acq On : 29 Apr 2020 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:29 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:21 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.68	83	892394	26.5922 ug/L	97
40)	111trichlota	6.91	97	789643	28.0221 ug/L	99
42)	Cyclohexane	7.00	56	1034845	29.5537 ug/L	96
43)	Carbtetraclo	7.13	119	657516	30.1615 ug/L	98
44)	11dicloprope	7.13	110	260642	30.6176 ug/L	96
46)	Benzene	7.37	78	2019583	25.1153 ug/L	94
47)	12dichlorota	7.37	62	769104	27.0233 ug/L	98
48)	TAME	7.55	73	1424498	26.7745 ug/L	98
49)	trichloroete	8.18	95	552138	27.4449 ug/L	98
50)	methylcyclohexane	8.44	83	1091488	30.8310 ug/L	98
51)	12dicloropra	8.44	63	658413	27.4035 ug/L	99
52)	23Dicl1propene	8.50	75	858130	27.0893 ug/L	96
53)	Dibromometha	8.58	93	333114	28.7319 ug/L	98
54)	methylmethacrylate	8.61	69	432310	28.4008 ug/L	100
55)	14dioxane	8.63	88	151597	1189.3801 ug/L	96
56)	Bromodiclrma	8.78	83	698634	28.0735 ug/L	99
57)	2Nitropropane	9.05	43	1656348	295.5787 ug/L	99
58)	2CLEVE	9.17	63	1657411	134.6069 ug/L	96
59)	c13dicloproe	9.36	75	921242	27.8114 ug/L	95
60)	4Meth2Pentan	9.57	43	4095414	209.6349 ug/L	88
62)	Toluene	9.81	92	1386402	25.8896 ug/L	97
63)	t13Dicloprop	10.07	75	804447	29.0235 ug/L	96
64)	ethylmethacrylate	10.22	69	1481994	53.7632 ug/L	99
65)	112Triclotha	10.30	83	401627	26.7531 ug/L	97
66)	Tetrachlorte	10.54	166	562562	29.3644 ug/L	97
67)	13Diclorpropa	10.53	76	872202	27.0425 ug/L	99
69)	2Hexanone	10.65	43	3266908	222.2533 ug/L	91
70)	Clorodibrmta	10.83	129	499349	29.8714 ug/L	98
71)	12Dibrometha	10.98	107	476153	29.0910 ug/L	99
72)	Chlorobenzen	11.67	112	1376852	25.9353 ug/L	99
73)	1Clhexane	11.65	91	787572	28.4160 ug/L	97
74)	1112Tetclota	11.78	131	502458	29.3990 ug/L	96
75)	Ethylbenzene	11.83	91	2321502	25.3761 ug/L	94
76)	m p-Xylene	11.99	106	1792838	51.8870 ug/L	89
77)	o-Xylene	12.54	106	935573	27.5591 ug/L	91
78)	Styrene	12.55	104	1518796	27.1479 ug/L	97
79)	Bromoform	12.78	173	355679	33.2439 ug/L	99
80)	Isopropylben	13.07	105	2193459	26.3184 ug/L	95
81)	cyclohexanone	13.17	55	304164	530.6432 ug/L	96
84)	Bromobenzene	13.48	156	625097	26.6528 ug/L	97
85)	1122Tetrclta	13.45	83	677590	25.2671 ug/L	98
86)	123Triclproa	13.51	75	897849	27.2923 ug/L	99
87)	14dichloro2butene	13.53	53	222996	28.5252 ug/L	91
88)	n-Propylbenz	13.65	91	2644299	23.8653 ug/L	93
89)	2chlorotolue	13.76	91	1697250	25.0116 ug/L	96
90)	4chlorotolue	13.92	91	1942384	24.9159 ug/L	95
91)	135Trimebenz	13.91	105	1876588	25.6868 ug/L	94
92)	tbutylbenzen	14.38	119	1664796	25.9435 ug/L	96
93)	124Trimetben	14.45	105	1887411	25.2966 ug/L	92
94)	sbutylbenzen	14.70	105	2313073	25.5406 ug/L	97
95)	13Diclorbenz	14.83	146	1116793	25.6348 ug/L	98
96)	pIsopropylto	14.91	119	1992779	26.6240 ug/L	96
97)	14dichlorobe	14.96	146	1130958	26.0424 ug/L	98
98)	12dichlorobe	15.50	146	1038101	25.6548 ug/L	99
99)	nButylbenzen	15.51	91	1943886	25.7289 ug/L	94
100)	12dibromo3cl	16.60	157	133269	30.6440 ug/L	98
101)	135Trichlorobenzene	16.93	180	761251	27.8340 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

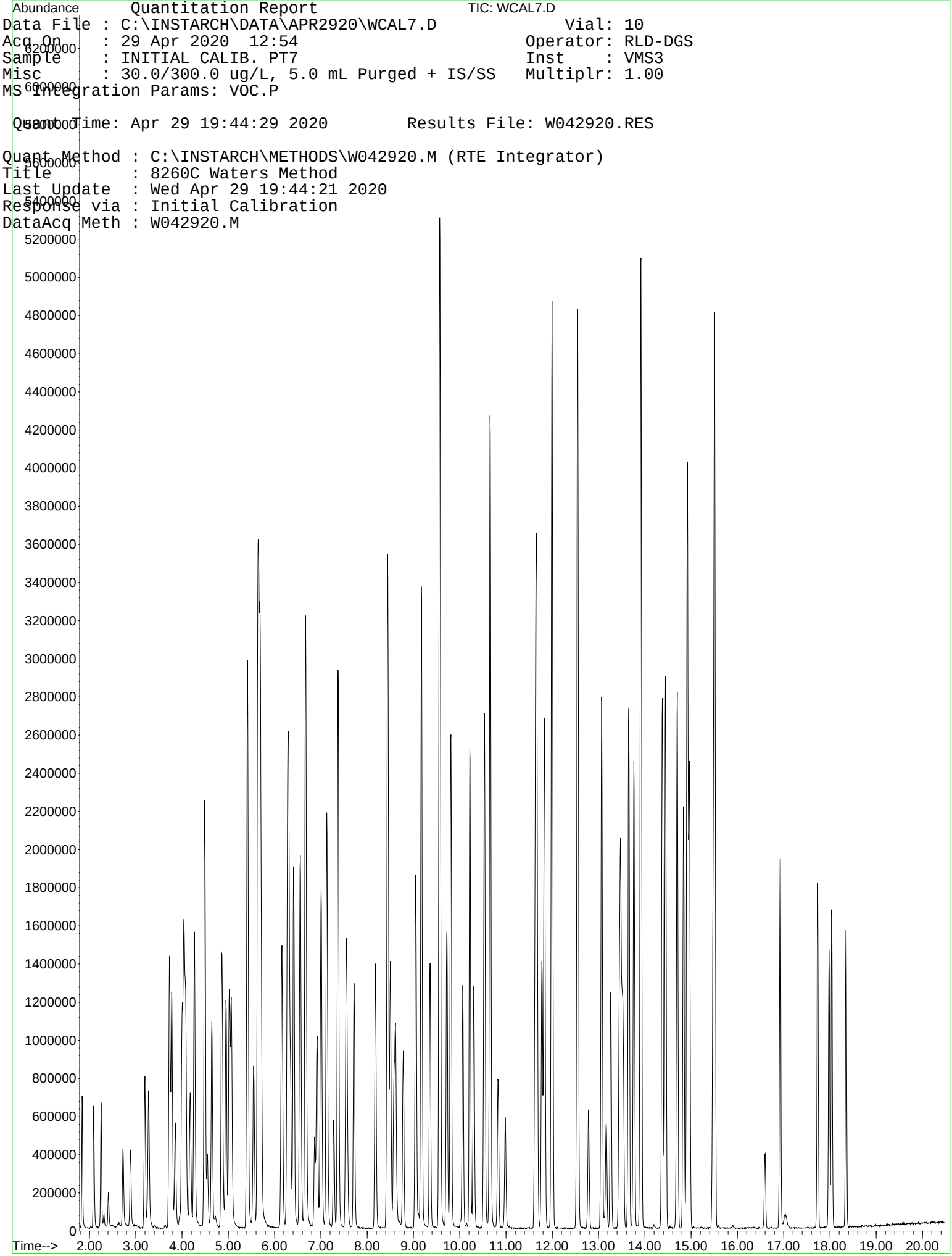
Data File : C:\INSTARCH\DATA\APR2920\WCAL7.D Vial: 10
Acq On : 29 Apr 2020 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:29 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:21 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	651272	28.6528	ug/L	98
103) Hexachlorobu	17.99	225	337075	29.9893	ug/L	98
104) Naphthalene	18.03	128	1422446	28.2772	ug/L	98
105) 123Trichlben	18.35	180	570413	28.5848	ug/L	99

(#) = qualifier out of range (m) = manual integration



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL7.D Vial: 10
Acq On : 29 Apr 2020 12:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:29 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:21 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL8.D Vial: 11
Acq On : 29 Apr 2020 13:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:35 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1327514	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1011807	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	594520	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	329034	20.759	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.27	102	88082	19.561	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.72	98	1315000	20.170	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	554690	19.193	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 96	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	742809	37.0172	ug/L	97
3) Chloromethan	2.09	50	902443	33.2180	ug/L	95
4) VinylChlorid	2.25	62	869473	34.7643	ug/L	98
5) Bromomethane	2.72	94	411866	31.0146	ug/L	99
6) Chloroethane	2.89	64	533122	34.4072	ug/L	99
7) Dichloroflmethane	3.20	67	1193179	32.8632	ug/L	96
8) Trichlorofma	3.28	101	948107	37.3536	ug/L	99
9) Ethylether	3.73	59	662691	35.6226	ug/L	99
10) dichlorotfluoroethan	3.73	67	775815	36.5273	ug/L	98
11) propyleneoxide	3.77	58	1424584	327.1904	ug/L	97
12) Acrolein	3.85	56	686330	166.5647	ug/L	96
13) 11dichlorthe	4.00	96	603014	37.0428	ug/L	98
14) Trichlorotfluoroeth	4.04	101	1187933	76.0347	ug/L	99
15) Acetone	4.08	43	1856801	305.8445	ug/L	97
16) Iodomethane	4.18	142	1362607	129.3276	ug/L	97
17) Carbon Dislf	4.27	76	3197684	64.6382	ug/L	94
18) allylchloride	4.49	41	2320877	63.7963	ug/L	95
19) methylacetate	4.55	74	134089	35.3740	ug/L	95
20) Methylchlorid	4.64	84	717734	33.0767	ug/L	97
21) tbutylalcohol	4.86	59	2508504	1457.1001	ug/L	98
22) Acrylonitrile	4.95	53	1367844	168.5436	ug/L	99
23) t12dichlorte	5.02	96	692441	35.8697	ug/L	96
24) MtBE	5.06	73	1831136	33.4210	ug/L	97
25) Hexane	5.41	57	2212643	70.3452	ug/L	95
26) 11dichlorota	5.54	63	1307481	34.5255	ug/L	97
27) Vinylacetate	5.64	43	8149648	193.6927	ug/L	81
28) chloroprene	5.68	53	2151442	67.9454	ug/L	94
29) Diisopether	5.70	45	2283582	31.9826	ug/L	90
30) ETBE	6.15	59	2071769	34.2555	ug/L	96
31) 22dichloropr	6.29	77	1031977	35.4339	ug/L	96
32) c12dichlorte	6.28	96	776345	34.9305	ug/L	95
33) 2Butanone	6.31	72	817377	342.6461	ug/L	97
34) propionitrile	6.34	54	1046777	335.2632	ug/L	97
35) Ethylacetate	6.41	88	166068	180.3035	ug/L #	93
36) methacrylonitrile	6.55	67	708118	70.5859	ug/L	92
37) Bromochlorma	6.56	128	341479	36.7661	ug/L	93
38) Tetrahydofur	6.66	42	2204685	303.0163	ug/L	93

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL8.D Vial: 11
Acq On : 29 Apr 2020 13:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:35 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	1188698	34.6513	ug/L		96
40)	111trichlota	6.91	97	1072623	36.9804	ug/L		99
42)	Cyclohexane	7.00	56	1399361	38.5421	ug/L		97
43)	Carbtetraclo	7.13	119	891082	39.3075	ug/L		97
44)	11dicloprope	7.13	110	340134	38.3207	ug/L		97
46)	Benzene	7.37	78	2617745	32.0753	ug/L		92
47)	12dichlorota	7.37	62	1020534	35.0046	ug/L		99
48)	TAME	7.55	73	1889717	34.7155	ug/L		97
49)	trichloroete	8.18	95	733484	35.5195	ug/L		96
50)	methylcyclohexane	8.44	83	1451218	39.2944	ug/L		98
51)	12dicloropra	8.44	63	886368	35.9476	ug/L		99
52)	23Dicl1propene	8.50	75	1150040	35.5125	ug/L		96
53)	Dibromometha	8.57	93	446576	37.3321	ug/L		99
54)	methylmethacrylate	8.61	69	575635	36.7200	ug/L		99
55)	14dioxane	8.63	88	176292	1378.6720	ug/L		97
56)	Bromodiclrma	8.78	83	953875	37.2294	ug/L		100
57)	2Nitropropane	9.05	43	2116773	364.2971	ug/L		99
58)	2CLEVE	9.17	63	2134615	169.7436	ug/L		95
59)	c13dicloproe	9.35	75	1227329	36.0334	ug/L		94
60)	4Meth2Pentan	9.57	43	4829892	248.6280	ug/L		84
62)	Toluene	9.81	92	1831075	33.5639	ug/L		92
63)	t13Dicloprop	10.06	75	1094633	38.1847	ug/L		97
64)	ethylmethacrylate	10.22	69	1949379	69.2579	ug/L		98
65)	112Triclotha	10.30	83	568366	37.1047	ug/L		98
66)	Tetrachlorte	10.54	166	758383	38.2120	ug/L		99
67)	13Diclorpropa	10.53	76	1175651	35.5805	ug/L		99
69)	2Hexanone	10.65	43	3938426	266.4941	ug/L		87
70)	Clorodibrmta	10.83	129	685270	39.0353	ug/L		97
71)	12Dibrometha	10.98	107	641736	37.4741	ug/L		99
72)	Chlorobenzen	11.67	112	1809160	33.0711	ug/L		98
73)	1Clhexane	11.65	91	1072584	37.1083	ug/L		95
74)	1112Tetclota	11.77	131	689691	38.5317	ug/L		97
75)	Ethylbenzene	11.83	91	2977257	31.6680	ug/L		92
76)	m p-Xylene	11.99	106	2339688	65.7090	ug/L	#	84
77)	o-Xylene	12.54	106	1257229	35.6580	ug/L	#	87
78)	Styrene	12.55	104	2024863	34.9180	ug/L		95
79)	Bromoform	12.78	173	484516	42.3334	ug/L		98
80)	Isopropylben	13.07	105	2840292	33.0105	ug/L		93
81)	cyclohexanone	13.17	55	379798	642.9456	ug/L		97
84)	Bromobenzene	13.48	156	849759	34.5727	ug/L		95
85)	1122Tetrclta	13.45	83	918856	32.9154	ug/L		100
86)	123Triclproa	13.51	75	1189826	34.4800	ug/L		98
87)	14dichloro2butene	13.54	53	286332	34.6768	ug/L		90
88)	n-Propylbenz	13.65	91	3368872	29.4091	ug/L		89
89)	2chlorotolue	13.76	91	2232774	31.6480	ug/L		95
90)	4chlorotolue	13.92	91	2535531	31.2981	ug/L		92
91)	135Trimebenz	13.91	105	2470671	32.4216	ug/L		92
92)	tbutylbenzen	14.38	119	2199304	32.8163	ug/L		95
93)	124Trimetben	14.45	105	2481222	31.9420	ug/L		90
94)	sbutylbenzen	14.70	105	2976191	31.5275	ug/L		92
95)	13Diclorbenz	14.83	146	1498135	32.9759	ug/L		97
96)	pIsopropylto	14.91	119	2609236	33.2683	ug/L		93
97)	14dichlorobe	14.96	146	1525027	33.6077	ug/L		98
98)	12dichlorobe	15.50	146	1392430	32.9949	ug/L		98
99)	nButylbenzen	15.51	91	2504576	31.7741	ug/L		92
100)	12dibromo3cl	16.60	157	181498	39.0483	ug/L		97
101)	135Trichlorobenzene	16.92	180	1024347	35.5355	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL8.D Vial: 11
Acq On : 29 Apr 2020 13:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:35 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	880742	36.6196	ug/L	98
103) Hexachlorobu	17.98	225	462419	38.6333	ug/L	98
104) Naphthalene	18.04	128	1848550	34.7915	ug/L	97
105) 123Trichlben	18.35	180	772270	36.5861	ug/L	100

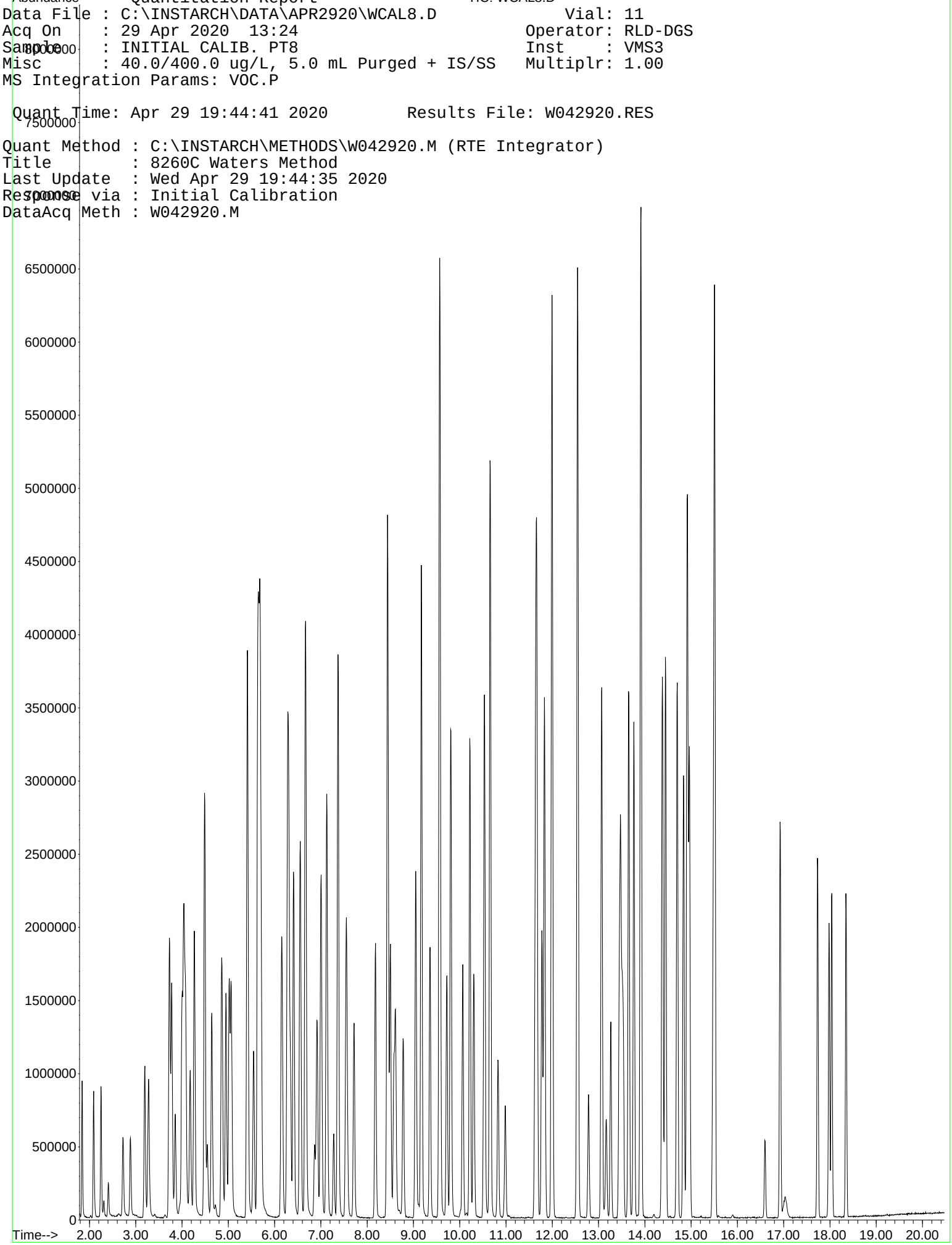
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL8.D

Data File : C:\INSTARCH\DATA\APR2920\WCAL8.D Vial: 11
Acq On : 29 Apr 2020 13:24 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:41 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:35 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL9.D Vial: 12
Acq On : 29 Apr 2020 13:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:49 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1442007	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1110591	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	660456	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	349440	20.200	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %			
45) SURR12DCAd4	7.28	102	98510	20.195	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101 %			
61) SURRd8Tolule	9.72	98	1442646	20.349	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102 %			
83) SURR4BrFBenz	13.26	95	623620	19.522	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98 %			
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	1396022	64.6484	ug/L	93
3) Chloromethan	2.09	50	1686046	58.3711	ug/L	91
4) VinylChlorid	2.25	62	1682951	62.9775	ug/L	94
5) Bromomethane	2.72	94	888605	63.6438	ug/L	98
6) Chloroethane	2.89	64	1064001	64.5058	ug/L	97
7) Dichloroflmethane	3.20	67	2239408	58.0771	ug/L	92
8) Trichlorofma	3.28	101	1850197	67.6662	ug/L	98
9) Ethylether	3.73	59	1301514	65.3005	ug/L	99
10) dichlorotfluoroethan	3.73	67	1511058	66.2143	ug/L	98
11) propyleneoxide	3.78	58	2647042	574.6292	ug/L	97
12) Acrolein	3.85	56	1295828	296.5971	ug/L	93
13) 11dichlorthe	4.00	96	1227605	70.0711	ug/L	93
14) Trichlorotfluoroeth	4.04	101	2356203	139.7023	ug/L	98
15) Acetone	4.08	43	3347787	523.0403	ug/L	90
16) Iodomethane	4.18	142	2731916	219.3799	ug/L	92
17) Carbon Dislf	4.27	76	5247713	100.0569	ug/L	87
18) allylchloride	4.49	41	4072097	105.7232	ug/L	90
19) methylacetate	4.55	74	300727	74.2627	ug/L	97
20) Methylchlorid	4.64	84	1419014	61.5341	ug/L	95
21) tbutylalcohol	4.86	59	4379620	2424.2350	ug/L	93
22) Acrylonitrile	4.95	53	2508465	291.0884	ug/L	94
23) t12dichlorte	5.02	96	1389254	67.1183	ug/L	93
24) MtBE	5.06	73	3461001	59.3738	ug/L	93
25) Hexane	5.42	57	4011156	119.1971	ug/L #	89
26) 11dichlorota	5.55	63	2516170	62.2315	ug/L	92
27) Vinylacetate	5.64	43	10968233	256.5226	ug/L	68
28) chloroprene	5.68	53	3905809	115.7368	ug/L	88
29) Diisopether	5.70	45	4379171	57.9135	ug/L	85
30) ETBE	6.15	59	3786968	58.6975	ug/L	88
31) 22dichloropr	6.29	77	2071474	66.4265	ug/L	94
32) c12dichlorte	6.28	96	1560062	65.6597	ug/L	92
33) 2Butanone	6.31	72	1625381	640.3813	ug/L	95
34) propionitrile	6.35	54	1986000	599.4343	ug/L	95
35) Ethylacetate	6.41	88	342828	347.5518	ug/L #	89
36) methacrylonitrile	6.55	67	1401248	130.7862	ug/L	90
37) Bromochlorma	6.57	128	698460	69.9371	ug/L #	88
38) Tetrahydofur	6.66	42	3931504	512.9981	ug/L	85

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL9.D Vial: 12
Acq On : 29 Apr 2020 13:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:49 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	2340193	63.8692	ug/L		94
40)	111trichlota	6.92	97	2155372	69.0614	ug/L		98
42)	Cyclohexane	7.00	56	2737209	69.7217	ug/L		94
43)	Carbtetraclo	7.13	119	1833073	74.6020	ug/L		94
44)	11dicloprope	7.13	110	744362	77.6698	ug/L	#	88
46)	Benzene	7.37	78	4551397	52.6441	ug/L		83
47)	12dichlorota	7.38	62	1986995	63.7381	ug/L		96
48)	TAME	7.55	73	3582467	61.6044	ug/L		93
49)	trichloroete	8.18	95	1526936	69.0386	ug/L		98
50)	methylcyclohexane	8.45	83	2873775	71.7929	ug/L		96
51)	12dicloropra	8.44	63	1783442	67.4406	ug/L		95
52)	23Dicl1propene	8.50	75	2372699	68.5488	ug/L		95
53)	Dibromometha	8.58	93	923835	71.7813	ug/L		98
54)	methylmethacrylate	8.61	69	1176308	69.8982	ug/L		97
55)	14dioxane	8.64	88	370082	2788.1304	ug/L		97
56)	Bromodiclrma	8.78	83	1904612	69.0317	ug/L		95
57)	2Nitropropane	9.05	43	3789302	607.1348	ug/L		98
58)	2CLEVE	9.17	63	3808451	284.9593	ug/L		86
59)	c13dicloproe	9.36	75	2409914	65.9530	ug/L		89
60)	4Meth2Pentan	9.57	43	7019794	349.1839	ug/L	#	66
62)	Toluene	9.81	92	3388564	58.3549	ug/L	#	84
63)	t13Dicloprop	10.06	75	2144369	69.2568	ug/L		91
64)	ethylmethacrylate	10.22	69	3521944	117.4462	ug/L		93
65)	112Triclotha	10.30	83	1152486	69.9878	ug/L		97
66)	Tetrachlorte	10.54	166	1573395	73.3930	ug/L		97
67)	13Diclorpropa	10.53	76	2328980	65.7977	ug/L		95
69)	2Hexanone	10.66	43	5960597	385.8474	ug/L		74
70)	Clorodibrmta	10.83	129	1430880	74.4824	ug/L		94
71)	12Dibrometha	10.98	107	1315143	70.5233	ug/L		98
72)	Chlorobenzen	11.67	112	3392882	57.7551	ug/L		93
73)	1Clhexane	11.65	91	2156872	68.6040	ug/L		94
74)	1112Tetclota	11.77	131	1455754	74.4866	ug/L		96
75)	Ethylbenzene	11.83	91	4999714	49.7451	ug/L		79
76)	m p-Xylene	11.99	106	4253859	111.3271	ug/L	#	67
77)	o-Xylene	12.54	106	2503803	65.5873	ug/L	#	74
78)	Styrene	12.55	104	3721907	59.4176	ug/L		87
79)	Bromoform	12.78	173	1056229	83.3820	ug/L		96
80)	Isopropylben	13.06	105	4850258	52.5036	ug/L		79
81)	cyclohexanone	13.16	55	797222	1265.0230	ug/L		95
84)	Bromobenzene	13.48	156	1729004	64.4148	ug/L		93
85)	1122Tetrclta	13.45	83	1805168	59.5272	ug/L		97
86)	123Triclproa	13.51	75	2434054	64.7715	ug/L		96
87)	14dichloro2butene	13.54	53	609910	67.7787	ug/L		89
88)	n-Propylbenz	13.65	91	5404901	43.9263	ug/L		75
89)	2chlorotolue	13.76	91	4009448	52.5284	ug/L		85
90)	4chlorotolue	13.92	91	4437652	50.6873	ug/L		82
91)	135Trimebenz	13.91	105	4345745	52.5793	ug/L		83
92)	tbutylbenzen	14.38	119	4025755	55.3139	ug/L		89
93)	124Trimetben	14.44	105	4334761	51.5301	ug/L		81
94)	sbutylbenzen	14.70	105	5015735	49.1291	ug/L		81
95)	13Diclorbenz	14.84	146	2855016	57.8383	ug/L		92
96)	pIsopropylto	14.91	119	4522539	53.0220	ug/L		83
97)	14dichlorobe	14.97	146	2916376	59.0325	ug/L		93
98)	12dichlorobe	15.50	146	2669961	58.2256	ug/L		94
99)	nButylbenzen	15.51	91	4392703	51.4877	ug/L		82
100)	12dibromo3cl	16.60	157	384122	74.6450	ug/L		98
101)	135Trichlorobenzene	16.93	180	2067873	65.4883	ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL9.D Vial: 12
Acq On : 29 Apr 2020 13:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:49 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	1831198	69.2684	ug/L	98
103) Hexachlorobu	17.98	225	1003666	75.8048	ug/L	96
104) Naphthalene	18.04	128	3448292	59.3876	ug/L	90
105) 123Trichlben	18.35	180	1654394	71.3127	ug/L	99

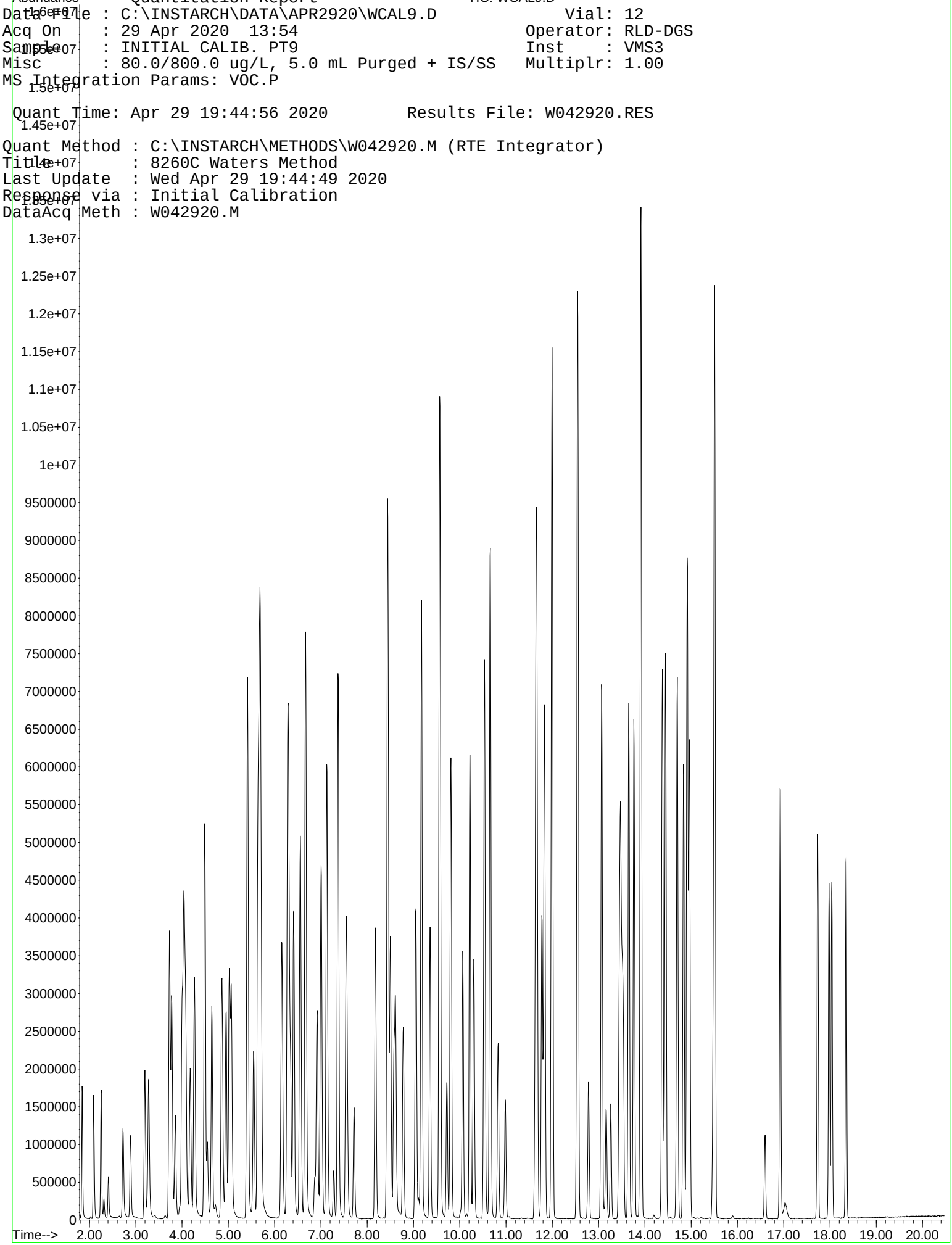
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL9.D

Data File : C:\INSTARCH\DATA\APR2920\WCAL9.D Vial: 12
Acq On : 29 Apr 2020 13:54 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 19:44:56 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:44:49 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\ICB1.D Vial: 18
Acq On : 29 Apr 2020 16:54 Operator: RLD-DGS
Sample : INITIAL CALIBRATION BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:13:00 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1246476	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	936395	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	493423	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.86	113	295078	19.726 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %		
45) SURR12DCAd4	7.28	102	86865	20.462 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %		
61) SURRd8Tolule	9.72	98	1211853	19.710 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %		
83) SURR4BrFBenz	13.26	95	489517	20.561 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 103 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3659	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	5984	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	5.64	43	5548	Below Cal #	71
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	3286	Below Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\ICB1.D Vial: 18
Acq On : 29 Apr 2020 16:54 Operator: RLD-DGS
Sample : INITIAL CALIBRATION BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:13:00 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	0.00	88	0	N.D.	
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.65	91	2703	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	0.00	91	0	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\ICB1.D Vial: 18
Acq On : 29 Apr 2020 16:54 Operator: RLD-DGS
Sample : INITIAL CALIBRATION BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:13:00 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.05	128	3059	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

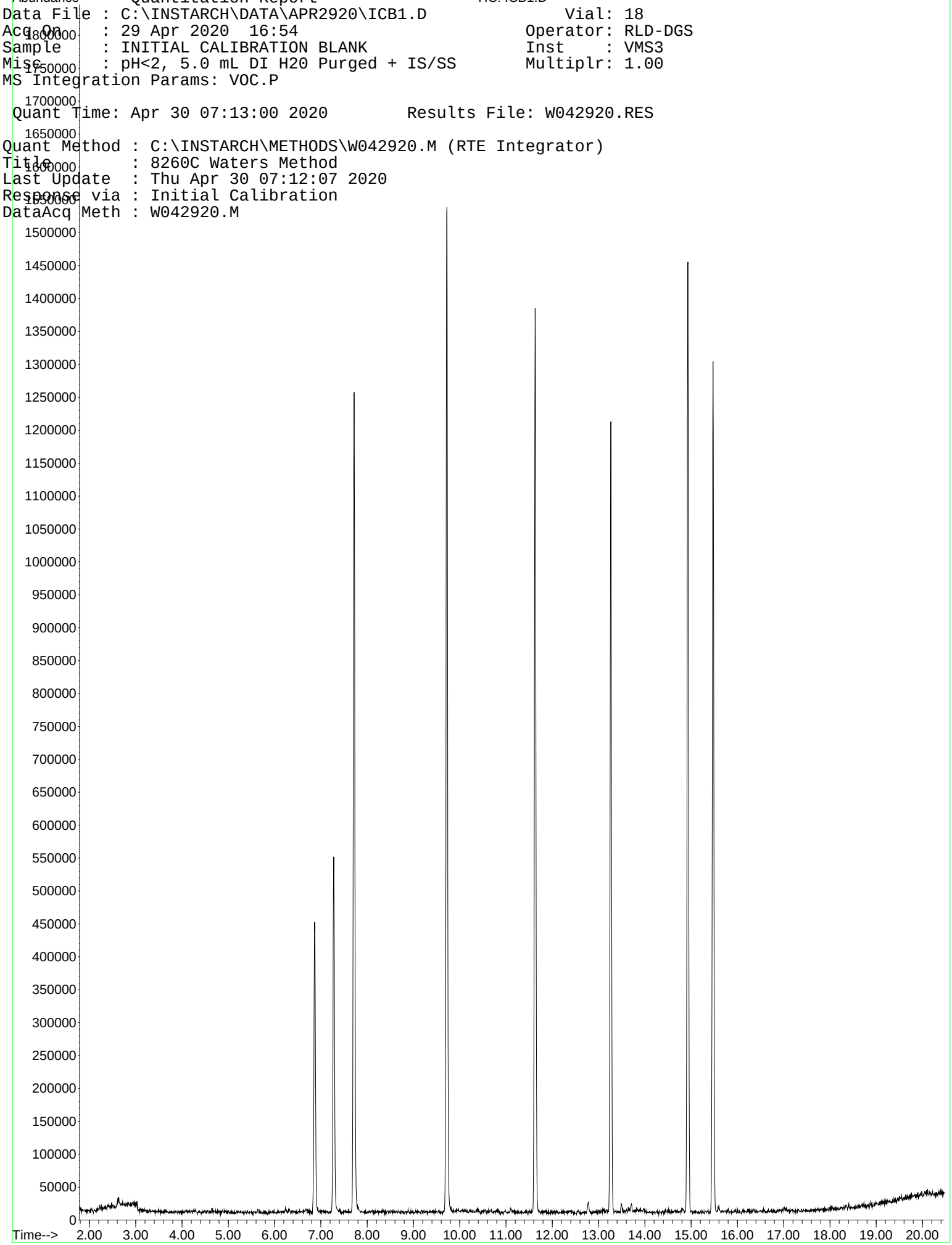
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICB1.D

Data File : C:\INSTARCH\DATA\APR2920\ICB1.D Vial: 18
Acq On : 29 Apr 2020 16:54 Operator: RLD-DGS
Sample : INITIAL CALIBRATION BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 30 07:13:00 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



BFB

Data File : C:\Instarch\Data\APR2920\BFB2.D Vial: 19
Acq On : 29 Apr 2020 19:57 Operator: RLD-DGS
Sample : BFB DIRECT INJ. Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.681 to 4.711 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.4	6163	PASS
75	95	30	60	47.3	14273	PASS
95	95	100	100	100.0	30149	PASS
96	95	5	9	6.6	1983	PASS
173	174	0.00	2	0.6	168	PASS
174	95	50	100	92.5	27878	PASS
175	174	5	9	8.1	2266	PASS
176	174	95	101	99.9	27842	PASS
177	176	5	9	5.3	1470	PASS

W042920.M Thu Apr 30 12:41:54 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL4R.D Vial: 21
Acq On : 29 Apr 2020 20:44 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 21:05:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:33 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Report

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1202293	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	920263	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	494411	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	287925	19.941	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.27	102	85171	20.919	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 105	%		
61) SURRd8Tolule	9.72	98	1193207	20.147	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	483486	20.272	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	102552	5.8201	ug/L	98
3) Chloromethan	2.09	50	122002	5.2227	ug/L	99
4) VinylChlorid	2.25	62	112610	5.1765	ug/L	99
5) Bromomethane	2.73	94	58915	5.1937	ug/L	89
6) Chloroethane	2.89	64	70830	5.2781	ug/L	98
7) Dichloroflmethane	3.20	67	158525	5.0858	ug/L	99
8) Trichlorofma	3.28	101	126316	5.6373	ug/L	95
9) Ethylether	3.73	59	83163	5.1087	ug/L	98
10) dichlorotfluoroethan	3.73	67	99776	5.3463	ug/L	98
11) propyleneoxide	3.78	58	192419	51.9279	ug/L	98
12) Acrolein	3.85	56	92528	26.2491	ug/L	93
13) 11dichlorthe	4.00	96	75463	5.2384	ug/L	98
14) Trichlorotfluoroeth	4.05	101	154350	11.1332	ug/L	98
15) Acetone	4.08	43	258212	50.3207	ug/L	100
16) Iodomethane	4.18	142	82670	7.6092	ug/L	96
17) Carbon Dislf	4.27	76	477504	11.3940	ug/L	98
18) allylchloride	4.49	41	327364	10.5932	ug/L	99
19) methylacetate	4.55	74	16276	4.8642	ug/L	96
20) Methylchlorid	4.64	84	93128	4.9711	ug/L	97
21) tbutylalcohol	4.86	59	344940	239.4843	ug/L	100
22) Acrylonitrile	4.95	53	181348	26.1291	ug/L	96
23) t12dichlorte	5.02	96	88676	5.2319	ug/L	94
24) MtBE	5.06	73	242729	5.1416	ug/L	97
25) Hexane	5.42	57	323777	11.8763	ug/L	98
26) 11dichlorota	5.54	63	168562	5.1267	ug/L	99
27) Vinylacetate	5.64	43	2039373	61.8768	ug/L	97
28) chloroprene	5.68	53	298946	10.9615	ug/L	99
29) Diisopether	5.70	45	330832	5.4136	ug/L	98
30) ETBE	6.15	59	269196	5.1570	ug/L	98
31) 22dichloropr	6.29	77	138622	5.4340	ug/L	98
32) c12dichlorte	6.27	96	94876	4.8866	ug/L	97
33) 2Butanone	6.31	72	108462	52.5638	ug/L	99
34) propionitrile	6.35	54	137265	51.2988	ug/L	98
35) Ethylacetate	6.41	88	19863	24.5540	ug/L	95
36) methacrylonitrile	6.55	67	91958	10.5347	ug/L	95
37) Bromochlorma	6.57	128	41733	5.0829	ug/L	93
38) Tetrahydofur	6.67	42	326780	53.2642	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL4R.D Vial: 21
Acq On : 29 Apr 2020 20:44 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 21:05:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:33 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.68	83	153041	5.1244 ug/L	98
40) 111trichlota	6.92	97	131066	5.1146 ug/L	97
42) Cyclohexane	7.01	56	174386	5.4047 ug/L	99
43) Carbtetraclo	7.13	119	104027	5.1161 ug/L	97
44) 11dicloprope	7.13	110	42496	5.3377 ug/L	96
46) Benzene	7.38	78	376377	5.4276 ug/L	99
47) 12dichlorota	7.37	62	130401	5.1329 ug/L	98
48) TAME	7.55	73	245134	5.1884 ug/L	99
49) trichloroete	8.18	95	92463	5.0917 ug/L	99
50) methylcyclohexane	8.45	83	186050	5.6389 ug/L	98
51) 12dicloropra	8.44	63	106765	4.9282 ug/L	100
52) 23Dicl1propene	8.50	75	144096	5.0840 ug/L	96
53) Dibromometha	8.57	93	52041	4.9128 ug/L	98
54) methylmethacrylate	8.61	69	70400	5.0978 ug/L	99
55) 14dioxane	8.64	88	19337	181.6051 ug/L	88
56) Bromodiclrma	8.78	83	117290	5.1776 ug/L	97
57) 2Nitropropane	9.06	43	273492	54.0032 ug/L	99
58) 2CLEVE	9.17	63	290061	27.0011 ug/L	99
59) c13dicloproe	9.35	75	153719	5.1461 ug/L	99
60) 4Meth2Pentan	9.57	43	919748	58.5379 ug/L	98
62) Toluene	9.80	92	240863	5.1291 ug/L	95
63) t13Dicloprop	10.06	75	130526	5.1327 ug/L	96
64) ethylmethacrylate	10.22	69	260703	10.7856 ug/L	97
65) 112Triclotha	10.31	83	68479	5.0670 ug/L	98
66) Tetrachlorte	10.54	166	96817	5.4667 ug/L	96
67) 13Diclorpropa	10.53	76	148691	5.1397 ug/L	98
69) 2Hexanone	10.66	43	686836	57.3688 ug/L	98
70) Clorodibrmta	10.83	129	78255	4.9539 ug/L	98
71) 12Dibrometha	10.98	107	77047	5.0526 ug/L	96
72) Chlorobenzen	11.67	112	239707	5.0813 ug/L	99
73) 1Clhexane	11.65	91	130775	5.1006 ug/L	96
74) 1112Tetclota	11.78	131	78527	4.8911 ug/L	96
75) Ethylbenzene	11.83	91	423943	5.3137 ug/L	100
76) m p-Xylene	12.00	106	311436	10.1803 ug/L	94
77) o-Xylene	12.54	106	156686	5.0544 ug/L	100
78) Styrene	12.55	104	256731	5.0917 ug/L	96
79) Bromoform	12.78	173	53819	5.1004 ug/L	97
80) Isopropylben	13.07	105	395998	5.3786 ug/L	97
81) cyclohexanone	13.17	55	42500	83.5732 ug/L	95
84) Bromobenzene	13.48	156	100862	5.1307 ug/L	95
85) 1122Tetrclta	13.45	83	114272	5.1811 ug/L	96
86) 123Triclproa	13.51	75	141427	5.1499 ug/L	98
87) 14dichloro2butene	13.53	53	34126	5.1647 ug/L	97
88) n-Propylbenz	13.65	91	495489	5.6630 ug/L	96
89) 2chlorotolue	13.76	91	285504	5.1948 ug/L	99
90) 4chlorotolue	13.92	91	333445	5.3037 ug/L	99
91) 135Trimebenz	13.91	105	320710	5.3887 ug/L	100
92) tbutylbenzen	14.38	119	273960	5.2069 ug/L	99
93) 124Trimetben	14.45	105	322222	5.3276 ug/L	99
94) sbutylbenzen	14.70	105	410502	5.6119 ug/L	97
95) 13Diclorbenz	14.83	146	174040	4.8595 ug/L	98
96) pIsopropylto	14.91	119	342795	5.5776 ug/L	99
97) 14dichlorobe	14.96	146	180472	5.0263 ug/L	97
98) 12dichlorobe	15.50	146	166552	5.0032 ug/L	98
99) nButylbenzen	15.51	91	334936	5.4606 ug/L	98
100) 12dibromo3cl	16.60	157	18964	4.9644 ug/L	99
101) 135Trichlorobenzene	16.93	180	118964	5.1363 ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL4R.D Vial: 21
Acq On : 29 Apr 2020 20:44 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 21:05:12 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:33 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	98602	5.0578	ug/L	98
103) Hexachlorobu	17.98	225	52860	5.3645	ug/L	94
104) Naphthalene	18.04	128	221962	5.2570	ug/L	100
105) 123Trichlben	18.34	180	88202	5.1408	ug/L	97

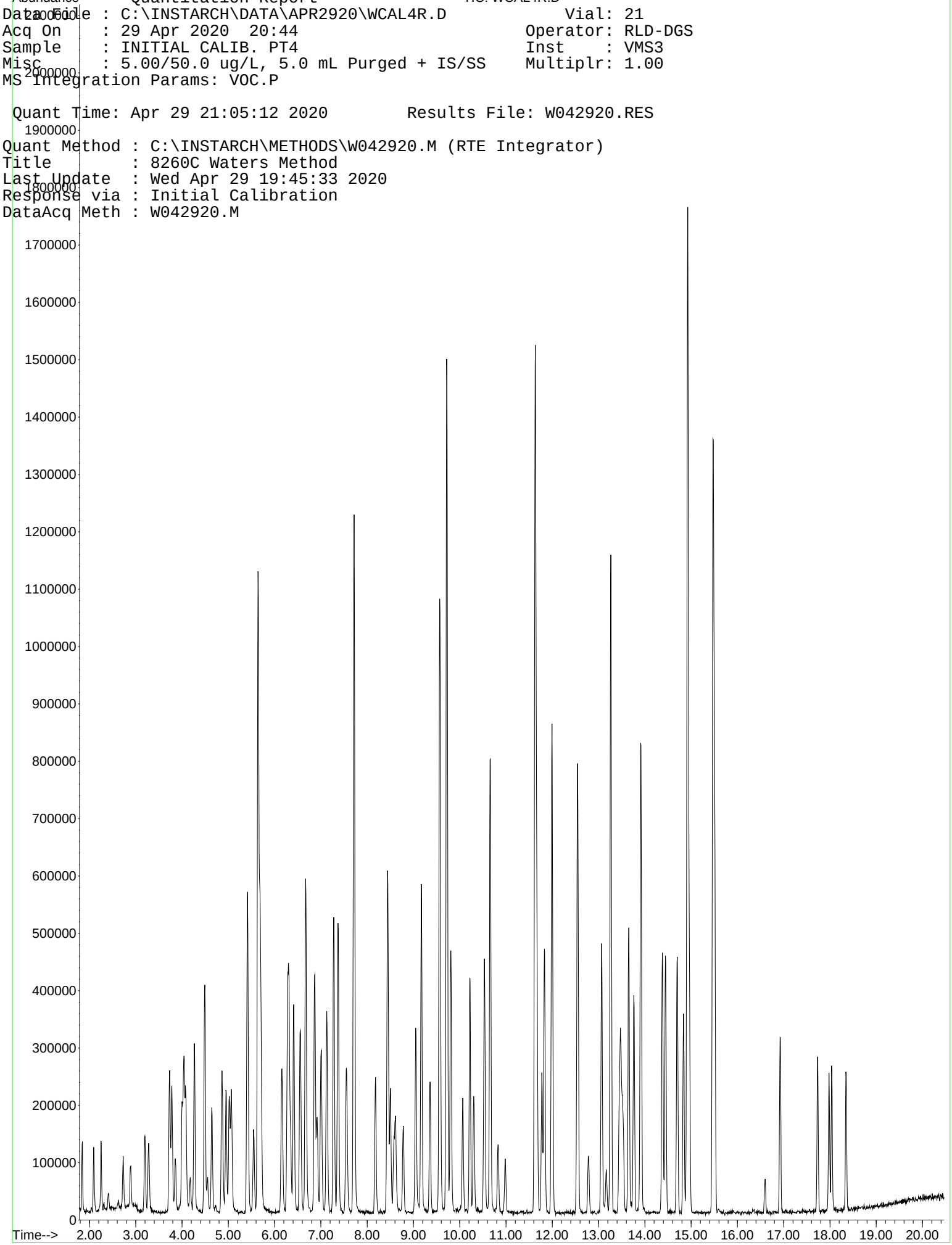
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\APR2920\WCAL4R.D Vial: 21
Acq On : 29 Apr 2020 20:44 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Apr 29 21:05:12 2020 Results File: W042920.RES

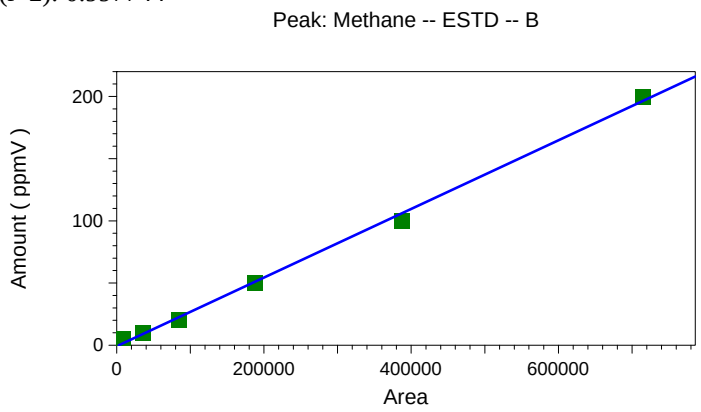
Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Wed Apr 29 19:45:33 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:30
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000329987 RF StDev: 0.000126154 RF %RSD: 38.2302
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000275856x - 0.771544
Goodness of fit (r^2): 0.997744



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	5030	8460	35927	84034	187484
RF	0.000397614	0.00059101654	0.000278342193	0.000237998905	0.0002666894
	314115308	8463357	893172	205036	24164195
Last Area					
Residual	1.38399	3.4378	0.860857	-2.40976	-0.947087
Rep StDev					
Rep %RSD					
Rep 1 Area	5030	8460	35927	84034	187484
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\001.dat	C:\Instarch\PVOC4\Data\121319icdg\002.dat	C:\Instarch\PVOC4\Data\121319icdg\003.dat	C:\Instarch\PVOC4\Data\121319icdg\017.dat	C:\Instarch\PVOC4\Data\121319icdg\018.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Dec 13, 2019 11:03:20	Dec 13, 2019 11:08:54	Dec 13, 2019 11:12:33	Dec 13, 2019 12:20:46	Dec 13, 2019 12:24:12

	Level 6	Level 7
Amount	100	200
Area	387182	714366

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:30
User: AGK
Instrument: PVOC4

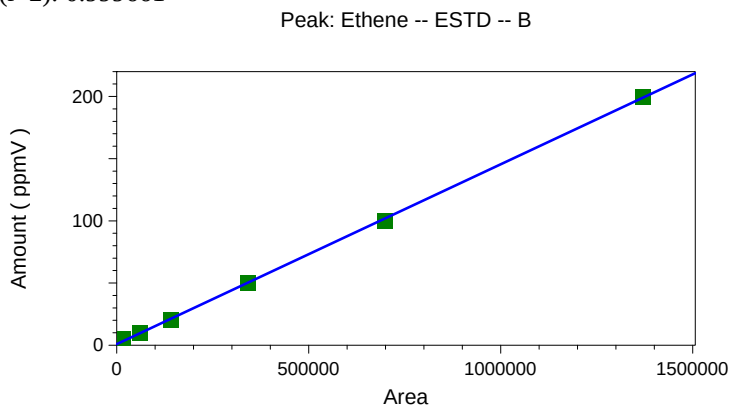
RF	0.000258276469463973	0.00027996853 1537055
Last Area Residual	-6.03503	3.70923
Rep StDev		
Rep %RSD		
Rep 1 Area	387182	714366
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:47
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 0.000194500 RF StDev: 7.92626e-005 RF %RSD: 40.7519
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000144547x + 0.886235
Goodness of fit (r^2): 0.999661



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	6741	15526	60017	142264	341448
RF	0.000296691	0.00032204044	0.000166619457	0.000140583703	0.0001464351
	885476932	8280304	820284	537086	8193107
Last Area					
Residual	0.139376	1.86953	0.438507	-1.45002	-0.241407
Rep StDev					
Rep %RSD					
Rep 1 Area	6741	15526	60017	142264	341448
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\1	OC4\Data\1213	C4\Data\121319	C4\Data\121319	OC4\Data\121
	21319icdg\00	19icdg\002.dat	icdg\003.dat	icdg\017.dat	319icdg\018.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019
	11:03:20	11:08:54	11:12:33	12:20:46	12:24:12

	Level 6	Level 7
Amount	100	200
Area	698761	1369661

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:47
User: AGK
Instrument: PVOC4

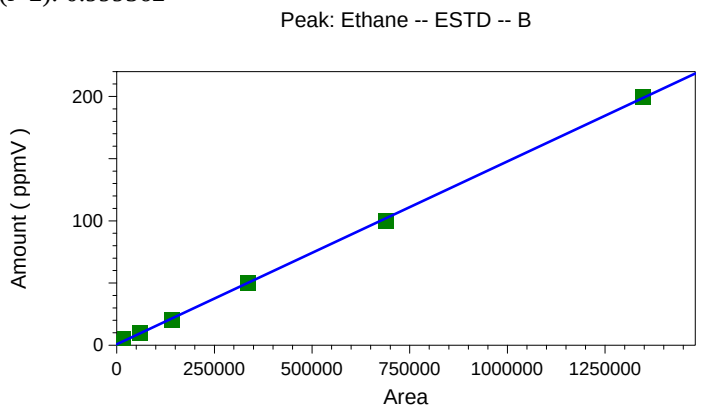
RF	0.000143110448350724	0.000146021533795589
Last Area Residual	-1.88981	1.13383
Rep StDev		
Rep %RSD		
Rep 1 Area	698761	1369661
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:07:05
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 0.000201411 RF StDev: 8.94581e-005 RF %RSD: 44.4156
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000147091x + 0.704169
Goodness of fit (r^2): 0.999562



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	6087	14916	60913	142761	337378
RF	0.000328569 081649417	0.00033521051 2201663	0.000164168568 285916	0.000140094283 452764	0.0001482017 2032557
Last Area Residual	0.400487	2.10182	0.336069	-1.70305	-0.329479
Rep StDev					
Rep %RSD					
Rep 1 Area	6087	14916	60913	142761	337378
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\001.dat	C:\Instarch\PVOC4\Data\121319icdg\002.dat	C:\Instarch\PVOC4\Data\121319icdg\003.dat	C:\Instarch\PVOC4\Data\121319icdg\017.dat	C:\Instarch\PVOC4\Data\121319icdg\018.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Dec 13, 2019 11:03:20	Dec 13, 2019 11:08:54	Dec 13, 2019 11:12:33	Dec 13, 2019 12:20:46	Dec 13, 2019 12:24:12

	Level 6	Level 7
Amount	100	200
Area	689400	1346056

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:07:05
User: AGK
Instrument: PVOC4

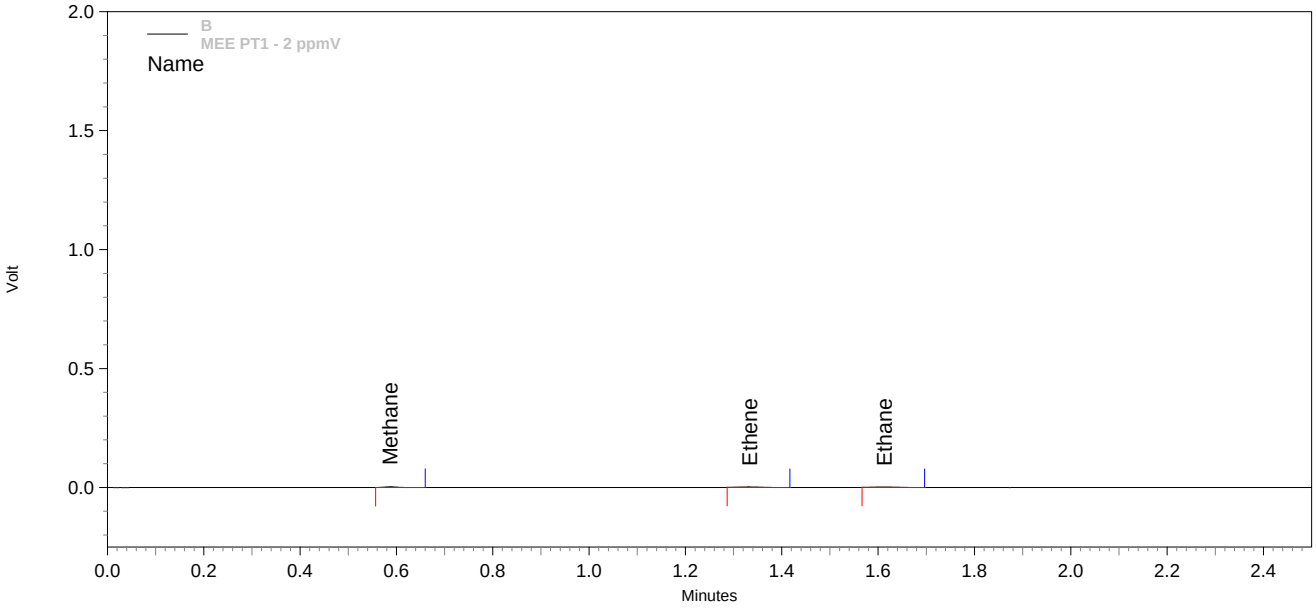
RF	0.000145053669857847	0.000148582228376828
Last Area Residual	-2.10879	1.30294
Rep StDev		
Rep %RSD		
Rep 1 Area	689400	1346056
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Dec 13, 2019 10:58:16
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



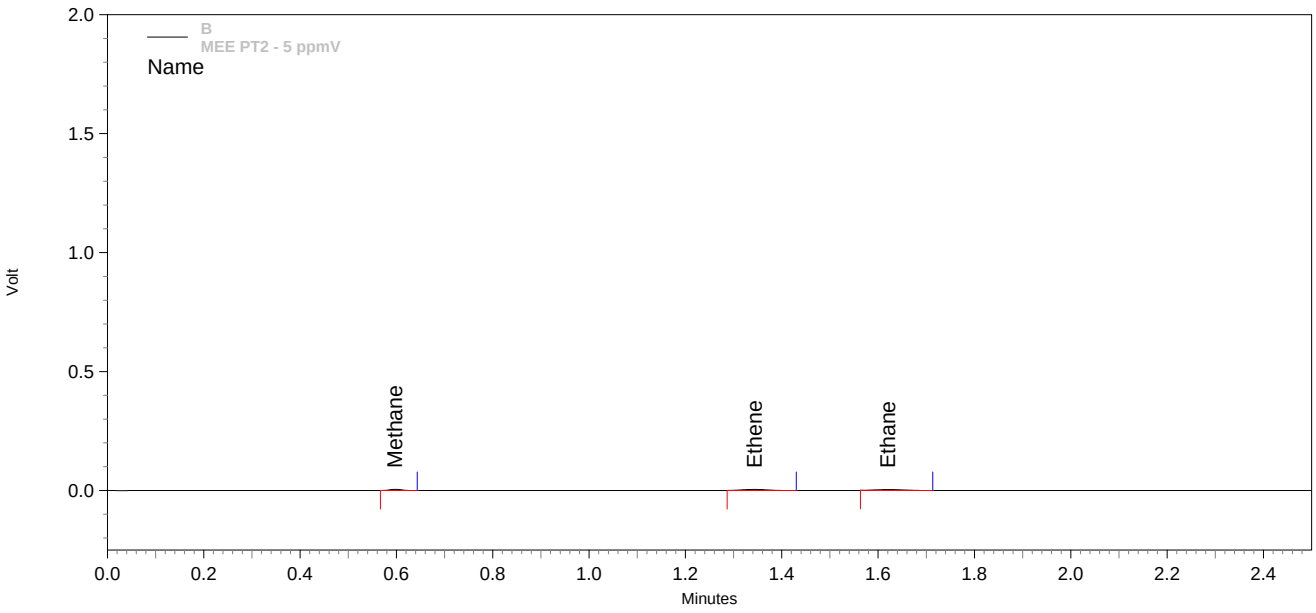
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.587**	**0.577**	**5030**	**2.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.310**	**6741**	**2.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.593**	**6087**	**2.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Dec 13, 2019 11:06:00
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



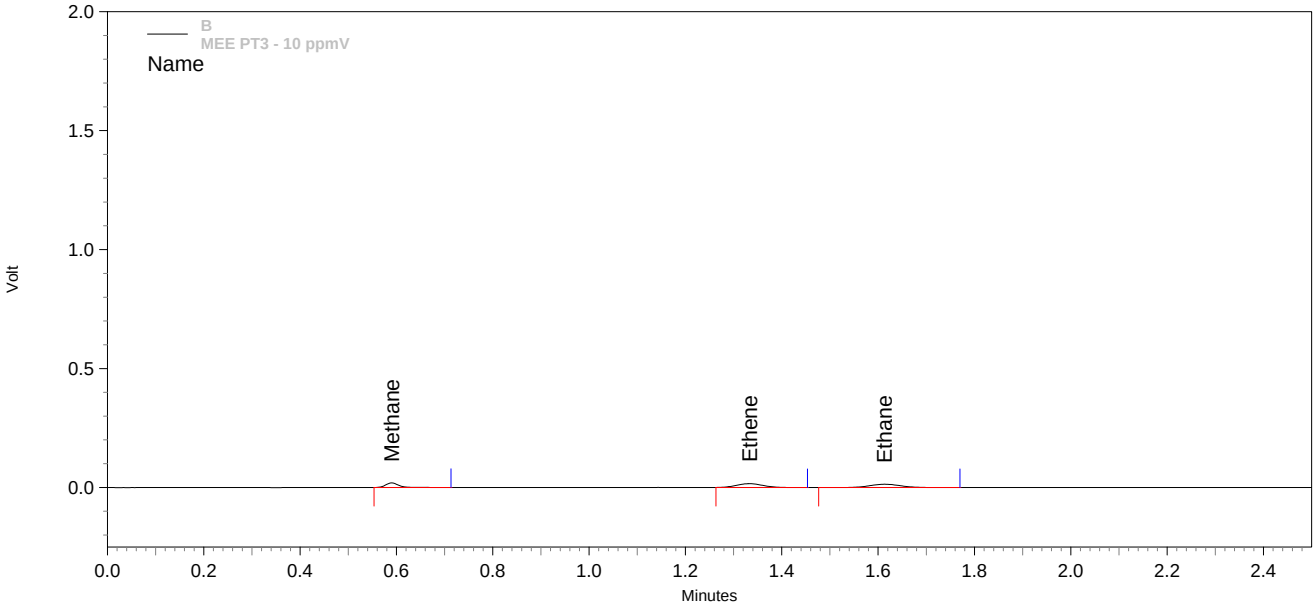
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.587**	**8460**	**5.000 CAL**	**ppmV**
2	**Ethene**	**1.343**	**1.333**	**15526**	**5.000 CAL**	**ppmV**
3	**Ethane**	**1.620**	**1.613**	**14916**	**5.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Dec 13, 2019 11:09:45
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



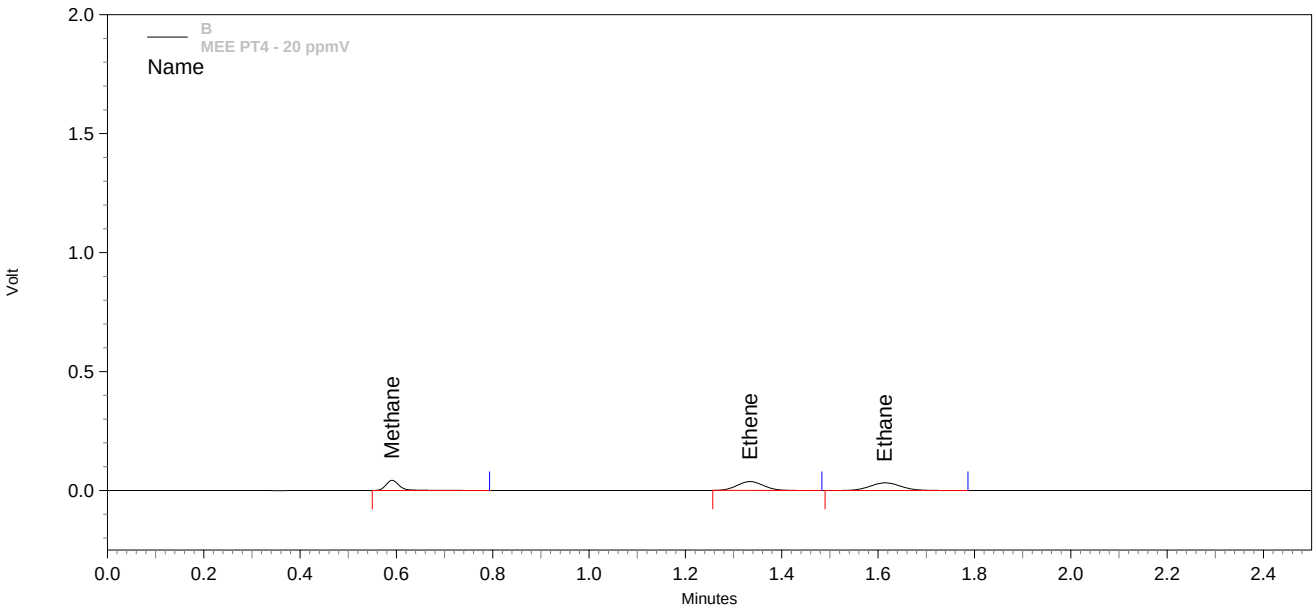
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.597**	**35927**	**10.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.343**	**60017**	**10.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.620**	**60913**	**10.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Dec 13, 2019 12:18:01
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



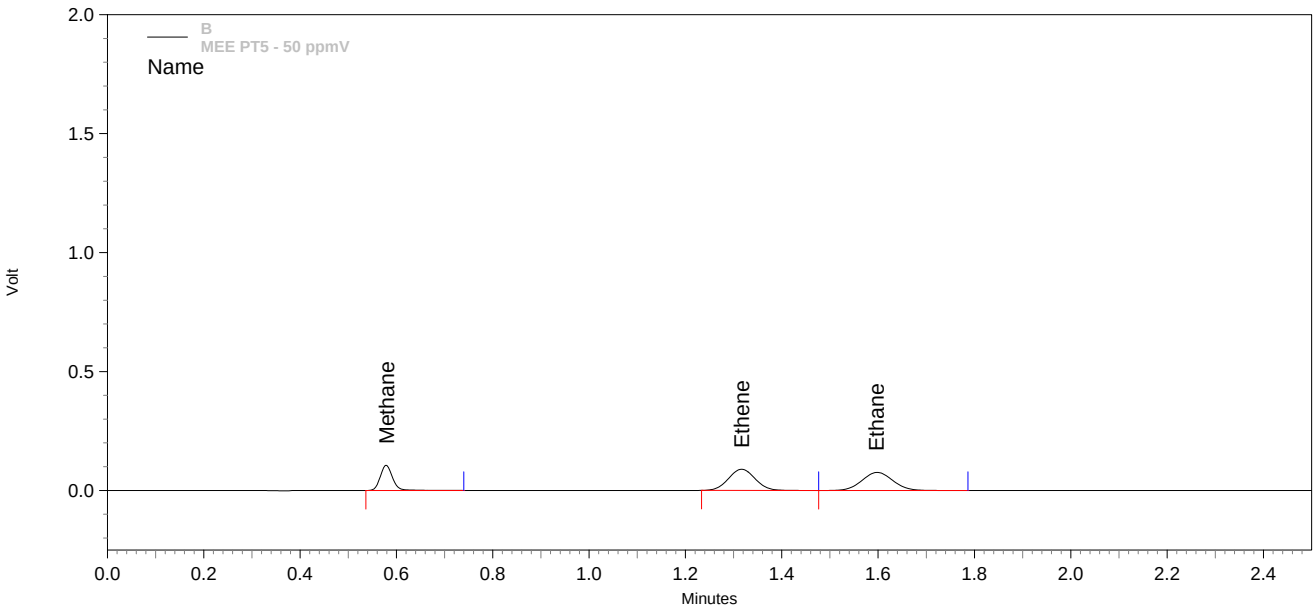
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.580**	**84034**	**20.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.320**	**142264**	**20.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.600**	**142761**	**20.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Dec 13, 2019 12:21:29
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



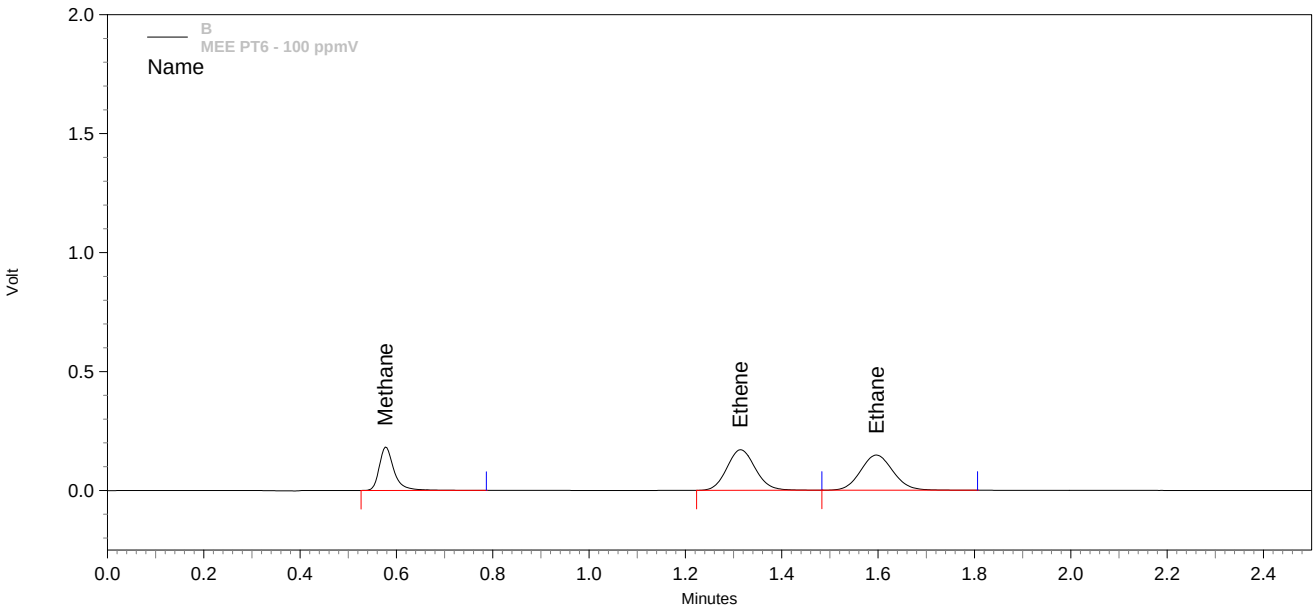
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.580**	**0.590**	**187484**	**50.000 CAL**	**ppmV**
2	**Ethene**	**1.317**	**1.333**	**341448**	**50.000 CAL**	**ppmV**
3	**Ethane**	**1.597**	**1.613**	**337378**	**50.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Dec 13, 2019 12:24:55
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



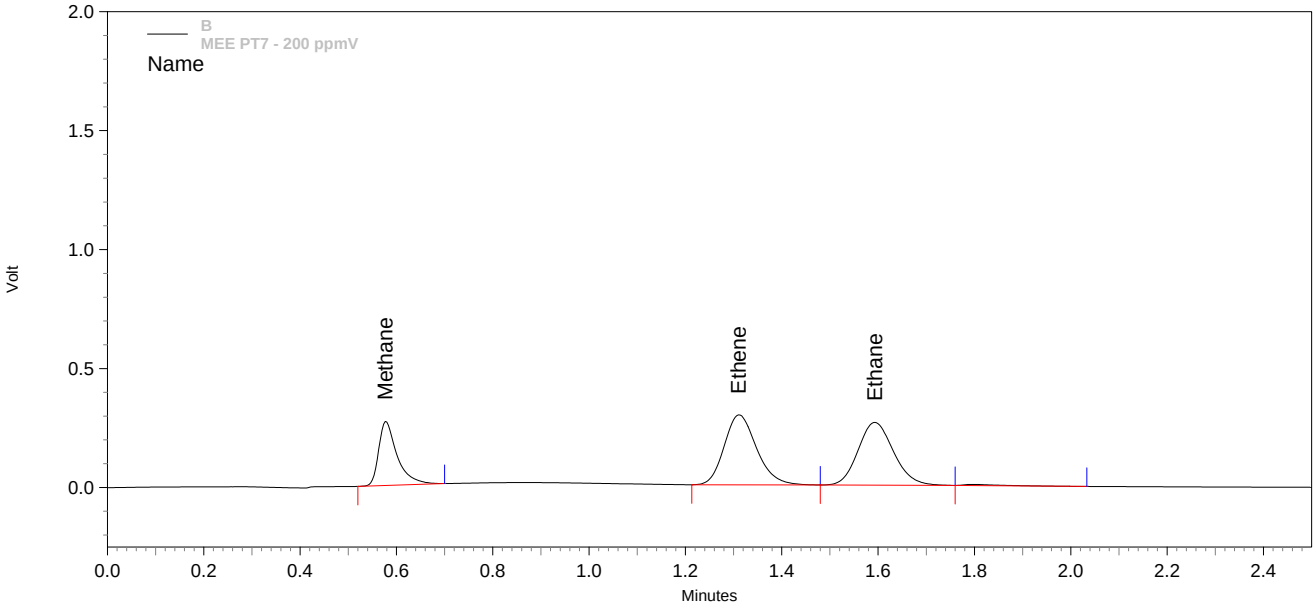
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.577**	**0.580**	**387182**	**100.000 CAL**	**ppmV**
2	**Ethene**	**1.313**	**1.317**	**698761**	**100.000 CAL**	**ppmV**
3	**Ethane**	**1.597**	**1.597**	**689400**	**100.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Dec 13, 2019 13:46:48
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



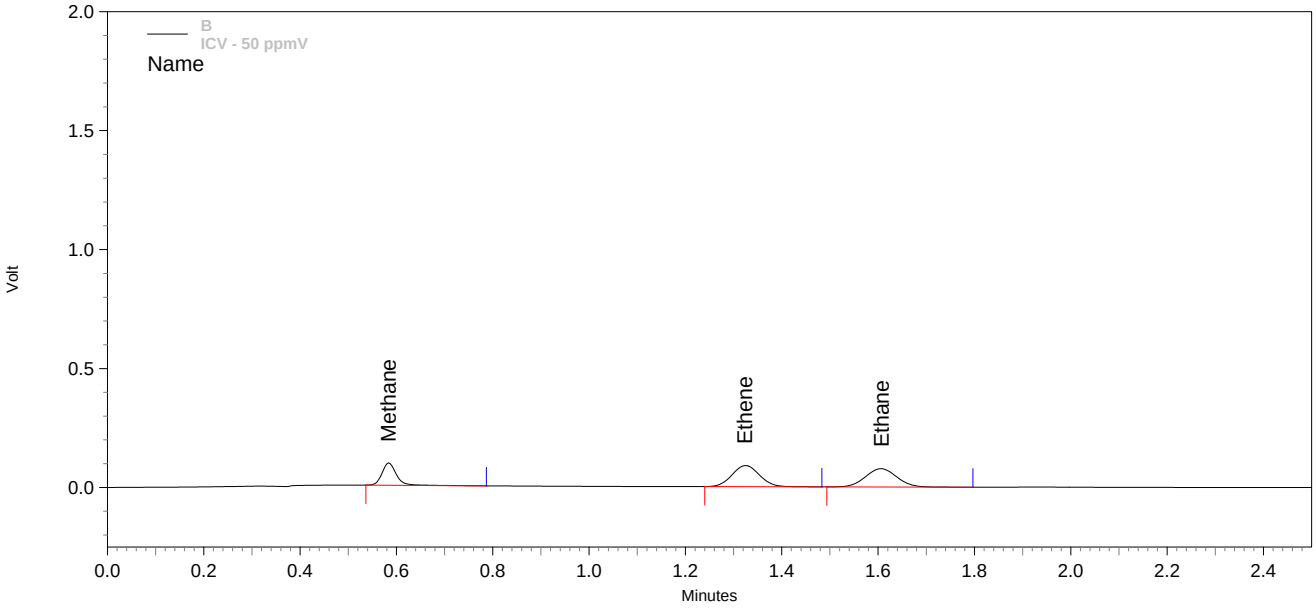
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.577**	**0.580**	**714366**	**200.000 CAL**	**ppmV**
2	**Ethene**	**1.310**	**1.317**	**1369661**	**200.000 CAL**	**ppmV**
3	**Ethane**	**1.593**	**1.600**	**1346056**	**200.000 CAL**	**ppmV**
4		**1.797**	**0.000**	**24582**	**0.000**	

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\025.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: ICV - 50 ppmV
Acquired: Dec 13, 2019 13:51:32
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



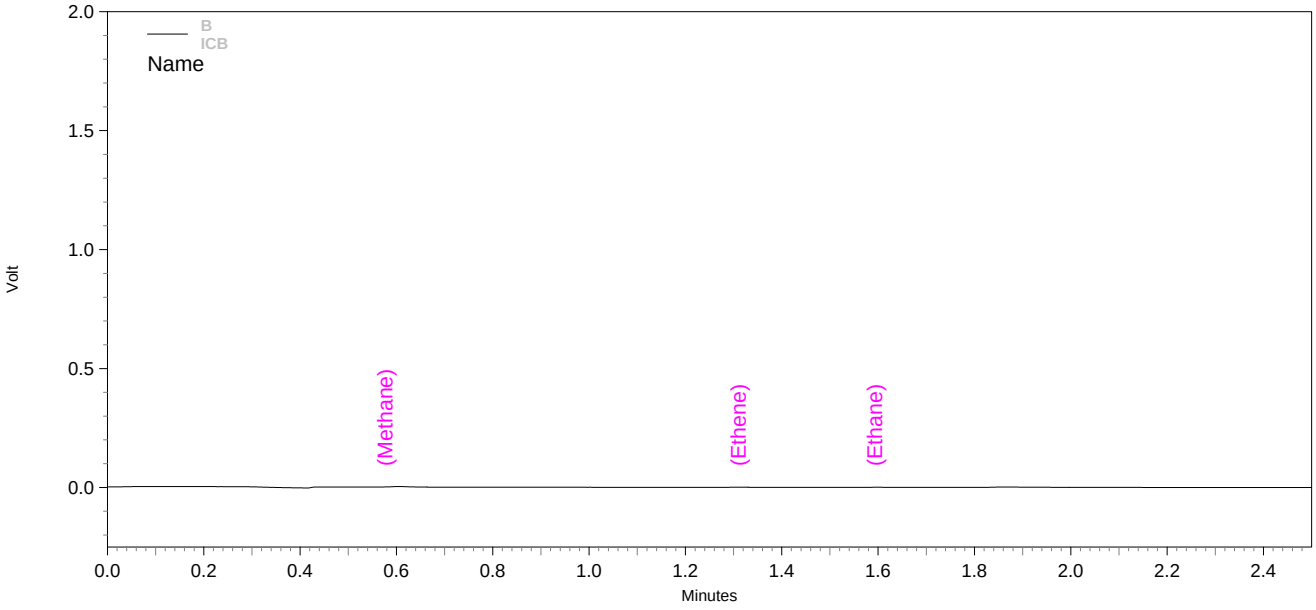
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.583**	**0.577**	**193552**	**52.621**	**ppmV**
2	**Ethene**	**1.323**	**1.310**	**352785**	**51.880**	**ppmV**
3	**Ethane**	**1.607**	**1.593**	**348500**	**51.965**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\026.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: ICB
Acquired: Dec 13, 2019 14:03:04
File Desc. INITIAL CALIB. BLANK



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.577**		**0.000 BDL**	**ppmV**
	Ethene		**1.310**		**0.000 BDL**	**ppmV**
	Ethane		**1.593**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\Instarch\Data\MAY0120\BFB1.D Vial: 1
Acq On : 1 May 2020 8:15 Operator: RLD-DGS
Sample : 170774,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.699 to 4.711 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	21.5	7703	PASS
75	95	30	60	55.2	19757	PASS
95	95	100	100	100.0	35818	PASS
96	95	5	9	7.3	2614	PASS
173	174	0.00	2	0.3	102	PASS
174	95	50	100	90.3	32352	PASS
175	174	5	9	6.8	2206	PASS
176	174	95	101	96.2	31112	PASS
177	176	5	9	6.4	1993	PASS

W042920.M Mon May 04 08:21:01 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 01 09:21:06 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	98	0.00
2	PT	Dichlorodi	0.2917	0.3111	-6.65	98	0.00
3	PT	Chloromethan	0.3786	0.3779	0.18	97	0.00
4	PT	VinylChlorid	0.3537	0.3618	-2.29	98	0.00
5	PT	Bromomethane	0.1769	0.1834	-3.67	99	0.00
6	PT	Chloroethane	0.2185	0.2193	-0.37	96	0.00
7	T	Dichloroflmethane	0.5044	0.5057	-0.26	96	0.00
8	PT	Trichlorofma	0.3674	0.3862	-5.12	97	0.00
9	T	Ethylether	0.2635	0.2664	-1.10	98	0.00
10	T	dichlorotfluoroethan	0.3043	0.3150	-3.52	97	0.00
11	T	propyleneoxide	0.0596	0.0596	0.00	98	0.00
12	T	Acrolein	0.0569	0.0587	-3.16	100	0.00
13	PT	11dichlorthe	0.2342	0.2483	-6.02	101	0.00
14	PT	Trichlorotfluoroeth	0.2272	0.2422	-6.60	98	0.00
15	PT	Acetone	0.0811	0.0808#	0.37	97	0.00
16	T	Iodomethane	0.1798	0.1395	22.41#	76	0.00
17	PT	Carbon Dislf	0.6709	0.7444	-10.96	99	0.00
18	T	allylchloride	0.5007	0.5138	-2.62	96	0.00
19	PT	methylacetate	0.0546	0.0549#	-0.55	98	0.00
20	PT	Methylchlorid	0.3030	0.2903	4.19	99	0.00
21	T	tbutylalcohol	0.0237	0.0210#	11.39	89	0.00
22	T	Acrylonitrile	0.1124	0.1166	-3.74	99	0.00
23	PT	t12dichlorte	0.2752	0.2753	-0.04	98	0.00
24	PT	MtBE	0.7650	0.7615	0.46	98	0.00
25	T	Hexane	0.4491	0.4770	-6.21	94	0.00
26	PT	11dichlorota	0.5317	0.5358	-0.77	97	0.00
27	T	Vinylacetate	0.5744	0.5738	0.10	99	0.00
28	T	chloroprene	0.4425	0.4762	-7.62	97	0.00
29	T	Diisopether	0.9920	0.9760	1.61	91	0.00
30	T	ETBE	0.8432	0.8593	-1.91	97	0.00
31	T	22dichloropr	0.4155	0.4341	-4.48	99	0.00
32	PT	c12dichlorte	0.3121	0.3020	3.24	96	0.00
33	PT	2Butanone	0.0335	0.0336#	-0.30	101	0.00
34	T	propionitrile	0.0431	0.0423	1.86	93	0.00
35	T	Ethylacetate	0.0130	0.0131#	-0.77	102	0.00
36	T	methacrylonitrile	0.1410	0.1438	-1.99	106	0.00
37	T	Bromochlorma	0.1332	0.1259	5.48	97	0.00
38	T	Tetrahydofur	0.0979	0.1028	-5.01	103	0.00
39	PT	Chloroform	0.4817	0.4891	-1.54	98	0.00
40	PT	111trichlota	0.4154	0.4232	-1.88	98	0.00
41	S	SURRDibrflma	0.2400	0.2422	-0.92	100	0.00
42	PT	Cyclohexane	0.5264	0.5753	-9.29	99	0.00
43	PT	Carbtetraclo	0.3312	0.3308	0.12	94	0.00
44	T	11dicloprope	0.1304	0.1312	-0.61	96	0.00
45	S	SURR12DCAd4	0.0681	0.0687	-0.88	96	0.00
46	PT	Benzene	1.1214	1.1629	-3.70	96	0.00
47	PT	12dichlorota	0.4114	0.3910	4.96	96	0.00
48	T	TAME	0.7636	0.7783	-1.93	98	0.00

49	PT	trichloroete	0.2946	0.2878	2.31	96	0.00
50	PT	methylcyclohexane	0.5444	0.5775	-6.08	96	0.00
51	PT	12dicloropra	0.3492	0.3472	0.57	99	0.00
52	T	23Dicl1propene	0.4579	0.4674	-2.07	99	0.00
53	T	Dibromometha	0.1700	0.1753	-3.12	102	0.00
54	T	methylmethacrylate	0.2244	0.2306	-2.76	104	0.00
55	T	14dioxane	0.0016	0.0009#	43.75#	53	0.02
56	PT	Bromodiclrma	0.3660	0.3708	-1.31	97	0.00
57	T	2Nitropropane	0.0825	0.0903	-9.45	104	0.00
58	T	2CLEVE	0.1737	0.1800	-3.63	99	0.00
59	PT	c13dicloproe	0.4819	0.4881	-1.29	98	0.00
60	PT	4Meth2Pentan	0.2707	0.2808	-3.73	102	0.00
61	S	SURRd8Tolule	0.9865	0.9830	0.35	98	0.00
62	PT	Toluene	0.7569	0.7842	-3.61	98	0.00
63	PT	t13Dicloprop	0.4122	0.4234	-2.72	98	0.00
64	T	ethylmethacrylate	0.3907	0.4187	-7.17	102	0.00
65	PT	112Triclotha	0.2186	0.2169	0.78	98	0.00
66	PT	Tetrachlorte	0.2909	0.2971	-2.13	99	0.00
67	T	13Diclorpropa	0.4654	0.4732	-1.68	100	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	99	0.00
69	PT	2Hexanone	0.2677	0.2812	-5.04	103	0.00
70	PT	Clorodibrmta	0.3353	0.3216	4.09	96	0.00
71	PT	12Dibrometha	0.3240	0.3310	-2.16	104	0.00
72	PT	Chlorobenzen	0.9945	1.0105	-1.61	99	0.00
73	T	1Clhexane	0.5440	0.5561	-2.22	98	0.00
74	T	1112Tetclota	0.3387	0.3302	2.51	94	0.00
75	PT	Ethylbenzene	1.6806	1.7858	-6.26	99	0.00
76	PT	m p-Xylene	0.6428	0.6702	-4.26	98	0.00
77	PT	o-Xylene	0.6551	0.6656	-1.60	100	0.00
78	PT	Styrene	1.0595	1.0963	-3.47	98	0.00
79	PT	Bromoform	0.2260	0.2163	4.29	99	0.00
80	PT	Isopropylben	1.5564	1.6576	-6.50	99	0.00
81	T	cyclohexanone	0.0104	0.0080#	23.08#	75	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	100	0.00
83	S	SURR4BrFBenz	0.9650	0.9403	2.56	99	0.00
84	T	Bromobenzene	0.7732	0.7422	4.01	100	0.00
85	PT	1122Tetrclta	0.8704	0.8778	-0.85	105	0.00
86	T	123Triclproa	1.0730	1.0851	-1.13	106	0.00
87	T	14dichloro2butene	0.2624	0.2748	-4.73	114	0.00
88	T	n-Propylbenz	3.5941	3.6396	-1.27	98	0.00
89	T	2chlorotolue	2.1518	2.1772	-1.18	100	0.00
90	T	4chlorotolue	2.4458	2.5230	-3.16	98	0.00
91	T	135Trimebenz	2.3291	2.4154	-3.71	97	0.00
92	T	tbutylbenzen	2.0601	2.1229	-3.05	99	0.00
93	T	124Trimetben	2.3629	2.4623	-4.21	99	0.00
94	T	sbutylbenzen	2.9906	3.0467	-1.88	98	0.00
95	PT	13Diclorbenz	1.3914	1.3892	0.16	100	0.00
96	T	pIsopropylto	2.4207	2.5578	-5.66	100	0.00
97	PT	14dichlorobe	1.4038	1.3946	0.66	100	0.00
98	PT	12dichlorobe	1.3099	1.2695	3.08	100	0.00
99	T	nButylbenzen	2.5056	2.4804	1.01	99	0.00
100	PT	12dibromo3cl	0.1514	0.1566	-3.43	114	0.00
101	T	135Trichlorobenzene	0.9109	0.9191	-0.90	104	0.00
102	PT	124Trichlobe	0.7654	0.7452	2.64	101	0.00
103	T	Hexachlorobu	0.3909	0.4107	-5.07	104	0.00
104	T	Naphthalene	1.6595	1.8068	-8.88	109	0.00
105	T	123Trichlben	0.6777	0.6727	0.74	105	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W042920.M Mon May 04 08:23:33 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 01 09:21:06 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	98	0.00
2	PT	Dichlorodi	10.0000	10.6671	-6.67	98	0.00
3	PT	Chloromethan	10.0000	9.9811	0.19	97	0.00
4	PT	VinylChlorid	10.0000	10.2290	-2.29	98	0.00
5	PT	Bromomethane	10.0000	10.3703	-3.70	99	0.00
6	PT	Chloroethane	10.0000	10.0390	-0.39	96	0.00
7	T	Dichloroflmethane	10.0000	10.0262	-0.26	96	0.00
8	PT	Trichlorofma	10.0000	10.5122	-5.12	97	0.00
9	T	Ethylether	10.0000	10.1099	-1.10	98	0.00
10	T	dichlorotfluoroethan	10.0000	10.3518	-3.52	97	0.00
11	T	propyleneoxide	100.0000	100.0163	-0.02	98	0.00
12	T	Acrolein	50.0000	51.6253	-3.25	100	0.00
13	PT	11dichlorthe	10.0000	10.5998	-6.00	101	0.00
14	PT	Trichlorotfluoroeth	20.0000	21.3268	-6.63	98	0.00
15	PT	Acetone	100.0000	99.6651	0.33	97	0.00
16	T	Iodomethane	20.0000	13.8954	30.52#	76	0.00
17	PT	Carbon Dislf	20.0000	22.1926	-10.96	99	0.00
18	T	allylchloride	20.0000	20.5247	-2.62	96	0.00
19	PT	methylacetate	10.0000	10.0428	-0.43	98	0.00
20	PT	Methylchlorid	10.0000	9.5824	4.18	99	0.00
21	T	tbutylalcohol	500.0000	443.3156	11.34	89	0.00
22	T	Acrylonitrile	50.0000	51.8701	-3.74	99	0.00
23	PT	t12dichlorte	10.0000	10.0048	-0.05	98	0.00
24	PT	MtBE	10.0000	9.9530	0.47	98	0.00
25	T	Hexane	20.0000	21.2445	-6.22	94	0.00
26	PT	11dichlorota	10.0000	10.0778	-0.78	97	0.00
27	T	Vinylacetate	100.0000	108.6226	-8.62	99	0.00
28	T	chloroprene	20.0000	21.5254	-7.63	97	0.00
29	T	Diisopether	10.0000	9.8393	1.61	91	0.00
30	T	ETBE	10.0000	10.1899	-1.90	97	0.00
31	T	22dichloropr	10.0000	10.4483	-4.48	99	0.00
32	PT	c12dichlorte	10.0000	9.6754	3.25	96	0.00
33	PT	2Butanone	100.0000	100.2798	-0.28	101	0.00
34	T	propionitrile	100.0000	98.0501	1.95	93	0.00
35	T	Ethylacetate	50.0000	50.2960	-0.59	102	0.00
36	T	methacrylonitrile	20.0000	20.4053	-2.03	106	0.00
37	T	Bromochlorma	10.0000	9.4536	5.46	97	0.00
38	T	Tetrahydofur	100.0000	104.4823	-4.48	103	0.00
39	PT	Chloroform	10.0000	10.1530	-1.53	98	0.00
40	PT	111trichlota	10.0000	10.1877	-1.88	98	0.00
41	S	SURRDibrflma	20.0000	20.1779	-0.89	100	0.00
42	PT	Cyclohexane	10.0000	10.9304	-9.30	99	0.00
43	PT	Carbtetraclo	10.0000	9.9873	0.13	94	0.00
44	T	11dicloprope	10.0000	10.0576	-0.58	96	0.00
45	S	SURR12DCAd4	20.0000	20.1822	-0.91	96	0.00
46	PT	Benzene	10.0000	10.3696	-3.70	96	0.00
47	PT	12dichlorota	10.0000	9.5034	4.97	96	0.00
48	T	TAME	10.0000	10.1924	-1.92	98	0.00

49	PT	trichloroete	10.0000	9.7681	2.32	96	0.00
50	PT	methylcyclohexane	10.0000	10.6072	-6.07	96	0.00
51	PT	12dicloropra	10.0000	9.9435	0.56	99	0.00
52	T	23Dicl1propene	10.0000	10.2088	-2.09	99	0.00
53	T	Dibromometha	10.0000	10.3082	-3.08	102	0.00
54	T	methylmethacrylate	10.0000	10.2775	-2.77	104	0.00
55	T	14dioxane	500.0000	266.8060	46.64#	53	0.02
56	PT	Bromodiclrma	10.0000	10.1288	-1.29	97	0.00
57	T	2Nitropropane	100.0000	109.3530	-9.35	104	0.00
58	T	2CLEVE	50.0000	51.8089	-3.62	99	0.00
59	PT	c13dicloproe	10.0000	10.1284	-1.28	98	0.00
60	PT	4Meth2Pentan	100.0000	103.8081	-3.81	102	0.00
61	S	SURRd8Tolule	20.0000	19.9279	0.36	98	0.00
62	PT	Toluene	10.0000	10.3619	-3.62	98	0.00
63	PT	t13Dicloprop	10.0000	10.2717	-2.72	98	0.00
64	T	ethylmethacrylate	20.0000	21.4320	-7.16	102	0.00
65	PT	112Triclotha	10.0000	9.9213	0.79	98	0.00
66	PT	Tetrachlorte	10.0000	10.2141	-2.14	99	0.00
67	T	13Diclorpropa	10.0000	10.1693	-1.69	100	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	99	0.00
69	PT	2Hexanone	100.0000	101.8589	-1.86	103	0.00
70	PT	Clorodibrmta	10.0000	9.5916	4.08	96	0.00
71	PT	12Dibrometha	10.0000	10.2139	-2.14	104	0.00
72	PT	Chlorobenzen	10.0000	10.1608	-1.61	99	0.00
73	T	1Clhexane	10.0000	10.2209	-2.21	98	0.00
74	T	1112Tetclota	10.0000	9.7487	2.51	94	0.00
75	PT	Ethylbenzene	10.0000	10.6255	-6.26	99	0.00
76	PT	m p-Xylene	20.0000	20.8530	-4.27	98	0.00
77	PT	o-Xylene	10.0000	10.1604	-1.60	100	0.00
78	PT	Styrene	10.0000	10.3477	-3.48	98	0.00
79	PT	Bromoform	10.0000	9.5718	4.28	99	0.00
80	PT	Isopropylben	10.0000	10.6500	-6.50	99	0.00
81	T	cyclohexanone	200.0000	153.6020	23.20#	75	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	100	0.00
83	S	SURR4BrFBenz	20.0000	19.4885	2.56	99	0.00
84	T	Bromobenzene	10.0000	9.6000	4.00	100	0.00
85	PT	1122Tetrclta	10.0000	10.0846	-0.85	105	0.00
86	T	123Triclproa	10.0000	10.1131	-1.13	106	0.00
87	T	14dichloro2butene	10.0000	10.4739	-4.74	114	0.00
88	T	n-Propylbenz	10.0000	10.1267	-1.27	98	0.00
89	T	2chlorotolue	10.0000	10.1183	-1.18	100	0.00
90	T	4chlorotolue	10.0000	10.3153	-3.15	98	0.00
91	T	135Trimebenz	10.0000	10.3708	-3.71	97	0.00
92	T	tbutylbenzen	10.0000	10.3049	-3.05	99	0.00
93	T	124Trimetben	10.0000	10.4205	-4.21	99	0.00
94	T	sbutylbenzen	10.0000	10.1875	-1.88	98	0.00
95	PT	13Diclorbenz	10.0000	9.9839	0.16	100	0.00
96	T	pIsopropylto	10.0000	10.5665	-5.66	100	0.00
97	PT	14dichlorobe	10.0000	9.9346	0.65	100	0.00
98	PT	12dichlorobe	10.0000	9.6921	3.08	100	0.00
99	T	nButylbenzen	10.0000	9.8993	1.01	99	0.00
100	PT	12dibromo3cl	10.0000	10.3474	-3.47	114	0.00
101	T	135Trichlorobenzene	10.0000	10.0895	-0.89	104	0.00
102	PT	124Trichlobe	10.0000	9.7357	2.64	101	0.00
103	T	Hexachlorobu	10.0000	10.5076	-5.08	104	0.00
104	T	Naphthalene	10.0000	10.8873	-8.87	109	0.00
105	T	123Trichlben	10.0000	9.9274	0.73	105	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W042920.M Mon May 04 08:23:57 2020

Quantitation Report

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1188610	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	902251	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	508651	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	287823	20.178	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.27	102	81701	20.182	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.72	98	1168380	19.928	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	478303	19.488	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	184911	10.6671	ug/L	97
3) Chloromethan	2.09	50	224608	9.9811	ug/L	96
4) VinylChlorid	2.25	62	215006	10.2290	ug/L	100
5) Bromomethane	2.73	94	109013	10.3703	ug/L	99
6) Chloroethane	2.89	64	130337	10.0390	ug/L	96
7) Dichloroflmethane	3.20	67	300551	10.0262	ug/L	99
8) Trichlorofma	3.28	101	229507	10.5122	ug/L	100
9) Ethylether	3.73	59	158324	10.1099	ug/L	99
10) dichlorotfluoroethan	3.73	67	187204	10.3518	ug/L	100
11) propyleneoxide	3.78	58	354147	100.0163	ug/L	100
12) Acrolein	3.85	56	174435	51.6253	ug/L	98
13) 11dichlorthe	4.00	96	147565	10.5998	ug/L	96
14) Trichlorotfluoroeth	4.04	101	287923	21.3268	ug/L	99
15) Acetone	4.08	43	480306	99.6651	ug/L	98
16) Iodomethane	4.18	142	165845	13.8954	ug/L	99
17) Carbon Dislf	4.27	76	884810	22.1926	ug/L	99
18) allylchloride	4.49	41	610731	20.5247	ug/L	99
19) methylacetate	4.55	74	32616	10.0428	ug/L	92
20) Methylchlorid	4.64	84	172549	9.5824	ug/L	98
21) tbutylalcohol	4.86	59	624739	443.3156	ug/L	99
22) Acrylonitrile	4.95	53	346443	51.8701	ug/L	96
23) t12dichlorte	5.02	96	163641	10.0048	ug/L	99
24) MtBE	5.06	73	452535	9.9530	ug/L	99
25) Hexane	5.42	57	566986	21.2445	ug/L	99
26) 11dichlorota	5.55	63	318446	10.0778	ug/L	99
27) Vinylacetate	5.64	43	3409961	108.6226	ug/L	99
28) chloroprene	5.68	53	566018	21.5254	ug/L	99
29) Diisopether	5.70	45	580061	9.8393	ug/L	98
30) ETBE	6.15	59	510663	10.1899	ug/L	98
31) 22dichloropr	6.29	77	257996	10.4483	ug/L	99
32) c12dichlorte	6.27	96	179480	9.6754	ug/L	99
33) 2Butanone	6.31	72	199544	100.2798	ug/L	99
34) propionitrile	6.34	54	251311	98.0501	ug/L	98
35) Ethylacetate	6.41	88	38786	50.2960	ug/L #	90
36) methacrylonitrile	6.55	67	170967	20.4053	ug/L	98
37) Bromochlorma	6.57	128	74828	9.4536	ug/L	98
38) Tetrahydofur	6.67	42	610764	104.4823	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	290675	10.1530	ug/L	98
40)	111trichlota	6.92	97	251484	10.1877	ug/L	99
42)	Cyclohexane	7.00	56	341920	10.9304	ug/L	100
43)	Carbtetraclo	7.13	119	196608	9.9873	ug/L	100
44)	11dicloprope	7.13	110	77958	10.0576	ug/L	97
46)	Benzene	7.37	78	691109	10.3696	ug/L	98
47)	12dichlorota	7.38	62	232367	9.5034	ug/L	99
48)	TAME	7.55	73	462556	10.1924	ug/L	99
49)	trichloroete	8.18	95	171017	9.7681	ug/L	96
50)	methylcyclohexane	8.45	83	343214	10.6072	ug/L	98
51)	12dicloropra	8.44	63	206332	9.9435	ug/L	99
52)	23Dicl1propene	8.50	75	277804	10.2088	ug/L	99
53)	Dibromometha	8.57	93	104175	10.3082	ug/L	96
54)	methylmethacrylate	8.60	69	137045	10.2775	ug/L	98
55)	14dioxane	8.65	88	26005	266.8060	ug/L	95
56)	Bromodiclrma	8.78	83	220345	10.1288	ug/L	100
57)	2Nitropropane	9.05	43	536426	109.3530	ug/L	99
58)	2CLEVE	9.17	63	534904	51.8089	ug/L	100
59)	c13dicloproe	9.36	75	290072	10.1284	ug/L	99
60)	4Meth2Pentan	9.57	43	1668870	103.8081	ug/L	99
62)	Toluene	9.81	92	466079	10.3619	ug/L	99
63)	t13Dicloprop	10.06	75	251653	10.2717	ug/L	98
64)	ethylmethacrylate	10.22	69	497638	21.4320	ug/L	100
65)	112Triclotha	10.30	83	128907	9.9213	ug/L	98
66)	Tetrachlorte	10.54	166	176578	10.2141	ug/L	98
67)	13Diclorpropa	10.53	76	281252	10.1693	ug/L	99
69)	2Hexanone	10.66	43	1268372	101.8589	ug/L	99
70)	Clorodibrmta	10.83	129	145085	9.5916	ug/L	96
71)	12Dibrometha	10.98	107	149304	10.2139	ug/L	99
72)	Chlorobenzen	11.67	112	455881	10.1608	ug/L	98
73)	1Clhexane	11.65	91	250854	10.2209	ug/L	99
74)	1112Tetclota	11.78	131	148944	9.7487	ug/L	94
75)	Ethylbenzene	11.83	91	805603	10.6255	ug/L	98
76)	m p-Xylene	11.99	106	604682	20.8530	ug/L	99
77)	o-Xylene	12.54	106	300260	10.1604	ug/L	96
78)	Styrene	12.55	104	494590	10.3477	ug/L	99
79)	Bromoform	12.78	173	97574	9.5718	ug/L	97
80)	Isopropylben	13.07	105	747796	10.6500	ug/L	100
81)	cyclohexanone	13.17	55	71861	153.6020	ug/L	98
84)	Bromobenzene	13.48	156	188772	9.6000	ug/L	98
85)	1122Tetrclta	13.45	83	223235	10.0846	ug/L	97
86)	123Triclproa	13.51	75	275979	10.1131	ug/L	98
87)	14dichloro2butene	13.53	53	69885	10.4739	ug/L	96
88)	n-Propylbenz	13.65	91	925640	10.1267	ug/L	100
89)	2chlorotolue	13.76	91	553730	10.1183	ug/L	99
90)	4chlorotolue	13.92	91	641654	10.3153	ug/L	99
91)	135Trimebenz	13.91	105	614305	10.3708	ug/L	99
92)	tbutylbenzen	14.38	119	539900	10.3049	ug/L	98
93)	124Trimetben	14.45	105	626218	10.4205	ug/L	98
94)	sbutylbenzen	14.70	105	774854	10.1875	ug/L	99
95)	13Diclorbenz	14.83	146	353297	9.9839	ug/L	99
96)	pIsopropylto	14.91	119	650518	10.5665	ug/L	100
97)	14dichlorobe	14.96	146	354680	9.9346	ug/L	100
98)	12dichlorobe	15.50	146	322878	9.6921	ug/L	99
99)	nButylbenzen	15.51	91	630825	9.8993	ug/L	98
100)	12dibromo3cl	16.60	157	39834	10.3474	ug/L	92
101)	135Trichlorobenzene	16.93	180	233745	10.0895	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.73	180	189517	9.7357	ug/L	99
103) Hexachlorobu	17.98	225	104464	10.5076	ug/L	97
104) Naphthalene	18.03	128	459514	10.8873	ug/L	99
105) 123Trichlben	18.35	180	171094	9.9274	ug/L	99

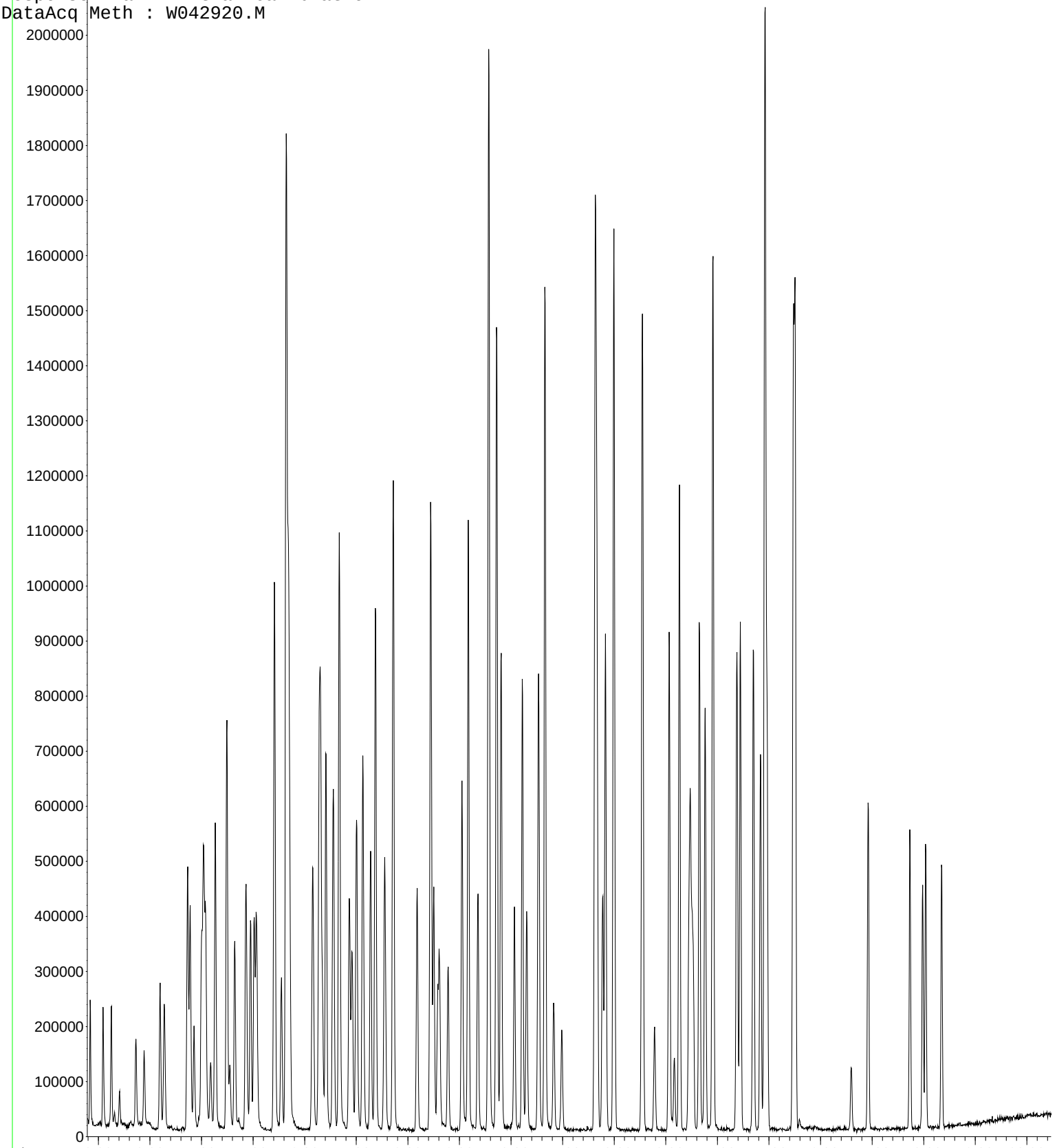
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0120\CCVF1-LCSD.D Vial: 23
Acq On : 1 May 2020 18:56 Operator: RLD-DGS
Sample : 170775,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 01 19:17:20 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	95	0.00
2	PT	Dichlorodi	0.2917	0.2865	1.78	87	0.00
3	PT	Chloromethan	0.3786	0.3824	-1.00	95	0.00
4	PT	VinylChlorid	0.3537	0.3483	1.53	92	0.00
5	PT	Bromomethane	0.1769	0.1542	12.83	81	0.00
6	PT	Chloroethane	0.2185	0.2096	4.07	89	0.00
7	T	Dichloroflmethane	0.5044	0.4823	4.38	89	0.00
8	PT	Trichlorofma	0.3674	0.3607	1.82	88	0.00
9	T	Ethylether	0.2635	0.2580	2.09	92	0.00
10	T	dichlorotfluoroethan	0.3043	0.2940	3.38	88	0.00
11	T	propyleneoxide	0.0596	0.0520	12.75	83	0.00
12	T	Acrolein	0.0569	0.0266#	53.25#	44#	0.00
13	PT	11dichlorthe	0.2342	0.2339	0.13	92	0.00
14	PT	Trichlorotfluoroeth	0.2272	0.2215	2.51	87	0.00
15	PT	Acetone	0.0811	0.0841#	-3.70	98	0.00
16	T	Iodomethane	0.1798	0.1986	-10.46	105	0.00
17	PT	Carbon Dislf	0.6709	0.7063	-5.28	91	0.00
18	T	allylchloride	0.5007	0.4260	14.92	77	0.00
19	PT	methylacetate	0.0546	0.0524#	4.03	91	0.00
20	PT	Methylchlorid	0.3030	0.2784	8.12	92	0.00
21	T	tbutylalcohol	0.0237	0.0241#	-1.69	99	0.00
22	T	Acrylonitrile	0.1124	0.1150	-2.31	95	0.00
23	PT	t12dichlorte	0.2752	0.2647	3.82	91	0.00
24	PT	MtBE	0.7650	0.7437	2.78	93	0.00
25	T	Hexane	0.4491	0.3314	26.21	63	0.00
26	PT	11dichlorota	0.5317	0.5263	1.02	92	0.00
27	T	Vinylacetate	0.5744	0.0470	91.82#	8#	0.00
28	T	chloroprene	0.4425	0.4447	-0.50	88	0.00
29	T	Diisopether	0.9920	0.9722	2.00	87	0.00
30	T	ETBE	0.8432	0.8214	2.59	89	0.00
31	T	22dichloropr	0.4155	0.1174	71.74#	26#	0.00
32	PT	c12dichlorte	0.3121	0.2950	5.48	91	0.00
33	PT	2Butanone	0.0335	0.0331#	1.19	97	0.00
34	T	propionitrile	0.0431	0.0425	1.39	91	0.00
35	T	Ethylacetate	0.0130	0.0124#	4.62	94	0.00
36	T	methacrylonitrile	0.1410	0.1343	4.75	95	0.00
37	T	Bromochlorma	0.1332	0.1253	5.93	93	0.00
38	T	Tetrahydofur	0.0979	0.1003	-2.45	97	0.00
39	PT	Chloroform	0.4817	0.4725	1.91	92	0.00
40	PT	111trichlota	0.4154	0.4070	2.02	91	0.00
41	S	SURRDibrflma	0.2400	0.2417	-0.71	96	0.00
42	PT	Cyclohexane	0.5264	0.5138	2.39	86	0.00
43	PT	Carbtetraclo	0.3312	0.3258	1.63	89	0.00
44	T	11dicloprope	0.1304	0.1258	3.53	89	0.00
45	S	SURR12DCAd4	0.0681	0.0689	-1.17	93	0.00
46	PT	Benzene	1.1214	1.1113	0.90	89	0.00
47	PT	12dichlorota	0.4114	0.3970	3.50	94	0.00
48	T	TAME	0.7636	0.7446	2.49	91	0.00

49	PT	trichloroete	0.2946	0.3701	-25.63	120	0.00
50	PT	methylcyclohexane	0.5444	0.5221	4.10	84	0.00
51	PT	12dicloropra	0.3492	0.3311	5.18	92	0.00
52	T	23Dicl1propene	0.4579	0.4330	5.44	89	0.00
53	T	Dibromometha	0.1700	0.1659	2.41	93	0.00
54	T	methylmethacrylate	0.2244	0.2045	8.87	89	0.00
55	T	14dioxane	0.0016	0.0018#	-12.50	103	0.00
56	PT	Bromodiclrma	0.3660	0.3613	1.28	92	0.00
57	T	2Nitropropane	0.0825	0.0737	10.67	82	0.00
58	T	2CLEVE	0.1737	0.1742	-0.29	92	0.00
59	PT	c13dicloproe	0.4819	0.3913	18.80	76	0.00
60	PT	4Meth2Pentan	0.2707	0.2728	-0.78	96	0.00
61	S	SURRd8Tolule	0.9865	0.9889	-0.24	95	0.00
62	PT	Toluene	0.7569	0.7348	2.92	89	0.00
63	PT	t13Dicloprop	0.4122	0.3314	19.60	75	0.00
64	T	ethylmethacrylate	0.3907	0.3882	0.64	91	0.00
65	PT	112Triclotha	0.2186	0.2060	5.76	90	0.00
66	PT	Tetrachlorte	0.2909	0.2782	4.37	90	0.00
67	T	13Diclorpropa	0.4654	0.4567	1.87	93	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	96	0.00
69	PT	2Hexanone	0.2677	0.2680	-0.11	96	0.00
70	PT	Clorodibrmta	0.3353	0.3207	4.35	94	0.00
71	PT	12Dibrometha	0.3240	0.3140	3.09	97	0.00
72	PT	Chlorobenzen	0.9945	0.9604	3.43	92	0.00
73	T	1Clhexane	0.5440	0.4944	9.12	85	0.00
74	T	1112Tetclota	0.3387	0.3269	3.48	91	0.00
75	PT	Ethylbenzene	1.6806	1.6389	2.48	89	0.00
76	PT	m p-Xylene	0.6428	0.6203	3.50	89	0.00
77	PT	o-Xylene	0.6551	0.6251	4.58	91	0.00
78	PT	Styrene	1.0595	1.0302	2.77	90	0.00
79	PT	Bromoform	0.2260	0.2043	9.60	91	0.00
80	PT	Isopropylben	1.5564	1.5744	-1.16	92	0.00
81	T	cyclohexanone	0.0104	0.0111#	-6.73	101	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	98	0.00
83	S	SURR4BrFBenz	0.9650	0.9605	0.47	98	0.00
84	T	Bromobenzene	0.7732	0.7351	4.93	96	0.00
85	PT	1122Tetrclta	0.8704	0.5413	37.81	63	0.00
86	T	123Triclproa	1.0730	0.9329	13.06	88	0.00
87	T	14dichloro2butene	0.2624	0.1731	34.03	70	0.00
88	T	n-Propylbenz	3.5941	3.4377	4.35	90	0.00
89	T	2chlorotolue	2.1518	2.0816	3.26	93	0.00
90	T	4chlorotolue	2.4458	2.3714	3.04	90	0.00
91	T	135Trimebenz	2.3291	2.2731	2.40	89	0.00
92	T	tbutylbenzen	2.0601	2.0254	1.68	92	0.00
93	T	124Trimetben	2.3629	2.3111	2.19	90	0.00
94	T	sbutylbenzen	2.9906	2.8953	3.19	91	0.00
95	PT	13Diclorbenz	1.3914	1.3291	4.48	93	0.00
96	T	pIsopropylto	2.4207	2.3689	2.14	90	0.00
97	PT	14dichlorobe	1.4038	1.3296	5.29	93	0.00
98	PT	12dichlorobe	1.3099	1.2638	3.52	97	0.00
99	T	nButylbenzen	2.5056	2.2660	9.56	88	0.00
100	PT	12dibromo3cl	0.1514	0.1424	5.94	101	0.00
101	T	135Trichlorobenzene	0.9109	0.8547	6.17	94	0.00
102	PT	124Trichlobe	0.7654	0.6890	9.98	91	0.00
103	T	Hexachlorobu	0.3909	0.3530	9.70	87	0.00
104	T	Naphthalene	1.6595	1.7564	-5.84	103	0.00
105	T	123Trichlben	0.6777	0.6456	4.74	98	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W042920.M Mon May 04 08:25:34 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0120\CCVF1-LCSD.D Vial: 23
Acq On : 1 May 2020 18:56 Operator: RLD-DGS
Sample : 170775,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 01 19:17:20 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	95	0.00
2	PT	Dichlorodi	10.0000	9.8221	1.78	87	0.00
3	PT	Chloromethan	10.0000	10.0983	-0.98	95	0.00
4	PT	VinylChlorid	10.0000	9.8470	1.53	92	0.00
5	PT	Bromomethane	10.0000	8.7162	12.84	81	0.00
6	PT	Chloroethane	10.0000	9.5967	4.03	89	0.00
7	T	Dichloroflmethane	10.0000	9.5617	4.38	89	0.00
8	PT	Trichlorofma	10.0000	9.8198	1.80	88	0.00
9	T	Ethylether	10.0000	9.7896	2.10	92	0.00
10	T	dichlorotfluoroethan	10.0000	9.6614	3.39	88	0.00
11	T	propyleneoxide	100.0000	87.2400	12.76	83	0.00
12	T	Acrolein	50.0000	23.3912	53.22#	44	0.00
13	PT	11dichlorthe	10.0000	9.9836	0.16	92	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.4986	2.51	87	0.00
15	PT	Acetone	100.0000	103.7589	-3.76	98	0.00
16	T	Iodomethane	20.0000	18.1269	9.37	105	0.00
17	PT	Carbon Dislf	20.0000	21.0559	-5.28	91	0.00
18	T	allylchloride	20.0000	17.0160	14.92	77	0.00
19	PT	methylacetate	10.0000	9.5887	4.11	91	0.00
20	PT	Methylchlorid	10.0000	9.1871	8.13	92	0.00
21	T	tbutylalcohol	500.0000	507.8304	-1.57	99	0.00
22	T	Acrylonitrile	50.0000	51.1846	-2.37	95	0.00
23	PT	t12dichlorte	10.0000	9.6167	3.83	91	0.00
24	PT	MtBE	10.0000	9.7211	2.79	93	0.00
25	T	Hexane	20.0000	14.7583	26.21	63	0.00
26	PT	11dichlorota	10.0000	9.8986	1.01	92	0.00
27	T	Vinylacetate	100.0000	2.1597	97.84#	8	0.00
28	T	chloroprene	20.0000	20.1026	-0.51	88	0.00
29	T	Diisopether	10.0000	9.8011	1.99	87	0.00
30	T	ETBE	10.0000	9.7412	2.59	89	0.00
31	T	22dichloropr	10.0000	2.8255	71.75#	26	0.00
32	PT	c12dichlorte	10.0000	9.4526	5.47	91	0.00
33	PT	2Butanone	100.0000	98.8232	1.18	97	0.00
34	T	propionitrile	100.0000	98.4443	1.56	91	0.00
35	T	Ethylacetate	50.0000	47.8023	4.40	94	0.00
36	T	methacrylonitrile	20.0000	19.0511	4.74	95	0.00
37	T	Bromochlorma	10.0000	9.4078	5.92	93	0.00
38	T	Tetrahydofur	100.0000	101.7877	-1.79	97	0.00
39	PT	Chloroform	10.0000	9.8094	1.91	92	0.00
40	PT	111trichlota	10.0000	9.7979	2.02	91	0.00
41	S	SURRDibrflma	20.0000	20.1378	-0.69	96	0.00
42	PT	Cyclohexane	10.0000	9.7618	2.38	86	0.00
43	PT	Carbtetraclo	10.0000	9.8367	1.63	89	0.00
44	T	11dicloprope	10.0000	9.6463	3.54	89	0.00
45	S	SURR12DCAd4	20.0000	20.2304	-1.15	93	0.00
46	PT	Benzene	10.0000	9.9098	0.90	89	0.00
47	PT	12dichlorota	10.0000	9.6501	3.50	94	0.00
48	T	TAME	10.0000	9.7512	2.49	91	0.00

49	PT	trichloroete	10.0000	12.5648	-25.65	120	0.00
50	PT	methylcyclohexane	10.0000	9.5897	4.10	84	0.00
51	PT	12dicloropra	10.0000	9.4837	5.16	92	0.00
52	T	23Dicl1propene	10.0000	9.4560	5.44	89	0.00
53	T	Dibromometha	10.0000	9.7565	2.43	93	0.00
54	T	methylmethacrylate	10.0000	9.1158	8.84	89	0.00
55	T	14dioxane	500.0000	569.5107	-13.90	103	0.00
56	PT	Bromodiclrma	10.0000	9.8700	1.30	92	0.00
57	T	2Nitropropane	100.0000	89.2653	10.73	82	0.00
58	T	2CLEVE	50.0000	50.1293	-0.26	92	0.00
59	PT	c13dicloproe	10.0000	8.1205	18.80	76	0.00
60	PT	4Meth2Pentan	100.0000	100.4240	-0.42	96	0.00
61	S	SURRd8Tolule	20.0000	20.0488	-0.24	95	0.00
62	PT	Toluene	10.0000	9.7088	2.91	89	0.00
63	PT	t13Dicloprop	10.0000	8.0386	19.61	75	0.00
64	T	ethylmethacrylate	20.0000	19.8698	0.65	91	0.00
65	PT	112Triclotha	10.0000	9.4218	5.78	90	0.00
66	PT	Tetrachlorte	10.0000	9.5654	4.35	90	0.00
67	T	13Diclorpropa	10.0000	9.8131	1.87	93	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	96	0.00
69	PT	2Hexanone	100.0000	96.5715	3.43	96	0.00
70	PT	Clorodibrmta	10.0000	9.5647	4.35	94	0.00
71	PT	12Dibrometha	10.0000	9.6899	3.10	97	0.00
72	PT	Chlorobenzen	10.0000	9.6571	3.43	92	0.00
73	T	1Clhexane	10.0000	9.0881	9.12	85	0.00
74	T	1112Tetclota	10.0000	9.6515	3.48	91	0.00
75	PT	Ethylbenzene	10.0000	9.7515	2.48	89	0.00
76	PT	m p-Xylene	20.0000	19.3016	3.49	89	0.00
77	PT	o-Xylene	10.0000	9.5429	4.57	91	0.00
78	PT	Styrene	10.0000	9.7231	2.77	90	0.00
79	PT	Bromoform	10.0000	9.0406	9.59	91	0.00
80	PT	Isopropylben	10.0000	10.1153	-1.15	92	0.00
81	T	cyclohexanone	200.0000	213.9036	-6.95	101	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	98	0.00
83	S	SURR4BrFBenz	20.0000	19.9060	0.47	98	0.00
84	T	Bromobenzene	10.0000	9.5073	4.93	96	0.00
85	PT	1122Tetrclta	10.0000	6.2186	37.81	63	0.00
86	T	123Triclproa	10.0000	8.6942	13.06	88	0.00
87	T	14dichloro2butene	10.0000	6.5975	34.02	70	0.00
88	T	n-Propylbenz	10.0000	9.5650	4.35	90	0.00
89	T	2chlorotolue	10.0000	9.6738	3.26	93	0.00
90	T	4chlorotolue	10.0000	9.6956	3.04	90	0.00
91	T	135Trimebenz	10.0000	9.7595	2.41	89	0.00
92	T	tbutylbenzen	10.0000	9.8318	1.68	92	0.00
93	T	124Trimetben	10.0000	9.7806	2.19	90	0.00
94	T	sbutylbenzen	10.0000	9.6813	3.19	91	0.00
95	PT	13Diclorbenz	10.0000	9.5524	4.48	93	0.00
96	T	pIsopropylto	10.0000	9.7861	2.14	90	0.00
97	PT	14dichlorobe	10.0000	9.4714	5.29	93	0.00
98	PT	12dichlorobe	10.0000	9.6484	3.52	97	0.00
99	T	nButylbenzen	10.0000	9.0435	9.57	88	0.00
100	PT	12dibromo3cl	10.0000	9.4065	5.94	101	0.00
101	T	135Trichlorobenzene	10.0000	9.3825	6.17	94	0.00
102	PT	124Trichlobe	10.0000	9.0021	9.98	91	0.00
103	T	Hexachlorobu	10.0000	9.0312	9.69	87	0.00
104	T	Naphthalene	10.0000	10.5835	-5.84	103	0.00
105	T	123Trichlben	10.0000	9.5274	4.73	98	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W042920.M Mon May 04 08:26:08 2020

Quantitation Report

Data File : C:\Instarch\Data\MAY0120\CCVF1-LCSD.D Vial: 23
Acq On : 1 May 2020 18:56 Operator: RLD-DGS
Sample : 170775,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 19:17:20 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1151046	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	881240	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	494717	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	278173	20.138	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	79308	20.230	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.72	98	1138318	20.049	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	475168	19.906	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	164883	9.8221	ug/L	99
3) Chloromethan	2.09	50	220064	10.0983	ug/L	97
4) VinylChlorid	2.25	62	200435	9.8470	ug/L	99
5) Bromomethane	2.72	94	88729	8.7162	ug/L	97
6) Chloroethane	2.89	64	120657	9.5967	ug/L	100
7) Dichloroflmethane	3.20	67	277569	9.5617	ug/L	99
8) Trichlorofma	3.28	101	207615	9.8198	ug/L	99
9) Ethylether	3.73	59	148464	9.7896	ug/L	98
10) dichlorotfluoroethan	3.73	67	169197	9.6614	ug/L	98
11) propyleneoxide	3.78	58	299145	87.2400	ug/L	98
12) Acrolein	3.85	56	76538	23.3912	ug/L	95
13) 11dichlorthe	4.00	96	134593	9.9836	ug/L	98
14) Trichlorotfluoroeth	4.04	101	254921	19.4986	ug/L	97
15) Acetone	4.08	43	484232	103.7589	ug/L	99
16) Iodomethane	4.18	142	228563	18.1269	ug/L	100
17) Carbon Dislf	4.27	76	812960	21.0559	ug/L	99
18) allylchloride	4.49	41	490325	17.0160	ug/L	99
19) methylacetate	4.55	74	30157	9.5887	ug/L	96
20) Methylchlorid	4.64	84	160203	9.1871	ug/L	98
21) tbutylalcohol	4.86	59	693039	507.8304	ug/L	99
22) Acrylonitrile	4.95	53	331061	51.1846	ug/L	98
23) t12dichlorte	5.02	96	152322	9.6167	ug/L	96
24) MtBE	5.07	73	428024	9.7211	ug/L	98
25) Hexane	5.41	57	381429	14.7583	ug/L	99
26) 11dichlorota	5.54	63	302898	9.8986	ug/L	98
27) Vinylacetate	5.64	43	270484	N.D.		
28) chloroprene	5.68	53	511898	20.1026	ug/L	99
29) Diisopether	5.70	45	559549	9.8011	ug/L	97
30) ETBE	6.15	59	472749	9.7412	ug/L	98
31) 22dichloropr	6.29	77	67565	2.8255	ug/L	94
32) c12dichlorte	6.28	96	169805	9.4526	ug/L	89
33) 2Butanone	6.31	72	190431	98.8232	ug/L	97
34) propionitrile	6.34	54	244347	98.4443	ug/L	97
35) Ethylacetate	6.41	88	35698	47.8023	ug/L #	88
36) methacrylonitrile	6.55	67	154576	19.0511	ug/L	98
37) Bromochlorma	6.57	128	72112	9.4078	ug/L	99
38) Tetrahydofur	6.67	42	577188	101.7877	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0120\CCVF1-LCSD.D Vial: 23
Acq On : 1 May 2020 18:56 Operator: RLD-DGS
Sample : 170775,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 19:17:20 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.68	83	271962	9.8094	ug/L	99
40) 111trichlota	6.91	97	234219	9.7979	ug/L	97
42) Cyclohexane	7.00	56	295713	9.7618	ug/L	99
43) Carbtetraclo	7.13	119	187524	9.8367	ug/L	98
44) 11dicloprope	7.12	110	72407	9.6463	ug/L	97
46) Benzene	7.37	78	639591	9.9098	ug/L	97
47) 12dichlorota	7.37	62	228495	9.6501	ug/L	100
48) TAME	7.55	73	428547	9.7512	ug/L	99
49) trichloroete	8.18	95	213029	12.5648	ug/L	100
50) methylcyclohexane	8.44	83	300484	9.5897	ug/L	99
51) 12dicloropra	8.43	63	190571	9.4837	ug/L	99
52) 23Dicl1propene	8.50	75	249188	9.4560	ug/L	98
53) Dibromometha	8.58	93	95483	9.7565	ug/L	98
54) methylmethacrylate	8.61	69	117713	9.1158	ug/L	99
55) 14dioxane	8.64	88	50835	569.5107	ug/L	96
56) Bromodiclrma	8.78	83	207930	9.8700	ug/L	97
57) 2Nitropropane	9.05	43	424048	89.2653	ug/L	98
58) 2CLEVE	9.17	63	501206	50.1293	ug/L	97
59) c13dicloproe	9.36	75	225215	8.1205	ug/L	98
60) 4Meth2Pentan	9.57	43	1569864	100.4240	ug/L	99
62) Toluene	9.80	92	422903	9.7088	ug/L	97
63) t13Dicloprop	10.06	75	190720	8.0386	ug/L	96
64) ethylmethacrylate	10.22	69	446784	19.8698	ug/L	100
65) 112Triclotha	10.30	83	118548	9.4218	ug/L	94
66) Tetrachlorte	10.54	166	160137	9.5654	ug/L	95
67) 13Diclorpropa	10.53	76	262825	9.8131	ug/L	100
69) 2Hexanone	10.65	43	1180807	96.5715	ug/L	99
70) Clorodibrmta	10.83	129	141308	9.5647	ug/L	96
71) 12Dibrometha	10.98	107	138346	9.6899	ug/L	99
72) Chlorobenzen	11.67	112	423192	9.6571	ug/L	98
73) 1Clhexane	11.65	91	217859	9.0881	ug/L	98
74) 1112Tetclota	11.78	131	144026	9.6515	ug/L	97
75) Ethylbenzene	11.83	91	722122	9.7515	ug/L	100
76) m p-Xylene	11.99	106	546663	19.3016	ug/L	99
77) o-Xylene	12.54	106	275446	9.5429	ug/L	99
78) Styrene	12.55	104	453914	9.7231	ug/L	99
79) Bromoform	12.78	173	90012	9.0406	ug/L	99
80) Isopropylben	13.07	105	693709	10.1153	ug/L	99
81) cyclohexanone	13.17	55	97742	213.9036	ug/L	99
84) Bromobenzene	13.48	156	181828	9.5073	ug/L	97
85) 1122Tetrclta	13.44	83	133885	6.2186	ug/L	95
86) 123Triclproa	13.51	75	230757	8.6942	ug/L	95
87) 14dichloro2butene	13.54	53	42815	6.5975	ug/L	94
88) n-Propylbenz	13.65	91	850350	9.5650	ug/L	98
89) 2chlorotolue	13.76	91	514902	9.6738	ug/L	98
90) 4chlorotolue	13.92	91	586581	9.6956	ug/L	98
91) 135Trimebenz	13.91	105	562260	9.7595	ug/L	97
92) tbutylbenzen	14.38	119	501002	9.8318	ug/L	99
93) 124Trimetben	14.45	105	571662	9.7806	ug/L	97
94) sbutylbenzen	14.70	105	716184	9.6813	ug/L	98
95) 13Diclorbenz	14.83	146	328765	9.5524	ug/L	98
96) pIsopropylto	14.91	119	585968	9.7861	ug/L	98
97) 14dichlorobe	14.96	146	328881	9.4714	ug/L	98
98) 12dichlorobe	15.50	146	312618	9.6484	ug/L	98
99) nButylbenzen	15.51	91	560506	9.0435	ug/L	100
100) 12dibromo3cl	16.60	157	35220	9.4065	ug/L	99
101) 135Trichlorobenzene	16.92	180	211410	9.3825	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\Instarch\Data\MAY0120\CCVF1-LCSD.D Vial: 23
Acq On : 1 May 2020 18:56 Operator: RLD-DGS
Sample : 170775,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 19:17:20 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	170435	9.0021	ug/L	98
103) Hexachlorobu	17.98	225	87326	9.0312	ug/L	95
104) Naphthalene	18.03	128	434458	10.5835	ug/L	99
105) 123Trichlben	18.35	180	159702	9.5274	ug/L	96

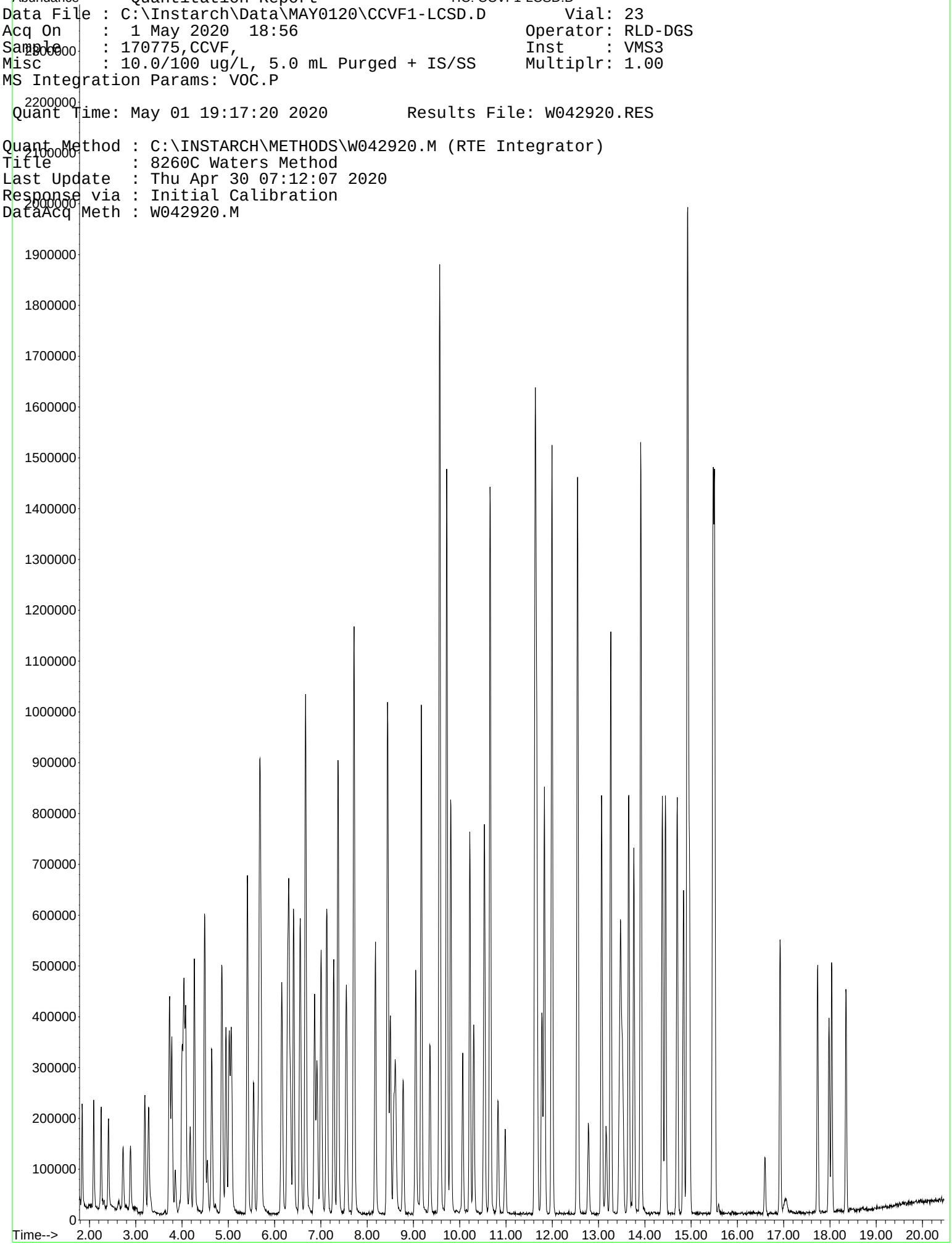
(#) = qualifier out of range (m) = manual integration
CCVF1-LCSD.D W042920.M Mon May 04 08:25:11 2020 Page 325 Page 3

Abundance Quantitation Report TIC: CCVF1-LCSD.D

Data File : C:\Instarch\Data\MAY0120\CCVF1-LCSD.D Vial: 23
Acq On : 1 May 2020 18:56 Operator: RLD-DGS
Sample : 170775,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 19:17:20 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



BFB

Data File : C:\Instarch\Data\MAY0420\BFB1.D Vial: 1
Acq On : 4 May 2020 8:06 Operator: RLD-DGS
Sample : 170843,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.675 to 4.687 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	20.9	13617	PASS
75	95	30	60	55.2	35945	PASS
95	95	100	100	100.0	65173	PASS
96	95	5	9	6.0	3915	PASS
173	174	0.00	2	0.8	445	PASS
174	95	50	100	85.0	55370	PASS
175	174	5	9	7.3	4026	PASS
176	174	95	101	97.5	53962	PASS
177	176	5	9	6.7	3614	PASS

W042920.M Tue May 05 12:35:20 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 04 08:42:34 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	97	0.00
2	PT	Dichlorodi	0.2917	0.2946	-0.99	92	0.00
3	PT	Chloromethan	0.3786	0.3608	4.70	92	0.00
4	PT	VinylChlorid	0.3537	0.3361	4.98	90	0.00
5	PT	Bromomethane	0.1769	0.1632	7.74	88	0.00
6	PT	Chloroethane	0.2185	0.1967	9.98	85	0.00
7	T	Dichloroflmethane	0.5044	0.4650	7.81	88	0.00
8	PT	Trichlorofma	0.3674	0.3576	2.67	89	0.00
9	T	Ethylether	0.2635	0.2328	11.65	85	0.00
10	T	dichlorotfluoroethan	0.3043	0.2941	3.35	90	0.00
11	T	propyleneoxide	0.0596	0.0524	12.08	85	0.00
12	T	Acrolein	0.0569	0.0505	11.25	85	0.00
13	PT	11dichlorthe	0.2342	0.2195	6.28	88	0.00
14	PT	Trichlorotfluoroeth	0.2272	0.2253	0.84	90	0.00
15	PT	Acetone	0.0811	0.0707#	12.82	84	0.00
16	T	Iodomethane	0.1798	0.1995	-10.96	108	0.00
17	PT	Carbon Dislf	0.6709	0.6986	-4.13	92	0.00
18	T	allylchloride	0.5007	0.4750	5.13	88	0.00
19	PT	methylacetate	0.0546	0.0477#	12.64	84	0.00
20	PT	Methylchlorid	0.3030	0.2712	10.50	91	0.00
21	T	tbutylalcohol	0.0237	0.0152#	35.86#	64	0.00
22	T	Acrylonitrile	0.1124	0.0995	11.48	84	0.00
23	PT	t12dichlorte	0.2752	0.2493	9.41	87	0.00
24	PT	MtBE	0.7650	0.6930	9.41	88	0.00
25	T	Hexane	0.4491	0.4767	-6.15	93	0.00
26	PT	11dichlorota	0.5317	0.4927	7.33	88	0.00
27	T	Vinylacetate	0.5744	0.5277	8.13	90	0.00
28	T	chloroprene	0.4425	0.4388	0.84	89	0.00
29	T	Diisopether	0.9920	0.9144	7.82	84	0.00
30	T	ETBE	0.8432	0.7947	5.75	88	0.00
31	T	22dichloropr	0.4155	0.4155	0.00	94	0.00
32	PT	c12dichlorte	0.3121	0.2952	5.41	93	0.00
33	PT	2Butanone	0.0335	0.0275#	17.91	82	0.00
34	T	propionitrile	0.0431	0.0362	16.01	79	0.00
35	T	Ethylacetate	0.0130	0.0100#	23.08#	77	0.00
36	T	methacrylonitrile	0.1410	0.1221	13.40	89	0.00
37	T	Bromochlorma	0.1332	0.1189	10.74	91	0.00
38	T	Tetrahydofur	0.0979	0.0855	12.67	85	0.00
39	PT	Chloroform	0.4817	0.4512	6.33	89	0.00
40	PT	111trichlota	0.4154	0.3934	5.30	90	0.00
41	S	SURRDibrflma	0.2400	0.2404	-0.17	98	0.00
42	PT	Cyclohexane	0.5264	0.5252	0.23	90	0.00
43	PT	Carbtetraclo	0.3312	0.3141	5.16	88	0.00
44	T	11dicloprope	0.1304	0.1201	7.90	87	0.00
45	S	SURR12DCAd4	0.0681	0.0672	1.32	93	0.00
46	PT	Benzene	1.1214	1.0946	2.39	89	0.00
47	PT	12dichlorota	0.4114	0.3774	8.26	92	0.00
48	T	TAME	0.7636	0.7163	6.19	89	0.00

49	PT	trichloroete	0.2946	0.2625	10.90	87	0.00
50	PT	methylcyclohexane	0.5444	0.5465	-0.39	90	0.00
51	PT	12dicloropra	0.3492	0.3359	3.81	95	0.00
52	T	23Dicl1propene	0.4579	0.4358	4.83	92	0.00
53	T	Dibromometha	0.1700	0.1535	9.71	88	0.00
54	T	methylmethacrylate	0.2244	0.1875	16.44	83	0.00
55	T	14dioxane	0.0016	0.0009#	43.75#	56	0.00
56	PT	Bromodiclrma	0.3660	0.3573	2.38	93	0.00
57	T	2Nitropropane	0.0825	0.0799	3.15	91	0.00
58	T	2CLEVE	0.1737	0.1407	19.00	76	0.00
59	PT	c13dicloproe	0.4819	0.4623	4.07	92	0.00
60	PT	4Meth2Pentan	0.2707	0.2350	13.19	85	0.00
61	S	SURRd8Tolule	0.9865	0.9875	-0.10	97	0.00
62	PT	Toluene	0.7569	0.7247	4.25	90	0.00
63	PT	t13Dicloprop	0.4122	0.4049	1.77	93	0.00
64	T	ethylmethacrylate	0.3907	0.3673	5.99	88	0.00
65	PT	112Triclotha	0.2186	0.2015	7.82	90	0.00
66	PT	Tetrachlorte	0.2909	0.2791	4.06	92	0.00
67	T	13Diclorpropa	0.4654	0.4355	6.42	91	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	99	0.00
69	PT	2Hexanone	0.2677	0.2267	15.32	84	0.00
70	PT	Clorodibrmta	0.3353	0.3116	7.07	94	0.00
71	PT	12Dibrometha	0.3240	0.2954	8.83	93	0.00
72	PT	Chlorobenzen	0.9945	0.9185	7.64	90	0.00
73	T	1Clhexane	0.5440	0.5123	5.83	90	0.00
74	T	1112Tetclota	0.3387	0.3169	6.44	91	0.00
75	PT	Ethylbenzene	1.6806	1.6443	2.16	91	0.00
76	PT	m p-Xylene	0.6428	0.6089	5.27	89	0.00
77	PT	o-Xylene	0.6551	0.5928	9.51	89	0.00
78	PT	Styrene	1.0595	1.0167	4.04	91	0.00
79	PT	Bromoform	0.2260	0.2075	8.19	95	0.00
80	PT	Isopropylben	1.5564	1.5445	0.76	92	0.00
81	T	cyclohexanone	0.0104	0.0067#	35.58#	63	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	102	0.00
83	S	SURR4BrFBenz	0.9650	0.9368	2.92	99	0.00
84	T	Bromobenzene	0.7732	0.7014	9.29	95	0.00
85	PT	1122Tetrclta	0.8704	0.7459	14.30	91	0.00
86	T	123Triclproa	1.0730	0.9726	9.36	96	0.00
87	T	14dichloro2butene	0.2624	0.2493	4.99	105	0.00
88	T	n-Propylbenz	3.5941	3.3927	5.60	92	0.00
89	T	2chlorotolue	2.1518	2.0107	6.56	93	0.00
90	T	4chlorotolue	2.4458	2.3438	4.17	92	0.00
91	T	135Trimebenz	2.3291	2.2672	2.66	92	0.00
92	T	tbutylbenzen	2.0601	1.9514	5.28	92	0.00
93	T	124Trimetben	2.3629	2.2843	3.33	93	0.00
94	T	sbutylbenzen	2.9906	2.9041	2.89	95	0.00
95	PT	13Diclorbenz	1.3914	1.2652	9.07	92	0.00
96	T	pIsopropylto	2.4207	2.3733	1.96	94	0.00
97	PT	14dichlorobe	1.4038	1.3244	5.66	96	0.00
98	PT	12dichlorobe	1.3099	1.1954	8.74	96	0.00
99	T	nButylbenzen	2.5056	2.3766	5.15	96	0.00
100	PT	12dibromo3cl	0.1514	0.1279	15.52	94	0.00
101	T	135Trichlorobenzene	0.9109	0.8715	4.33	100	0.00
102	PT	124Trichlobe	0.7654	0.7082	7.47	97	0.00
103	T	Hexachlorobu	0.3909	0.3750	4.07	96	0.00
104	T	Naphthalene	1.6595	1.5081	9.12	92	0.00
105	T	123Trichlben	0.6777	0.5828	14.00	92	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W042920.M Tue May 05 12:37:53 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 04 08:42:34 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	97	0.00
2	PT	Dichlorodi	10.0000	10.1001	-1.00	92	0.00
3	PT	Chloromethan	10.0000	9.5285	4.72	92	0.00
4	PT	VinylChlorid	10.0000	9.5033	4.97	90	0.00
5	PT	Bromomethane	10.0000	9.2293	7.71	88	0.00
6	PT	Chloroethane	10.0000	9.0026	9.97	85	0.00
7	T	Dichloroflmethane	10.0000	9.2196	7.80	88	0.00
8	PT	Trichlorofma	10.0000	9.7346	2.65	89	0.00
9	T	Ethylether	10.0000	8.8330	11.67	85	0.00
10	T	dichlorotfluoroethan	10.0000	9.6642	3.36	90	0.00
11	T	propyleneoxide	100.0000	87.9928	12.01	85	0.00
12	T	Acrolein	50.0000	44.4416	11.12	85	0.00
13	PT	11dichlorthe	10.0000	9.3714	6.29	88	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.8324	0.84	90	0.00
15	PT	Acetone	100.0000	87.1810	12.82	84	0.00
16	T	Iodomethane	20.0000	18.1903	9.05	108	0.00
17	PT	Carbon Dislf	20.0000	20.8268	-4.13	92	0.00
18	T	allylchloride	20.0000	18.9729	5.14	88	0.00
19	PT	methylacetate	10.0000	8.7243	12.76	84	0.00
20	PT	Methylchlorid	10.0000	8.9522	10.48	91	0.00
21	T	tbutylalcohol	500.0000	320.7303	35.85#	64	0.00
22	T	Acrylonitrile	50.0000	44.2568	11.49	84	0.00
23	PT	t12dichlorte	10.0000	9.0585	9.41	87	0.00
24	PT	MtBE	10.0000	9.0583	9.42	88	0.00
25	T	Hexane	20.0000	21.2292	-6.15	93	0.00
26	PT	11dichlorota	10.0000	9.2672	7.33	88	0.00
27	T	Vinylacetate	100.0000	97.8612	2.14	90	0.00
28	T	chloroprene	20.0000	19.8354	0.82	89	0.00
29	T	Diisopether	10.0000	9.2175	7.83	84	0.00
30	T	ETBE	10.0000	9.4244	5.76	88	0.00
31	T	22dichloropr	10.0000	10.0000	0.00	94	0.00
32	PT	c12dichlorte	10.0000	9.4588	5.41	93	0.00
33	PT	2Butanone	100.0000	82.0831	17.92	82	0.00
34	T	propionitrile	100.0000	83.9809	16.02	79	0.00
35	T	Ethylacetate	50.0000	38.5832	22.83#	77	0.00
36	T	methacrylonitrile	20.0000	17.3183	13.41	89	0.00
37	T	Bromochlorma	10.0000	8.9283	10.72	91	0.00
38	T	Tetrahydofur	100.0000	85.8351	14.16	85	0.00
39	PT	Chloroform	10.0000	9.3661	6.34	89	0.00
40	PT	111trichlota	10.0000	9.4717	5.28	90	0.00
41	S	SURRDibrflma	20.0000	20.0286	-0.14	98	0.00
42	PT	Cyclohexane	10.0000	9.9785	0.21	90	0.00
43	PT	Carbtetraclo	10.0000	9.4832	5.17	88	0.00
44	T	11dicloprope	10.0000	9.2050	7.95	87	0.00
45	S	SURR12DCAd4	20.0000	19.7393	1.30	93	0.00
46	PT	Benzene	10.0000	9.7610	2.39	89	0.00
47	PT	12dichlorota	10.0000	9.1722	8.28	92	0.00
48	T	TAME	10.0000	9.3801	6.20	89	0.00

49	PT	trichloroete	10.0000	8.9089	10.91	87	0.00
50	PT	methylcyclohexane	10.0000	10.0369	-0.37	90	0.00
51	PT	12dicloropra	10.0000	9.6210	3.79	95	0.00
52	T	23Dicl1propene	10.0000	9.5170	4.83	92	0.00
53	T	Dibromometha	10.0000	9.0288	9.71	88	0.00
54	T	methylmethacrylate	10.0000	8.3558	16.44	83	0.00
55	T	14dioxane	500.0000	286.0493	42.79#	56	0.00
56	PT	Bromodiclrma	10.0000	9.7611	2.39	93	0.00
57	T	2Nitropropane	100.0000	96.7773	3.22	91	0.00
58	T	2CLEVE	50.0000	40.4943	19.01	76	0.00
59	PT	c13dicloproe	10.0000	9.5932	4.07	92	0.00
60	PT	4Meth2Pentan	100.0000	84.8689	15.13	85	0.00
61	S	SURRd8Tolule	20.0000	20.0187	-0.09	97	0.00
62	PT	Toluene	10.0000	9.5754	4.25	90	0.00
63	PT	t13Dicloprop	10.0000	9.8216	1.78	93	0.00
64	T	ethylmethacrylate	20.0000	18.8028	5.99	88	0.00
65	PT	112Triclotha	10.0000	9.2187	7.81	90	0.00
66	PT	Tetrachlorte	10.0000	9.5933	4.07	92	0.00
67	T	13Diclorpropa	10.0000	9.3572	6.43	91	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	99	0.00
69	PT	2Hexanone	100.0000	80.3693	19.63	84	0.00
70	PT	Clorodibrmta	10.0000	9.2923	7.08	94	0.00
71	PT	12Dibrometha	10.0000	9.1174	8.83	93	0.00
72	PT	Chlorobenzen	10.0000	9.2350	7.65	90	0.00
73	T	1Clhexane	10.0000	9.4158	5.84	90	0.00
74	T	1112Tetclota	10.0000	9.3564	6.44	91	0.00
75	PT	Ethylbenzene	10.0000	9.7840	2.16	91	0.00
76	PT	m p-Xylene	20.0000	18.9455	5.27	89	0.00
77	PT	o-Xylene	10.0000	9.0494	9.51	89	0.00
78	PT	Styrene	10.0000	9.5955	4.05	91	0.00
79	PT	Bromoform	10.0000	9.1811	8.19	95	0.00
80	PT	Isopropylben	10.0000	9.9235	0.76	92	0.00
81	T	cyclohexanone	200.0000	128.6973	35.65#	63	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	102	0.00
83	S	SURR4BrFBenz	20.0000	19.4162	2.92	99	0.00
84	T	Bromobenzene	10.0000	9.0721	9.28	95	0.00
85	PT	1122Tetrclta	10.0000	8.5699	14.30	91	0.00
86	T	123Triclproa	10.0000	9.0643	9.36	96	0.00
87	T	14dichloro2butene	10.0000	9.5008	4.99	105	0.00
88	T	n-Propylbenz	10.0000	9.4396	5.60	92	0.00
89	T	2chlorotolue	10.0000	9.3442	6.56	93	0.00
90	T	4chlorotolue	10.0000	9.5826	4.17	92	0.00
91	T	135Trimebenz	10.0000	9.7343	2.66	92	0.00
92	T	tbutylbenzen	10.0000	9.4727	5.27	92	0.00
93	T	124Trimetben	10.0000	9.6672	3.33	93	0.00
94	T	sbutylbenzen	10.0000	9.7108	2.89	95	0.00
95	PT	13Diclorbenz	10.0000	9.0932	9.07	92	0.00
96	T	pIsopropylto	10.0000	9.8041	1.96	94	0.00
97	PT	14dichlorobe	10.0000	9.4348	5.65	96	0.00
98	PT	12dichlorobe	10.0000	9.1258	8.74	96	0.00
99	T	nButylbenzen	10.0000	9.4849	5.15	96	0.00
100	PT	12dibromo3cl	10.0000	8.4476	15.52	94	0.00
101	T	135Trichlorobenzene	10.0000	9.5674	4.33	100	0.00
102	PT	124Trichlobe	10.0000	9.2532	7.47	97	0.00
103	T	Hexachlorobu	10.0000	9.5923	4.08	96	0.00
104	T	Naphthalene	10.0000	9.0876	9.12	92	0.00
105	T	123Trichlben	10.0000	8.6000	14.00	92	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W042920.M Tue May 05 12:38:48 2020

Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1176443	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	906183	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	514387	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	282768	20.029	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	79090	19.739	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1161686	20.019	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	481903	19.416	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	173291	10.1001	ug/L	97
3) Chloromethan	2.09	50	212227	9.5285	ug/L	100
4) VinylChlorid	2.25	62	197708	9.5033	ug/L	100
5) Bromomethane	2.73	94	96025	9.2293	ug/L	96
6) Chloroethane	2.89	64	115685	9.0026	ug/L	98
7) Dichloroflmethane	3.20	67	273542	9.2196	ug/L	100
8) Trichlorofma	3.28	101	210354	9.7346	ug/L	99
9) Ethylether	3.73	59	136912	8.8330	ug/L	99
10) dichlorotfluoroethan	3.73	67	172980	9.6642	ug/L	96
11) propyleneoxide	3.77	58	308384	87.9928	ug/L	100
12) Acrolein	3.85	56	148625	44.4416	ug/L	93
13) 11dichlorthe	4.00	96	129128	9.3714	ug/L	100
14) Trichlorotfluoroeth	4.04	101	265006	19.8324	ug/L	98
15) Acetone	4.08	43	415842	87.1810	ug/L	98
16) Iodomethane	4.18	142	234643	18.1903	ug/L	99
17) Carbon Dislf	4.27	76	821854	20.8268	ug/L	98
18) allylchloride	4.49	41	558776	18.9729	ug/L	98
19) methylacetate	4.55	74	28044	8.7243	ug/L	94
20) Methylchlorid	4.64	84	159552	8.9522	ug/L	99
21) tbutylalcohol	4.86	59	447360	320.7303	ug/L	98
22) Acrylonitrile	4.95	53	292568	44.2568	ug/L	97
23) t12dichlorte	5.02	96	146646	9.0585	ug/L	98
24) MtBE	5.06	73	407638	9.0583	ug/L	98
25) Hexane	5.42	57	560778	21.2292	ug/L	99
26) 11dichlorota	5.55	63	289835	9.2672	ug/L	98
27) Vinylacetate	5.64	43	3103878	97.8612	ug/L	100
28) chloroprene	5.68	53	516239	19.8354	ug/L	100
29) Diisopether	5.70	45	537843	9.2175	ug/L	99
30) ETBE	6.16	59	467467	9.4244	ug/L	99
31) 22dichloropr	6.29	77	244399	10.0000	ug/L	99
32) c12dichlorte	6.28	96	173666	9.4588	ug/L	94
33) 2Butanone	6.31	72	161663	82.0831	ug/L	100
34) propionitrile	6.34	54	213047	83.9809	ug/L	99
35) Ethylacetate	6.41	88	29449	38.5832	ug/L #	84
36) methacrylonitrile	6.55	67	143617	17.3183	ug/L	97
37) Bromochlorma	6.57	128	69947	8.9283	ug/L	96
38) Tetrahydofur	6.67	42	502842	85.8351	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	265401	9.3661	ug/L	97
40)	111trichlota	6.92	97	231416	9.4717	ug/L	98
42)	Cyclohexane	7.00	56	308948	9.9785	ug/L	99
43)	Carbtetraclo	7.13	119	184775	9.4832	ug/L	97
44)	11dicloprope	7.13	110	70619	9.2050	ug/L	94
46)	Benzene	7.38	78	643883	9.7610	ug/L	100
47)	12dichlorota	7.37	62	221972	9.1722	ug/L	97
48)	TAME	7.55	73	421334	9.3801	ug/L	98
49)	trichloroete	8.18	95	154379	8.9089	ug/L	97
50)	methylcyclohexane	8.44	83	321438	10.0369	ug/L	97
51)	12dicloropra	8.44	63	197595	9.6210	ug/L	98
52)	23Dicl1propene	8.50	75	256328	9.5170	ug/L	99
53)	Dibromometha	8.57	93	90311	9.0288	ug/L	98
54)	methylmethacrylate	8.61	69	110279	8.3558	ug/L	99
55)	14dioxane	8.63	88	27426	286.0493	ug/L	94
56)	Bromodiclrma	8.78	83	210172	9.7611	ug/L	97
57)	2Nitropropane	9.05	43	469877	96.7773	ug/L	97
58)	2CLEVE	9.17	63	413806	40.4943	ug/L	99
59)	c13dicloproe	9.36	75	271930	9.5932	ug/L	97
60)	4Meth2Pentan	9.57	43	1382182	84.8689	ug/L	99
62)	Toluene	9.81	92	426295	9.5754	ug/L	98
63)	t13Dicloprop	10.07	75	238163	9.8216	ug/L	98
64)	ethylmethacrylate	10.22	69	432121	18.8028	ug/L	99
65)	112Triclotha	10.30	83	118553	9.2187	ug/L	97
66)	Tetrachlorte	10.54	166	164148	9.5933	ug/L	97
67)	13Diclorpropa	10.53	76	256143	9.3572	ug/L	99
69)	2Hexanone	10.65	43	1027187	80.3693	ug/L	99
70)	Clorodibrmta	10.83	129	141170	9.2923	ug/L	97
71)	12Dibrometha	10.98	107	133857	9.1174	ug/L	98
72)	Chlorobenzen	11.67	112	416151	9.2350	ug/L	99
73)	1Clhexane	11.65	91	232102	9.4158	ug/L	99
74)	1112Tetclota	11.77	131	143573	9.3564	ug/L	99
75)	Ethylbenzene	11.83	91	745036	9.7840	ug/L	99
76)	m p-Xylene	11.99	106	551764	18.9455	ug/L	99
77)	o-Xylene	12.54	106	268594	9.0494	ug/L	98
78)	Styrene	12.55	104	460636	9.5955	ug/L	100
79)	Bromoform	12.78	173	93999	9.1811	ug/L	95
80)	Isopropylben	13.06	105	699819	9.9235	ug/L	98
81)	cyclohexanone	13.16	55	60472	128.6973	ug/L	99
84)	Bromobenzene	13.48	156	180404	9.0721	ug/L	98
85)	1122Tetrclta	13.45	83	191845	8.5699	ug/L	97
86)	123Triclproa	13.51	75	250148	9.0643	ug/L	98
87)	14dichloro2butene	13.54	53	64107	9.5008	ug/L	94
88)	n-Propylbenz	13.65	91	872569	9.4396	ug/L	99
89)	2chlorotolue	13.76	91	517137	9.3442	ug/L	99
90)	4chlorotolue	13.92	91	602799	9.5826	ug/L	100
91)	135Trimebenz	13.91	105	583108	9.7343	ug/L	100
92)	tbutylbenzen	14.38	119	501895	9.4727	ug/L	98
93)	124Trimetben	14.44	105	587500	9.6672	ug/L	97
94)	sbutylbenzen	14.69	105	746928	9.7108	ug/L	97
95)	13Diclorbenz	14.83	146	325407	9.0932	ug/L	99
96)	pIsopropylto	14.91	119	610388	9.8041	ug/L	99
97)	14dichlorobe	14.96	146	340637	9.4348	ug/L	99
98)	12dichlorobe	15.50	146	307440	9.1258	ug/L	98
99)	nButylbenzen	15.51	91	611239	9.4849	ug/L	99
100)	12dibromo3cl	16.59	157	32887	8.4476	ug/L	91
101)	135Trichlorobenzene	16.92	180	224149	9.5674	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	182155	9.2532	ug/L	99
103) Hexachlorobu	17.98	225	96439	9.5923	ug/L	99
104) Naphthalene	18.03	128	387880	9.0876	ug/L	100
105) 123Trichlben	18.34	180	149888	8.6000	ug/L	98

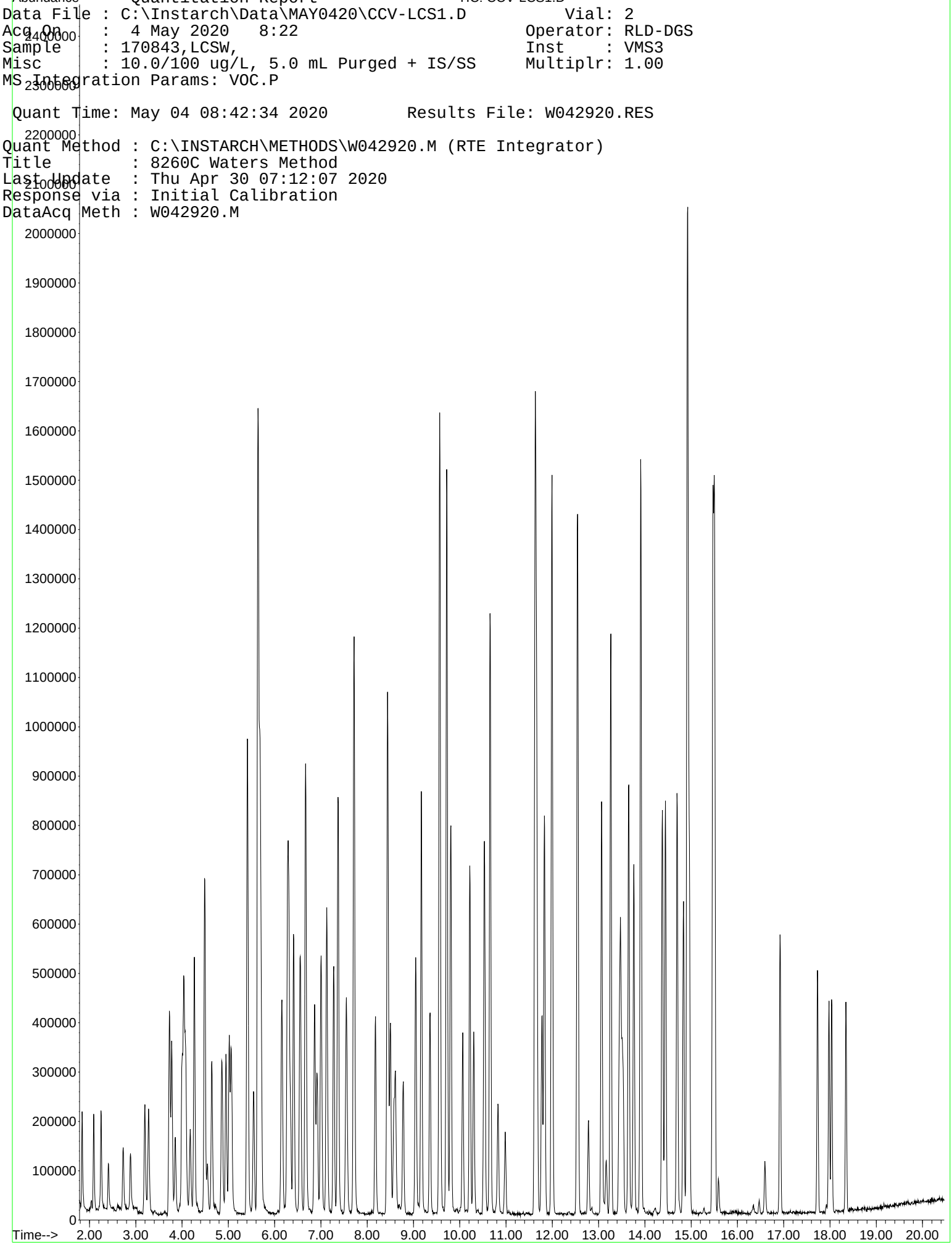
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 04 20:10:16 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	88	0.00
2	PT	Dichlorodi	0.2917	0.3038	-4.15	86	0.00
3	PT	Chloromethan	0.3786	0.3675	2.93	85	0.00
4	PT	VinylChlorid	0.3537	0.3514	0.65	86	0.00
5	PT	Bromomethane	0.1769	0.0887#	49.86	43#	0.00
6	PT	Chloroethane	0.2185	0.2211	-1.19	87	0.00
7	T	Dichloroflmethane	0.5044	0.4830	4.24	83	0.00
8	PT	Trichlorofma	0.3674	0.3844	-4.63	87	0.00
9	T	Ethylether	0.2635	0.2642	-0.27	88	0.00
10	T	dichlorotfluoroethan	0.3043	0.3094	-1.68	86	0.00
11	T	propyleneoxide	0.0596	0.0559	6.21	83	0.00
12	T	Acrolein	0.0569	0.0449	21.09	69	0.00
13	PT	11dichlorthe	0.2342	0.2379	-1.58	87	0.00
14	PT	Trichlorotfluoroeth	0.2272	0.2337	-2.86	85	0.00
15	PT	Acetone	0.0811	0.0782#	3.58	84	0.00
16	T	Iodomethane	0.1798	0.1260	29.92	62	0.00
17	PT	Carbon Dislf	0.6709	0.6969	-3.88	83	0.00
18	T	allylchloride	0.5007	0.4851	3.12	81	0.00
19	PT	methylacetate	0.0546	0.0508#	6.96	81	0.00
20	PT	Methylchlorid	0.3030	0.2820	6.93	86	0.00
21	T	tbutylalcohol	0.0237	0.0186#	21.52	71	0.00
22	T	Acrylonitrile	0.1124	0.1078	4.09	83	0.00
23	PT	t12dichlorte	0.2752	0.2672	2.91	85	0.00
24	PT	MtBE	0.7650	0.7324	4.26	85	0.00
25	T	Hexane	0.4491	0.4211	6.23	75	0.00
26	PT	11dichlorota	0.5317	0.5265	0.98	85	0.00
27	T	Vinylacetate	0.5744	0.5353	6.81	83	0.00
28	T	chloroprene	0.4425	0.4643	-4.93	85	0.00
29	T	Diisopether	0.9920	0.9646	2.76	80	0.00
30	T	ETBE	0.8432	0.8273	1.89	84	0.00
31	T	22dichloropr	0.4155	0.3314	20.24	68	0.00
32	PT	c12dichlorte	0.3121	0.2974	4.71	85	0.00
33	PT	2Butanone	0.0335	0.0316#	5.67	86	0.00
34	T	propionitrile	0.0431	0.0391	9.28	78	0.00
35	T	Ethylacetate	0.0130	0.0122#	6.15	86	0.00
36	T	methacrylonitrile	0.1410	0.1350	4.26	89	0.00
37	T	Bromochlorma	0.1332	0.1243	6.68	86	0.00
38	T	Tetrahydofur	0.0979	0.0961	1.84	86	0.00
39	PT	Chloroform	0.4817	0.4691	2.62	85	0.00
40	PT	111trichlota	0.4154	0.4146	0.19	86	0.00
41	S	SURRDibrflma	0.2400	0.2486	-3.58	92	0.00
42	PT	Cyclohexane	0.5264	0.5516	-4.79	86	0.00
43	PT	Carbtetraclo	0.3312	0.3247	1.96	83	0.00
44	T	11dicloprope	0.1304	0.1336	-2.45	88	0.00
45	S	SURR12DCAd4	0.0681	0.0694	-1.91	87	0.00
46	PT	Benzene	1.1214	1.1502	-2.57	85	0.00
47	PT	12dichlorota	0.4114	0.3953	3.91	87	0.00
48	T	TAME	0.7636	0.7484	1.99	85	0.00

49	PT	trichloroete	0.2946	0.2856	3.05	86	0.00
50	PT	methylcyclohexane	0.5444	0.5488	-0.81	82	0.00
51	PT	12dicloropra	0.3492	0.3313	5.13	85	0.00
52	T	23Dicl1propene	0.4579	0.4349	5.02	83	0.00
53	T	Dibromometha	0.1700	0.1659	2.41	87	0.00
54	T	methylmethacrylate	0.2244	0.2118	5.61	86	0.00
55	T	14dioxane	0.0016	0.0007#	56.25#	40#	0.01
56	PT	Bromodiclrma	0.3660	0.3569	2.49	84	0.00
57	T	2Nitropropane	0.0825	0.0815	1.21	85	0.00
58	T	2CLEVE	0.1737	0.1720	0.98	85	0.00
59	PT	c13dicloproe	0.4819	0.4580	4.96	83	0.00
60	PT	4Meth2Pentan	0.2707	0.2708	-0.04	89	0.00
61	S	SURRd8Tolule	0.9865	1.0015	-1.52	89	0.00
62	PT	Toluene	0.7569	0.7447	1.61	84	0.00
63	PT	t13Dicloprop	0.4122	0.3824	7.23	80	0.00
64	T	ethylmethacrylate	0.3907	0.3945	-0.97	86	0.00
65	PT	112Triclotha	0.2186	0.2146	1.83	87	0.00
66	PT	Tetrachlorte	0.2909	0.2917	-0.28	87	0.00
67	T	13Diclorpropa	0.4654	0.4773	-2.56	90	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	91	0.00
69	PT	2Hexanone	0.2677	0.2626	1.91	89	0.00
70	PT	Clorodibrmta	0.3353	0.3138	6.41	86	0.00
71	PT	12Dibrometha	0.3240	0.3109	4.04	90	0.00
72	PT	Chlorobenzen	0.9945	0.9737	2.09	87	0.00
73	T	1Clhexane	0.5440	0.5215	4.14	84	0.00
74	T	1112Tetclota	0.3387	0.3349	1.12	88	0.00
75	PT	Ethylbenzene	1.6806	1.7063	-1.53	87	0.00
76	PT	m p-Xylene	0.6428	0.6271	2.44	84	0.00
77	PT	o-Xylene	0.6551	0.6451	1.53	89	0.00
78	PT	Styrene	1.0595	1.0431	1.55	85	0.00
79	PT	Bromoform	0.2260	0.1986	12.12	83	0.00
80	PT	Isopropylben	1.5564	1.5885	-2.06	87	0.00
81	T	cyclohexanone	0.0104	0.0068#	34.62	58	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	92	0.00
83	S	SURR4BrFBenz	0.9650	0.9378	2.82	90	0.00
84	T	Bromobenzene	0.7732	0.7339	5.08	90	0.00
85	PT	1122Tetrclta	0.8704	0.8120	6.71	89	0.00
86	T	123Triclproa	1.0730	0.8790	18.08	78	0.00
87	T	14dichloro2butene	0.2624	0.1008	61.59#	38#	0.00
88	T	n-Propylbenz	3.5941	3.4837	3.07	86	0.00
89	T	2chlorotolue	2.1518	2.1011	2.36	88	0.00
90	T	4chlorotolue	2.4458	2.4190	1.10	86	0.00
91	T	135Trimebenz	2.3291	2.3627	-1.44	87	0.00
92	T	tbutylbenzen	2.0601	2.0146	2.21	86	0.00
93	T	124Trimetben	2.3629	2.3512	0.50	86	0.00
94	T	sbutylbenzen	2.9906	2.9762	0.48	88	0.00
95	PT	13Diclorbenz	1.3914	1.3320	4.27	88	0.00
96	T	pIsopropylto	2.4207	2.4587	-1.57	88	0.00
97	PT	14dichlorobe	1.4038	1.3432	4.32	88	0.00
98	PT	12dichlorobe	1.3099	1.2750	2.66	92	0.00
99	T	nButylbenzen	2.5056	2.3960	4.37	87	0.00
100	PT	12dibromo3cl	0.1514	0.1373	9.31	91	0.00
101	T	135Trichlorobenzene	0.9109	0.8705	4.44	90	0.00
102	PT	124Trichlobe	0.7654	0.7284	4.83	90	0.00
103	T	Hexachlorobu	0.3909	0.3639	6.91	84	0.00
104	T	Naphthalene	1.6595	1.6874	-1.68	93	0.00
105	T	123Trichlben	0.6777	0.6467	4.57	93	0.00

(#) = Out of Range SPCC's out = 4 CCC's out = 0

W042920.M Tue May 05 12:41:22 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: May 04 20:10:16 2020

Quant Method : C:\INSTARCH\METHODS\W042920.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W042920.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	88	0.00
2	PT	Dichlorodi	10.0000	10.4148	-4.15	86	0.00
3	PT	Chloromethan	10.0000	9.7049	2.95	85	0.00
4	PT	VinylChlorid	10.0000	9.9352	0.65	86	0.00
5	PT	Bromomethane	10.0000	5.0166	49.83	43	0.00
6	PT	Chloroethane	10.0000	10.1215	-1.21	87	0.00
7	T	Dichloroflmethane	10.0000	9.5762	4.24	83	0.00
8	PT	Trichlorofma	10.0000	10.4651	-4.65	87	0.00
9	T	Ethylether	10.0000	10.0278	-0.28	88	0.00
10	T	dichlorotfluoroethan	10.0000	10.1683	-1.68	86	0.00
11	T	propyleneoxide	100.0000	93.8722	6.13	83	0.00
12	T	Acrolein	50.0000	39.5212	20.96	69	0.00
13	PT	11dichlorthe	10.0000	10.1577	-1.58	87	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.5749	-2.87	85	0.00
15	PT	Acetone	100.0000	96.4741	3.53	84	0.00
16	T	Iodomethane	20.0000	12.9313	35.34	62	0.00
17	PT	Carbon Dislf	20.0000	20.7754	-3.88	83	0.00
18	T	allylchloride	20.0000	19.3758	3.12	81	0.00
19	PT	methylacetate	10.0000	9.2886	7.11	81	0.00
20	PT	Methylchlorid	10.0000	9.3078	6.92	86	0.00
21	T	tbutylalcohol	500.0000	391.3686	21.73	71	0.00
22	T	Acrylonitrile	50.0000	47.9589	4.08	83	0.00
23	PT	t12dichlorte	10.0000	9.7075	2.93	85	0.00
24	PT	MtBE	10.0000	9.5728	4.27	85	0.00
25	T	Hexane	20.0000	18.7557	6.22	75	0.00
26	PT	11dichlorota	10.0000	9.9019	0.98	85	0.00
27	T	Vinylacetate	100.0000	99.6117	0.39	83	0.00
28	T	chloroprene	20.0000	20.9878	-4.94	85	0.00
29	T	Diisopether	10.0000	9.7244	2.76	80	0.00
30	T	ETBE	10.0000	9.8109	1.89	84	0.00
31	T	22dichloropr	10.0000	7.9772	20.23	68	0.00
32	PT	c12dichlorte	10.0000	9.5295	4.70	85	0.00
33	PT	2Butanone	100.0000	94.4250	5.58	86	0.00
34	T	propionitrile	100.0000	90.6208	9.38	78	0.00
35	T	Ethylacetate	50.0000	46.9361	6.13	86	0.00
36	T	methacrylonitrile	20.0000	19.1579	4.21	89	0.00
37	T	Bromochlorma	10.0000	9.3348	6.65	86	0.00
38	T	Tetrahydofur	100.0000	97.2341	2.77	86	0.00
39	PT	Chloroform	10.0000	9.7375	2.62	85	0.00
40	PT	111trichlota	10.0000	9.9815	0.18	86	0.00
41	S	SURRDibrflma	20.0000	20.7138	-3.57	92	0.00
42	PT	Cyclohexane	10.0000	10.4792	-4.79	86	0.00
43	PT	Carbtetraclo	10.0000	9.8036	1.96	83	0.00
44	T	11dicloprope	10.0000	10.2398	-2.40	88	0.00
45	S	SURR12DCAd4	20.0000	20.3891	-1.95	87	0.00
46	PT	Benzene	10.0000	10.2566	-2.57	85	0.00
47	PT	12dichlorota	10.0000	9.6077	3.92	87	0.00
48	T	TAME	10.0000	9.8005	2.00	85	0.00

49	PT	trichloroete	10.0000	9.6959	3.04	86	0.00
50	PT	methylcyclohexane	10.0000	10.0806	-0.81	82	0.00
51	PT	12dicloropra	10.0000	9.4875	5.12	85	0.00
52	T	23Dicl1propene	10.0000	9.4986	5.01	83	0.00
53	T	Dibromometha	10.0000	9.7561	2.44	87	0.00
54	T	methylmethacrylate	10.0000	9.4400	5.60	86	0.00
55	T	14dioxane	500.0000	222.4903	55.50#	40	0.01
56	PT	Bromodiclrma	10.0000	9.7501	2.50	84	0.00
57	T	2Nitropropane	100.0000	98.7434	1.26	85	0.00
58	T	2CLEVE	50.0000	49.4895	1.02	85	0.00
59	PT	c13dicloproe	10.0000	9.5039	4.96	83	0.00
60	PT	4Meth2Pentan	100.0000	99.6120	0.39	89	0.00
61	S	SURRd8Tolule	20.0000	20.3044	-1.52	89	0.00
62	PT	Toluene	10.0000	9.8392	1.61	84	0.00
63	PT	t13Dicloprop	10.0000	9.2755	7.25	80	0.00
64	T	ethylmethacrylate	20.0000	20.1947	-0.97	86	0.00
65	PT	112Triclotha	10.0000	9.8139	1.86	87	0.00
66	PT	Tetrachlorte	10.0000	10.0293	-0.29	87	0.00
67	T	13Diclorpropa	10.0000	10.2562	-2.56	90	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	91	0.00
69	PT	2Hexanone	100.0000	94.4179	5.58	89	0.00
70	PT	Clorodibrmta	10.0000	9.3577	6.42	86	0.00
71	PT	12Dibrometha	10.0000	9.5936	4.06	90	0.00
72	PT	Chlorobenzen	10.0000	9.7906	2.09	87	0.00
73	T	1Clhexane	10.0000	9.5860	4.14	84	0.00
74	T	1112Tetclota	10.0000	9.8893	1.11	88	0.00
75	PT	Ethylbenzene	10.0000	10.1525	-1.52	87	0.00
76	PT	m p-Xylene	20.0000	19.5133	2.43	84	0.00
77	PT	o-Xylene	10.0000	9.8483	1.52	89	0.00
78	PT	Styrene	10.0000	9.8450	1.55	85	0.00
79	PT	Bromoform	10.0000	8.7897	12.10	83	0.00
80	PT	Isopropylben	10.0000	10.2057	-2.06	87	0.00
81	T	cyclohexanone	200.0000	130.8674	34.57	58	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	92	0.00
83	S	SURR4BrFBenz	20.0000	19.4349	2.83	90	0.00
84	T	Bromobenzene	10.0000	9.4916	5.08	90	0.00
85	PT	1122Tetrclta	10.0000	9.3294	6.71	89	0.00
86	T	123Triclproa	10.0000	8.1916	18.08	78	0.00
87	T	14dichloro2butene	10.0000	3.8434	61.57#	38	0.00
88	T	n-Propylbenz	10.0000	9.6930	3.07	86	0.00
89	T	2chlorotolue	10.0000	9.7645	2.36	88	0.00
90	T	4chlorotolue	10.0000	9.8904	1.10	86	0.00
91	T	135Trimebenz	10.0000	10.1445	-1.45	87	0.00
92	T	tbutylbenzen	10.0000	9.7795	2.20	86	0.00
93	T	124Trimetben	10.0000	9.9506	0.49	86	0.00
94	T	sbutylbenzen	10.0000	9.9516	0.48	88	0.00
95	PT	13Diclorbenz	10.0000	9.5729	4.27	88	0.00
96	T	pIsopropylto	10.0000	10.1573	-1.57	88	0.00
97	PT	14dichlorobe	10.0000	9.5688	4.31	88	0.00
98	PT	12dichlorobe	10.0000	9.7340	2.66	92	0.00
99	T	nButylbenzen	10.0000	9.5627	4.37	87	0.00
100	PT	12dibromo3cl	10.0000	9.0686	9.31	91	0.00
101	T	135Trichlorobenzene	10.0000	9.5564	4.44	90	0.00
102	PT	124Trichlobe	10.0000	9.5164	4.84	90	0.00
103	T	Hexachlorobu	10.0000	9.3085	6.91	84	0.00
104	T	Naphthalene	10.0000	10.1681	-1.68	93	0.00
105	T	123Trichlben	10.0000	9.5434	4.57	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W042920.M Tue May 05 12:41:47 2020

Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1069437	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	827877	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	465463	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	265842	20.714	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.28	102	74263	20.389	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1071093	20.304	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102	%		
83) SURR4BrFBenz	13.26	95	436488	19.435	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	162437	10.4148	ug/L	99
3) Chloromethan	2.09	50	196495	9.7049	ug/L	97
4) VinylChlorid	2.25	62	187892	9.9352	ug/L	98
5) Bromomethane	2.72	94	47447	5.0166	ug/L	95
6) Chloroethane	2.89	64	118233	10.1215	ug/L	98
7) Dichloroflmethane	3.20	67	258280	9.5762	ug/L	97
8) Trichlorofma	3.28	101	205570	10.4651	ug/L	99
9) Ethylether	3.73	59	141293	10.0278	ug/L	98
10) dichlorotfluoroethan	3.73	67	165449	10.1683	ug/L	98
11) propyleneoxide	3.78	58	299065	93.8722	ug/L	98
12) Acrolein	3.86	56	120148	39.5212	ug/L	90
13) 11dichlorthe	4.00	96	127232	10.1577	ug/L	95
14) Trichlorotfluoroeth	4.04	101	249921	20.5749	ug/L	99
15) Acetone	4.08	43	418313	96.4741	ug/L	98
16) Iodomethane	4.18	142	134759	12.9313	ug/L	99
17) Carbon Dislf	4.27	76	745258	20.7754	ug/L	99
18) allylchloride	4.49	41	518737	19.3758	ug/L	99
19) methylacetate	4.55	74	27142	9.2886	ug/L	92
20) Methylchlorid	4.64	84	150800	9.3078	ug/L	98
21) tbutylalcohol	4.86	59	496235	391.3686	ug/L	98
22) Acrylonitrile	4.95	53	288204	47.9589	ug/L	98
23) t12dichlorte	5.02	96	142859	9.7075	ug/L	97
24) MtBE	5.06	73	391609	9.5728	ug/L	98
25) Hexane	5.42	57	450375	18.7557	ug/L	97
26) 11dichlorota	5.54	63	281515	9.9019	ug/L	99
27) Vinylacetate	5.64	43	2862241	99.6117	ug/L	99
28) chloroprene	5.68	53	496548	20.9878	ug/L	100
29) Diisopether	5.70	45	515807	9.7244	ug/L	98
30) ETBE	6.15	59	442373	9.8109	ug/L	99
31) 22dichloropr	6.29	77	177229	7.9772	ug/L	99
32) c12dichlorte	6.28	96	159049	9.5295	ug/L	99
33) 2Butanone	6.31	72	169055	94.4250	ug/L	98
34) propionitrile	6.34	54	208981	90.6208	ug/L	99
35) Ethylacetate	6.41	88	32566	46.9361	ug/L	92
36) methacrylonitrile	6.55	67	144422	19.1579	ug/L	98
37) Bromochlorma	6.56	128	66480	9.3348	ug/L	97
38) Tetrahydofur	6.67	42	513783	97.2341	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	250828	9.7375	ug/L	99
40)	111trichlota	6.92	97	221690	9.9815	ug/L	98
42)	Cyclohexane	7.00	56	294940	10.4792	ug/L	99
43)	Carbtetraclo	7.13	119	173643	9.8036	ug/L	100
44)	11dicloprope	7.13	110	71413	10.2398	ug/L	95
46)	Benzene	7.37	78	615039	10.2566	ug/L	99
47)	12dichlorota	7.37	62	211364	9.6077	ug/L	96
48)	TAME	7.55	73	400179	9.8005	ug/L	99
49)	trichloroete	8.17	95	152734	9.6959	ug/L	97
50)	methylcyclohexane	8.44	83	293473	10.0806	ug/L	97
51)	12dicloropra	8.44	63	177131	9.4875	ug/L	100
52)	23Dicl1propene	8.50	75	232562	9.4986	ug/L	99
53)	Dibromometha	8.57	93	88710	9.7561	ug/L	98
54)	methylmethacrylate	8.61	69	113256	9.4400	ug/L	98
55)	14dioxane	8.64	88	19856	222.4903	ug/L	97
56)	Bromodiclrma	8.78	83	190841	9.7501	ug/L	98
57)	2Nitropropane	9.05	43	435816	98.7434	ug/L	100
58)	2CLEVE	9.17	63	459727	49.4895	ug/L	99
59)	c13dicloproe	9.36	75	244896	9.5039	ug/L	100
60)	4Meth2Pentan	9.57	43	1448194	99.6120	ug/L	99
62)	Toluene	9.80	92	398197	9.8392	ug/L	94
63)	t13Dicloprop	10.06	75	204464	9.2755	ug/L	98
64)	ethylmethacrylate	10.22	69	421895	20.1947	ug/L	100
65)	112Triclotha	10.31	83	114727	9.8139	ug/L	96
66)	Tetrachlorte	10.54	166	155999	10.0293	ug/L	96
67)	13Diclorpropa	10.53	76	255215	10.2562	ug/L	97
69)	2Hexanone	10.65	43	1086923	94.4179	ug/L	99
70)	Clorodibrmta	10.83	129	129879	9.3577	ug/L	99
71)	12Dibrometha	10.98	107	128677	9.5936	ug/L	97
72)	Chlorobenzen	11.67	112	403061	9.7906	ug/L	97
73)	1Clhexane	11.65	91	215878	9.5860	ug/L	99
74)	1112Tetclota	11.78	131	138638	9.8893	ug/L	97
75)	Ethylbenzene	11.83	91	706291	10.1525	ug/L	100
76)	m p-Xylene	11.99	106	519192	19.5133	ug/L	97
77)	o-Xylene	12.54	106	267046	9.8483	ug/L	96
78)	Styrene	12.55	104	431774	9.8450	ug/L	100
79)	Bromoform	12.78	173	82215	8.7897	ug/L	98
80)	Isopropylben	13.06	105	657527	10.2057	ug/L	100
81)	cyclohexanone	13.17	55	56178	130.8674	ug/L	96
84)	Bromobenzene	13.48	156	170794	9.4916	ug/L	94
85)	1122Tetrclta	13.45	83	188983	9.3294	ug/L	98
86)	123Triclproa	13.51	75	204561	8.1916	ug/L	92
87)	14dichloro2butene	13.53	53	23467	3.8434	ug/L	96
88)	n-Propylbenz	13.65	91	810768	9.6930	ug/L	99
89)	2chlorotolue	13.76	91	488997	9.7645	ug/L	99
90)	4chlorotolue	13.92	91	562984	9.8904	ug/L	100
91)	135Trimebenz	13.90	105	549881	10.1445	ug/L	100
92)	tbutylbenzen	14.38	119	468867	9.7795	ug/L	98
93)	124Trimetben	14.45	105	547207	9.9506	ug/L	99
94)	sbutylbenzen	14.70	105	692646	9.9516	ug/L	99
95)	13Diclorbenz	14.83	146	309990	9.5729	ug/L	98
96)	pIsopropylto	14.91	119	572228	10.1573	ug/L	98
97)	14dichlorobe	14.96	146	312616	9.5688	ug/L	99
98)	12dichlorobe	15.50	146	296741	9.7340	ug/L	99
99)	nButylbenzen	15.50	91	557635	9.5627	ug/L	98
100)	12dibromo3cl	16.60	157	31947	9.0686	ug/L	97
101)	135Trichlorobenzene	16.93	180	202597	9.5564	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	169518	9.5164	ug/L	97
103) Hexachlorobu	17.98	225	84685	9.3085	ug/L	97
104) Naphthalene	18.04	128	392720	10.1681	ug/L	99
105) 123Trichlben	18.34	180	150511	9.5434	ug/L	97

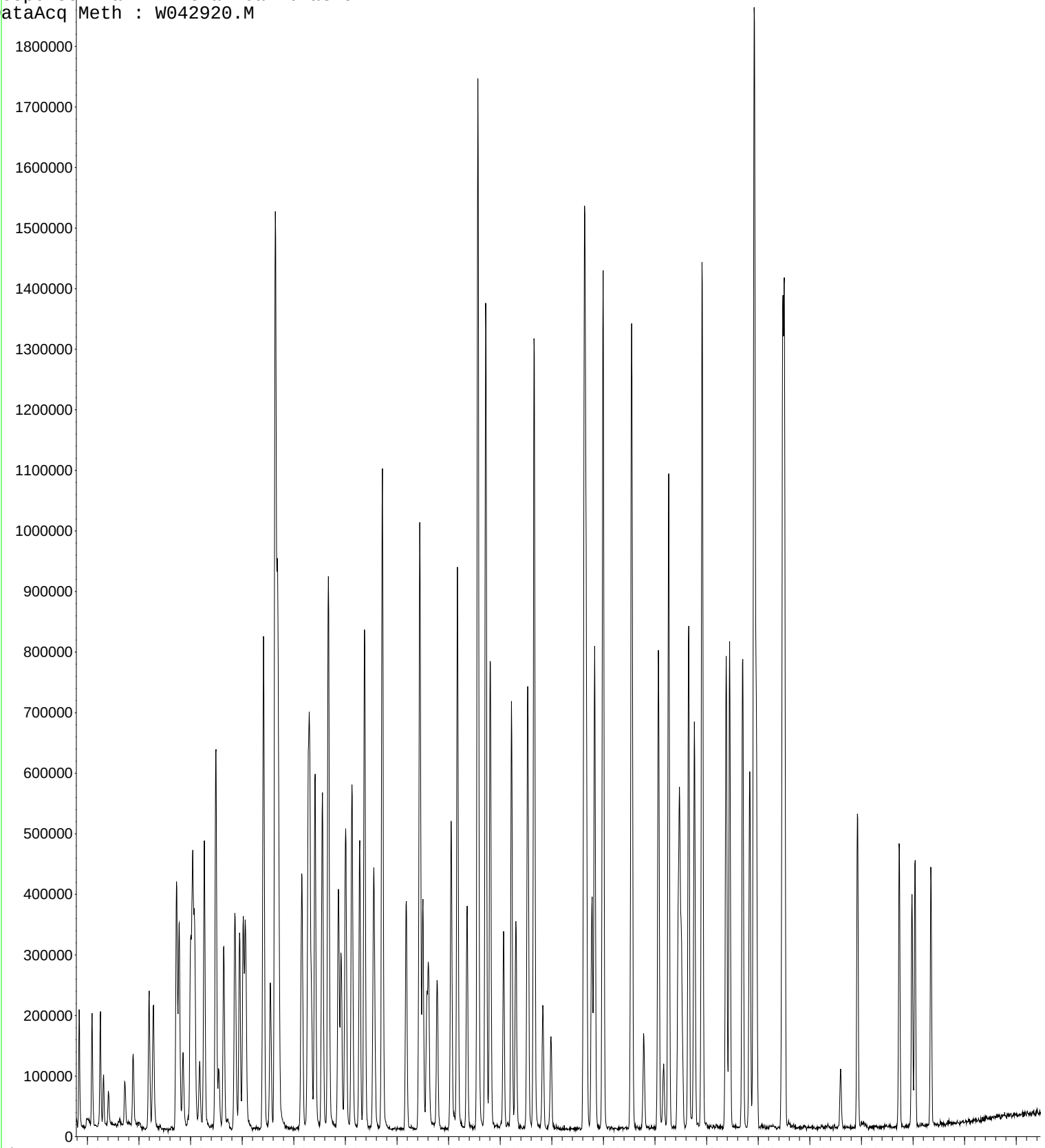
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF-LCSD1.D

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\050420 - 170734.seq
User : AGK
Printed : May 04, 2020 13:04:13

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\050420 -\002.dat	170734,CCV,	May 04, 2020 13:04:13

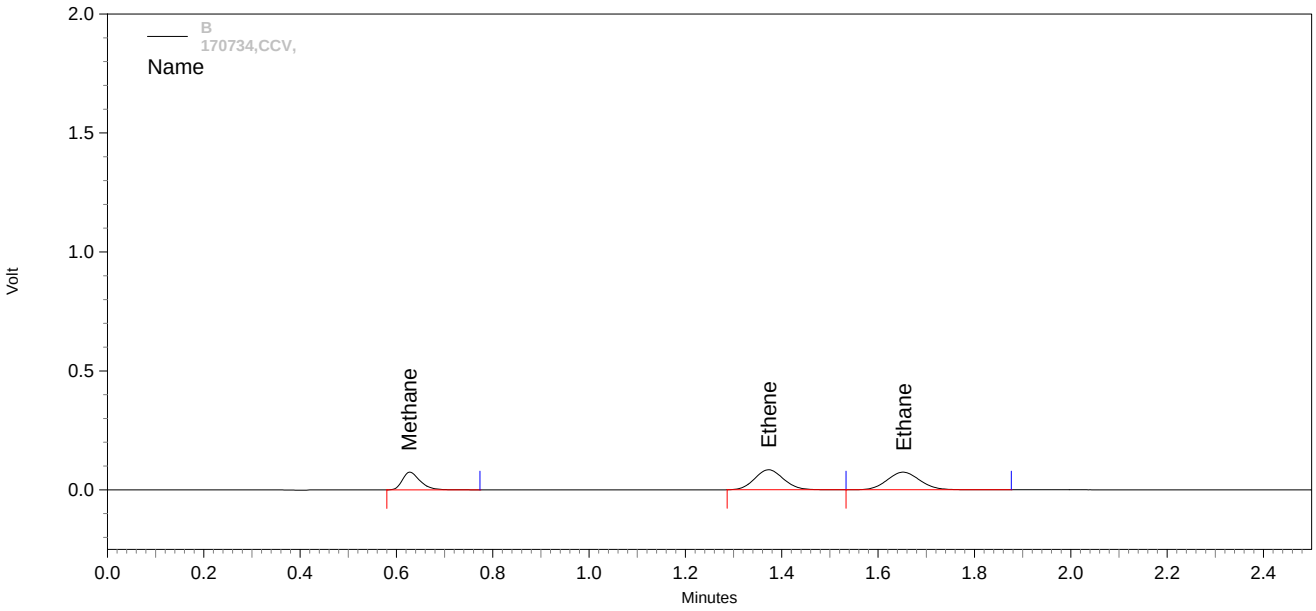
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.237	2.475	15.000	**Passed**
Ethene	50.000	51.394	2.787	15.000	**Passed**
Ethane	50.000	51.901	3.803	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,CCV,
Acquired: May 04, 2020 09:22:38
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.627**	**0.627**	**188536**	**51.237**	**ppmV**
2	**Ethene**	**1.373**	**1.373**	**349420**	**51.394**	**ppmV**
3	**Ethane**	**1.653**	**1.653**	**348065**	**51.901**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\050420 - 170734.seq
User : AGK
Printed : May 04, 2020 13:06:17

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\050420 -\019.dat	170734,CCV,	May 04, 2020 13:06:16

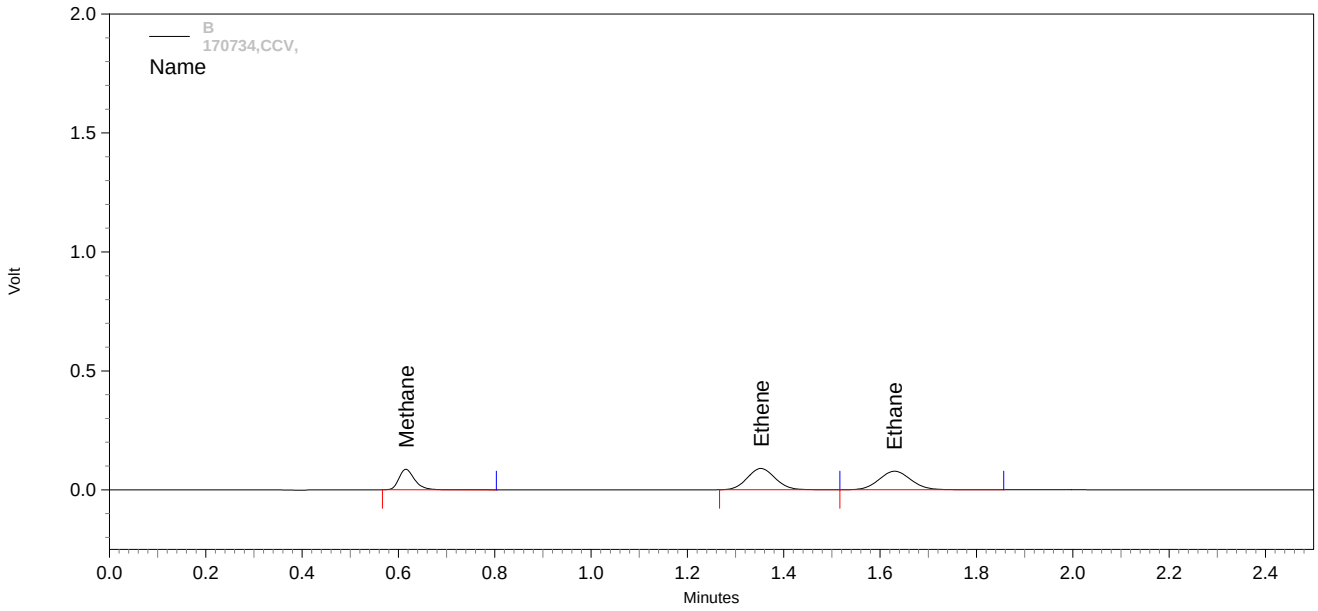
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	52.931	5.862	15.000	**Passed**
Ethene	50.000	53.084	6.168	15.000	**Passed**
Ethane	50.000	53.138	6.276	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,CCV,
Acquired: May 04, 2020 11:28:41
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



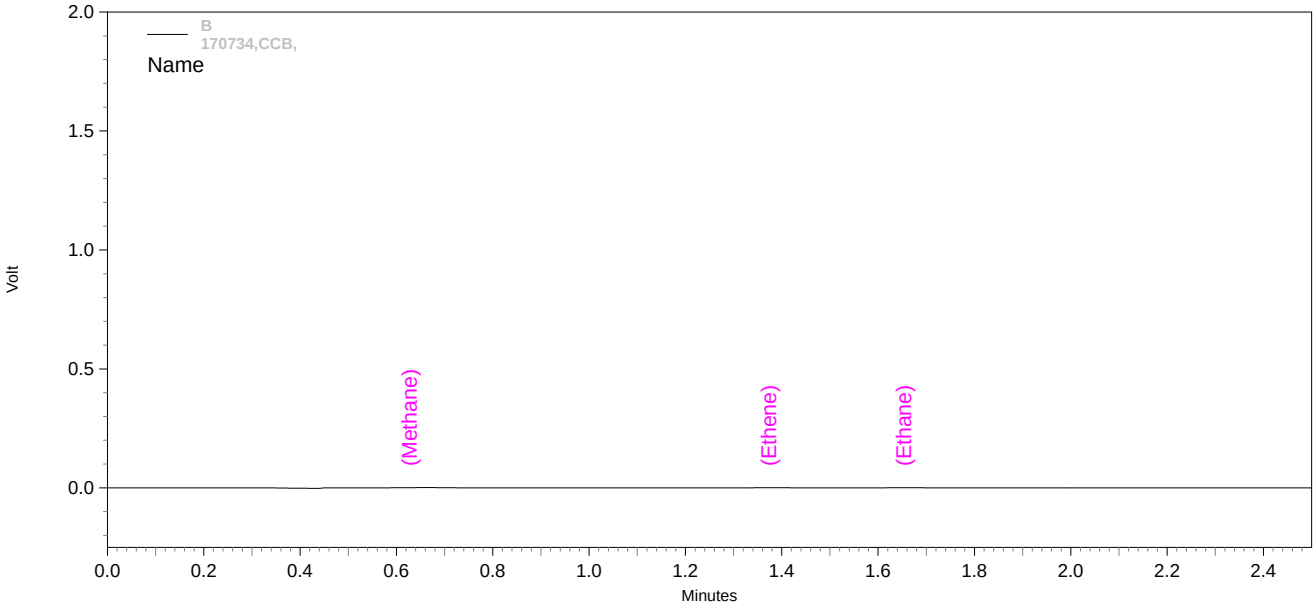
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.617**	**0.627**	**194676**	**52.931**	**ppmV**
2	**Ethene**	**1.353**	**1.373**	**361113**	**53.084**	**ppmV**
3	**Ethane**	**1.630**	**1.653**	**356473**	**53.138**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,CCB,
Acquired: May 04, 2020 11:32:26
File Desc. MEE Continuing Calibration BLANK
1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\050420 - 170734.seq
User : AGK
Printed : May 04, 2020 13:06:59

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\050420 -\024.dat	170734,CCV,	May 04, 2020 13:06:59

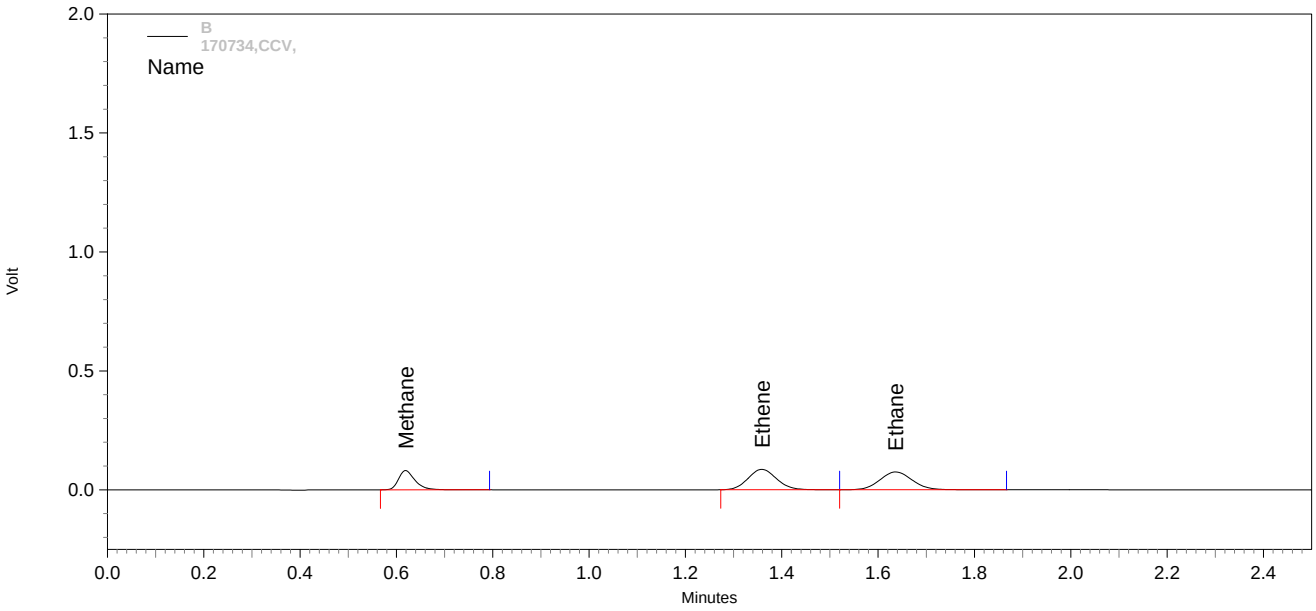
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	52.223	4.446	15.000	**Passed**
Ethene	50.000	51.766	3.531	15.000	**Passed**
Ethane	50.000	51.844	3.688	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,CCV,
Acquired: May 04, 2020 11:49:07
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



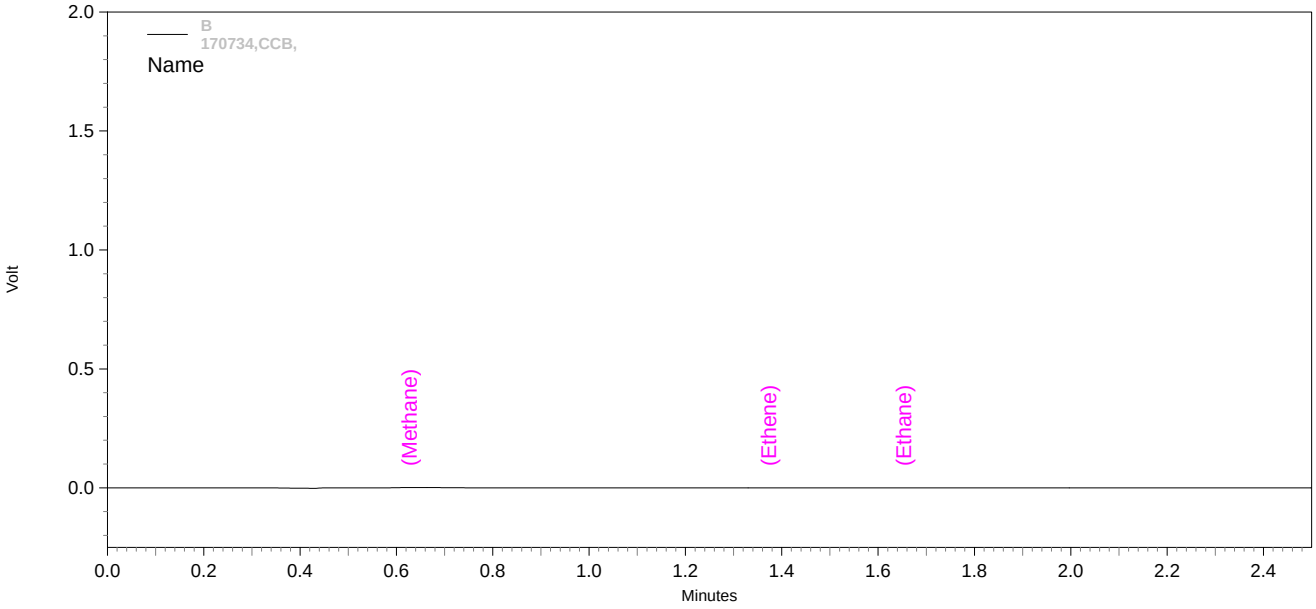
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.620**	**0.627**	**192109**	**52.223**	**ppmV**
2	**Ethene**	**1.360**	**1.373**	**351992**	**51.766**	**ppmV**
3	**Ethane**	**1.637**	**1.653**	**347675**	**51.844**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\025.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,CCB,
Acquired: May 04, 2020 12:50:19
File Desc. MEE Continuing Calibration BLANK
1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\050420 - 170734.seq
User : AGK
Printed : May 04, 2020 13:07:31

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\050420 -\027.dat	170734,CCV,	May 04, 2020 13:07:31

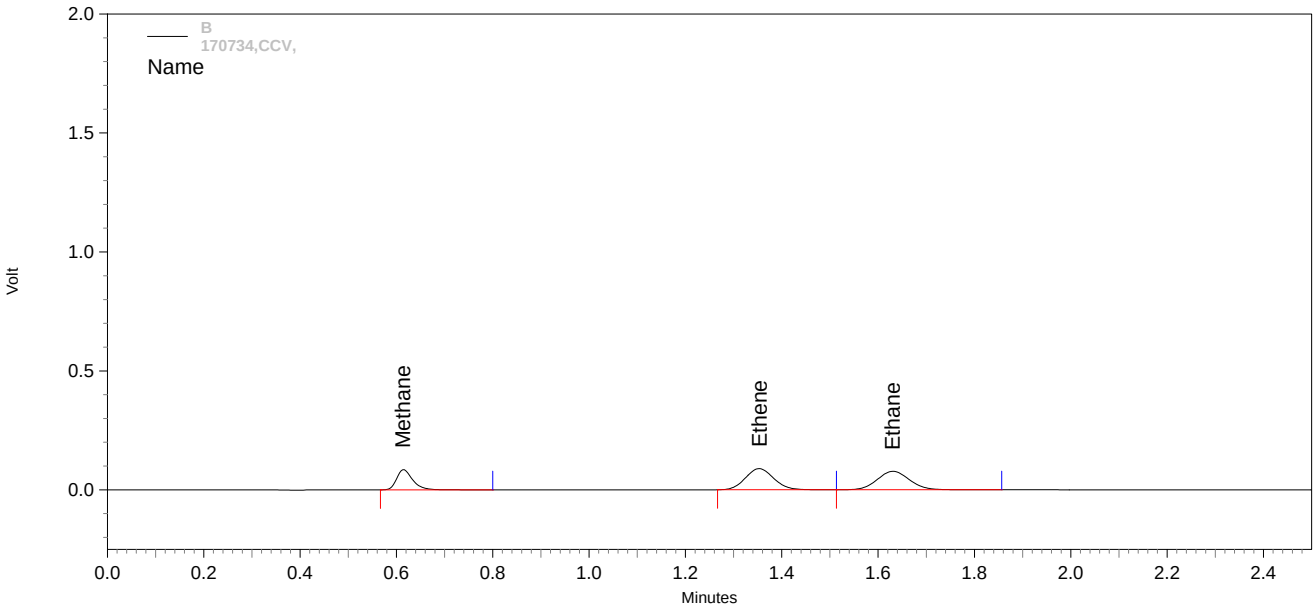
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	53.189	6.378	15.000	**Passed**
Ethene	50.000	53.302	6.604	15.000	**Passed**
Ethane	50.000	53.478	6.957	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\027.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,CCV,
Acquired: May 04, 2020 12:58:00
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.613**	**0.627**	**195612**	**53.189**	**ppmV**
2	**Ethene**	**1.353**	**1.373**	**362620**	**53.302**	**ppmV**
3	**Ethane**	**1.630**	**1.653**	**358786**	**53.478**	**ppmV**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1188610	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	902251	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	508651	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	287823	20.178	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.27	102	81701	20.182	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.72	98	1168380	19.928	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	478303	19.488	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	184911	10.6671	ug/L	97
3) Chloromethan	2.09	50	224608	9.9811	ug/L	96
4) VinylChlorid	2.25	62	215006	10.2290	ug/L	100
5) Bromomethane	2.73	94	109013	10.3703	ug/L	99
6) Chloroethane	2.89	64	130337	10.0390	ug/L	96
7) Dichloroflmethane	3.20	67	300551	10.0262	ug/L	99
8) Trichlorofma	3.28	101	229507	10.5122	ug/L	100
9) Ethylether	3.73	59	158324	10.1099	ug/L	99
10) dichlorotfluoroethan	3.73	67	187204	10.3518	ug/L	100
11) propyleneoxide	3.78	58	354147	100.0163	ug/L	100
12) Acrolein	3.85	56	174435	51.6253	ug/L	98
13) 11dichlorthe	4.00	96	147565	10.5998	ug/L	96
14) Trichlorotfluoroeth	4.04	101	287923	21.3268	ug/L	99
15) Acetone	4.08	43	480306	99.6651	ug/L	98
16) Iodomethane	4.18	142	165845	13.8954	ug/L	99
17) Carbon Dislf	4.27	76	884810	22.1926	ug/L	99
18) allylchloride	4.49	41	610731	20.5247	ug/L	99
19) methylacetate	4.55	74	32616	10.0428	ug/L	92
20) Methylchlorid	4.64	84	172549	9.5824	ug/L	98
21) tbutylalcohol	4.86	59	624739	443.3156	ug/L	99
22) Acrylonitrile	4.95	53	346443	51.8701	ug/L	96
23) t12dichlorte	5.02	96	163641	10.0048	ug/L	99
24) MtBE	5.06	73	452535	9.9530	ug/L	99
25) Hexane	5.42	57	566986	21.2445	ug/L	99
26) 11dichlorota	5.55	63	318446	10.0778	ug/L	99
27) Vinylacetate	5.64	43	3409961	108.6226	ug/L	99
28) chloroprene	5.68	53	566018	21.5254	ug/L	99
29) Diisopether	5.70	45	580061	9.8393	ug/L	98
30) ETBE	6.15	59	510663	10.1899	ug/L	98
31) 22dichloropr	6.29	77	257996	10.4483	ug/L	99
32) c12dichlorte	6.27	96	179480	9.6754	ug/L	99
33) 2Butanone	6.31	72	199544	100.2798	ug/L	99
34) propionitrile	6.34	54	251311	98.0501	ug/L	98
35) Ethylacetate	6.41	88	38786	50.2960	ug/L #	90
36) methacrylonitrile	6.55	67	170967	20.4053	ug/L	98
37) Bromochlorma	6.57	128	74828	9.4536	ug/L	98
38) Tetrahydofur	6.67	42	610764	104.4823	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	290675	10.1530	ug/L	98
40)	111trichlota	6.92	97	251484	10.1877	ug/L	99
42)	Cyclohexane	7.00	56	341920	10.9304	ug/L	100
43)	Carbtetraclo	7.13	119	196608	9.9873	ug/L	100
44)	11dicloprope	7.13	110	77958	10.0576	ug/L	97
46)	Benzene	7.37	78	691109	10.3696	ug/L	98
47)	12dichlorota	7.38	62	232367	9.5034	ug/L	99
48)	TAME	7.55	73	462556	10.1924	ug/L	99
49)	trichloroete	8.18	95	171017	9.7681	ug/L	96
50)	methylcyclohexane	8.45	83	343214	10.6072	ug/L	98
51)	12dicloropra	8.44	63	206332	9.9435	ug/L	99
52)	23Dicl1propene	8.50	75	277804	10.2088	ug/L	99
53)	Dibromometha	8.57	93	104175	10.3082	ug/L	96
54)	methylmethacrylate	8.60	69	137045	10.2775	ug/L	98
55)	14dioxane	8.65	88	26005	266.8060	ug/L	95
56)	Bromodiclrma	8.78	83	220345	10.1288	ug/L	100
57)	2Nitropropane	9.05	43	536426	109.3530	ug/L	99
58)	2CLEVE	9.17	63	534904	51.8089	ug/L	100
59)	c13dicloproe	9.36	75	290072	10.1284	ug/L	99
60)	4Meth2Pentan	9.57	43	1668870	103.8081	ug/L	99
62)	Toluene	9.81	92	466079	10.3619	ug/L	99
63)	t13Dicloprop	10.06	75	251653	10.2717	ug/L	98
64)	ethylmethacrylate	10.22	69	497638	21.4320	ug/L	100
65)	112Triclotha	10.30	83	128907	9.9213	ug/L	98
66)	Tetrachlorte	10.54	166	176578	10.2141	ug/L	98
67)	13Diclorpropa	10.53	76	281252	10.1693	ug/L	99
69)	2Hexanone	10.66	43	1268372	101.8589	ug/L	99
70)	Clorodibrmta	10.83	129	145085	9.5916	ug/L	96
71)	12Dibrometha	10.98	107	149304	10.2139	ug/L	99
72)	Chlorobenzen	11.67	112	455881	10.1608	ug/L	98
73)	1Clhexane	11.65	91	250854	10.2209	ug/L	99
74)	1112Tetclota	11.78	131	148944	9.7487	ug/L	94
75)	Ethylbenzene	11.83	91	805603	10.6255	ug/L	98
76)	m p-Xylene	11.99	106	604682	20.8530	ug/L	99
77)	o-Xylene	12.54	106	300260	10.1604	ug/L	96
78)	Styrene	12.55	104	494590	10.3477	ug/L	99
79)	Bromoform	12.78	173	97574	9.5718	ug/L	97
80)	Isopropylben	13.07	105	747796	10.6500	ug/L	100
81)	cyclohexanone	13.17	55	71861	153.6020	ug/L	98
84)	Bromobenzene	13.48	156	188772	9.6000	ug/L	98
85)	1122Tetrclta	13.45	83	223235	10.0846	ug/L	97
86)	123Triclproa	13.51	75	275979	10.1131	ug/L	98
87)	14dichloro2butene	13.53	53	69885	10.4739	ug/L	96
88)	n-Propylbenz	13.65	91	925640	10.1267	ug/L	100
89)	2chlorotolue	13.76	91	553730	10.1183	ug/L	99
90)	4chlorotolue	13.92	91	641654	10.3153	ug/L	99
91)	135Trimebenz	13.91	105	614305	10.3708	ug/L	99
92)	tbutylbenzen	14.38	119	539900	10.3049	ug/L	98
93)	124Trimetben	14.45	105	626218	10.4205	ug/L	98
94)	sbutylbenzen	14.70	105	774854	10.1875	ug/L	99
95)	13Diclorbenz	14.83	146	353297	9.9839	ug/L	99
96)	pIsopropylto	14.91	119	650518	10.5665	ug/L	100
97)	14dichlorobe	14.96	146	354680	9.9346	ug/L	100
98)	12dichlorobe	15.50	146	322878	9.6921	ug/L	99
99)	nButylbenzen	15.51	91	630825	9.8993	ug/L	98
100)	12dibromo3cl	16.60	157	39834	10.3474	ug/L	92
101)	135Trichlorobenzene	16.93	180	233745	10.0895	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.73	180	189517	9.7357	ug/L	99
103) Hexachlorobu	17.98	225	104464	10.5076	ug/L	97
104) Naphthalene	18.03	128	459514	10.8873	ug/L	99
105) 123Trichlben	18.35	180	171094	9.9274	ug/L	99

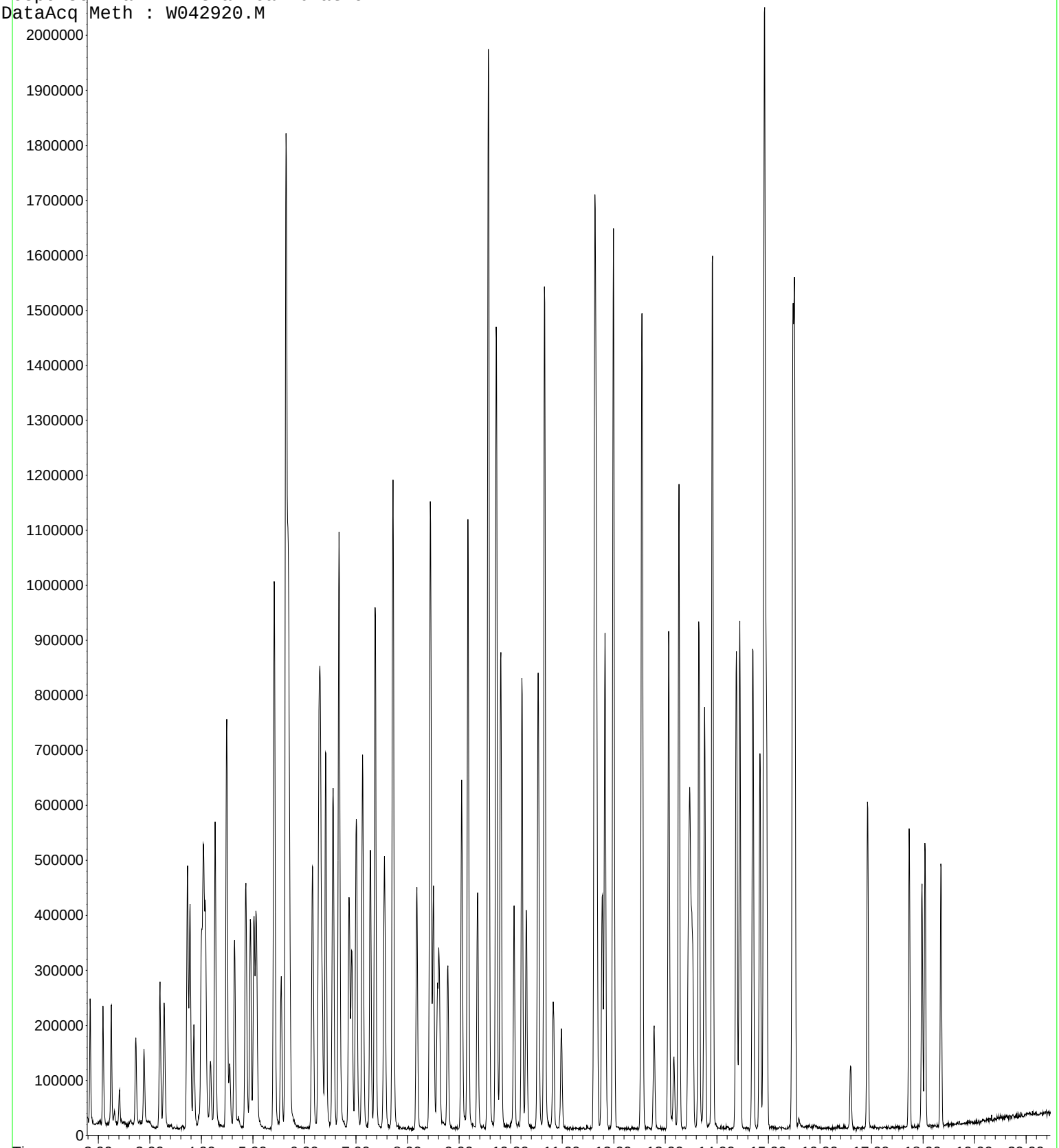
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\Instarch\Data\MAY0120\CCV-LCS1.D Vial: 3
Acq On : 1 May 2020 9:00 Operator: RLD-DGS
Sample : 170774,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 09:21:06 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\MB1.D Vial: 6
Acq On : 1 May 2020 10:30 Operator: RLD-DGS
Sample : 170774,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 10:51:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1175493	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	888310	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	469380	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.86	113	285135	20.213 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %		
45) SURR12DCAd4	7.28	102	80112	20.010 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %		
61) SURRd8Tolule	9.72	98	1150900	19.849 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %		
83) SURR4BrFBenz	13.26	95	458339	20.237 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.10	43	4102	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.26	76	4236	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.65	84	2505	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	5.64	43	4296	Below Cal # 71	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.69	42	3716	Below Cal # 38	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\MB1.D Vial: 6
Acq On : 1 May 2020 10:30 Operator: RLD-DGS
Sample : 170774,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 10:51:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	0.00	91	0	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\MB1.D Vial: 6
Acq On : 1 May 2020 10:30 Operator: RLD-DGS
Sample : 170774,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 10:51:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.03	128	3549	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

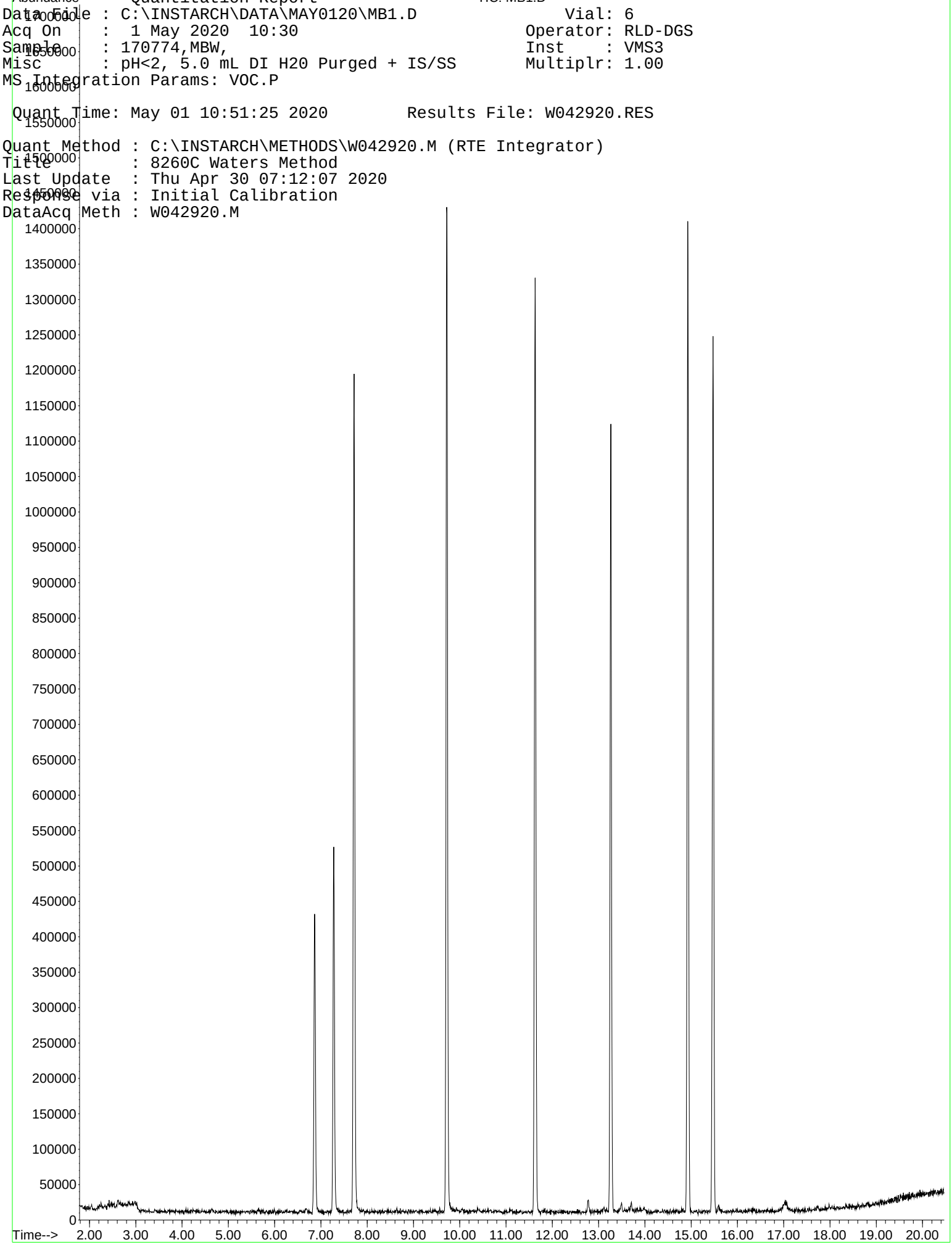
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\MB1.D Vial: 6
Acq On : 1 May 2020 10:30 Operator: RLD-DGS
Sample : 170774,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 10:51:25 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412563MS.D Vial: 21
Acq On : 1 May 2020 17:58 Operator: RLD-DGS
Sample : 170774,MSW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:18:55 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.71	96	1086380	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	835886	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	447631	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	258172	19.802	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	72510	19.597	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98 %			
61) SURRd8Tolule	9.72	98	1079952	20.153	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %			
83) SURR4BrFBenz	13.26	95	428206	19.826	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	177561	11.2069	ug/L	99
3) Chloromethan	2.08	50	215762	10.4903	ug/L	100
4) VinylChlorid	2.25	62	194560	10.1273	ug/L	99
5) Bromomethane	2.73	94	48590	5.0573	ug/L	95
6) Chloroethane	2.89	64	122238	10.3012	ug/L	97
7) Dichloroflmethane	3.20	67	279074	10.1858	ug/L	99
8) Trichlorofma	3.28	101	215862	10.8176	ug/L	98
9) Ethylether	3.73	59	131861	9.2124	ug/L	95
10) dichlorotfluoroethan	3.73	67	174130	10.5350	ug/L	99
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	3.85	56	90297	29.2388	ug/L	95
13) 11dichlorthe	4.00	96	131783	10.3570	ug/L	97
14) Trichlorotfluoroeth	4.04	101	274358	22.2344	ug/L	98
15) Acetone	4.08	43	417325	94.7452	ug/L	99
16) Iodomethane	4.18	142	56295	7.6720	ug/L	96
17) Carbon Dislf	4.27	76	847471	23.2563	ug/L	98
18) allylchloride	4.49	41	529198	19.4582	ug/L	99
19) methylacetate	4.55	74	22657	7.6328	ug/L	89
20) Methylchlorid	4.64	84	147052	8.9349	ug/L	97
21) tbutylalcohol	4.86	59	564848	438.5343	ug/L	99
22) Acrylonitrile	4.95	53	290793	47.6350	ug/L	99
23) t12dichlorte	5.02	96	149017	9.9681	ug/L	99
24) MtBE	5.06	73	406972	9.7932	ug/L	98
25) Hexane	5.41	57	466429	19.1213	ug/L	100
26) 11dichlorota	5.54	63	298843	10.3474	ug/L	98
27) Vinylacetate	5.64	43	2449148	80.7117	ug/L	98
28) chloroprene	5.67	53	524775	21.8350	ug/L	99
29) Diisopether	5.70	45	565215	10.4897	ug/L	99
30) ETBE	6.15	59	458212	10.0037	ug/L	99
31) 22dichloropr	6.28	77	125360	5.5546	ug/L	97
32) c12dichlorte	6.27	96	165390	9.7549	ug/L	94
33) 2Butanone	6.31	72	178712	98.2621	ug/L	96
34) propionitrile	6.34	54	217498	92.8431	ug/L	98
35) Ethylacetate	6.41	88	24774	35.1490	ug/L #	89
36) methacrylonitrile	6.55	67	150302	19.6270	ug/L	96
37) Bromochlorma	6.56	128	68046	9.4057	ug/L	96
38) Tetrahydofur	6.66	42	521262	97.1026	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412563MS.D Vial: 21
Acq On : 1 May 2020 17:58 Operator: RLD-DGS
Sample : 170774,MSW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:18:55 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.67	83	272637	10.4191	ug/L	99
40)	111trichlota	6.91	97	242099	10.7304	ug/L	97
42)	Cyclohexane	7.00	56	322753	11.2886	ug/L	99
43)	Carbtetraclo	7.13	119	195331	10.8561	ug/L	98
44)	11dicloprope	7.12	110	74451	10.5090	ug/L	96
46)	Benzene	7.37	78	639443	10.4973	ug/L	99
47)	12dichlorota	7.37	62	214954	9.6185	ug/L	99
48)	TAME	7.55	73	416735	10.0468	ug/L	99
49)	trichloroete	8.18	95	159593	9.9733	ug/L	98
50)	methylcyclohexane	8.44	83	329730	11.1494	ug/L	98
51)	12dicloropra	8.43	63	187836	9.9040	ug/L	97
52)	23Dicl1propene	8.50	75	254300	10.2244	ug/L	98
53)	Dibromometha	8.57	93	85772	9.2859	ug/L	98
54)	methylmethacrylate	8.60	69	115509	9.4776	ug/L	98
55)	14dioxane	8.64	88	29308	335.3712	ug/L	95
56)	Bromodiclrma	8.78	83	203042	10.2117	ug/L	99
57)	2Nitropropane	9.05	43	446360	99.5551	ug/L	99
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.35	75	229370	8.7626	ug/L	97
60)	4Meth2Pentan	9.57	43	1503617	102.1216	ug/L	99
62)	Toluene	9.80	92	428222	10.4161	ug/L	98
63)	t13Dicloprop	10.06	75	197613	8.8249	ug/L	99
64)	ethylmethacrylate	10.22	69	426718	20.1070	ug/L	100
65)	112Triclotha	10.30	83	113971	9.5972	ug/L	98
66)	Tetrachlorte	10.53	166	163399	10.3412	ug/L	96
67)	13Diclorpropa	10.53	76	247245	9.7809	ug/L	98
69)	2Hexanone	10.65	43	1117885	96.3661	ug/L	99
70)	Clorodibrmta	10.83	129	130781	9.3324	ug/L	95
71)	12Dibrometha	10.98	107	125152	9.2414	ug/L	94
72)	Chlorobenzen	11.67	112	411188	9.8923	ug/L	99
73)	1Clhexane	11.65	91	234385	10.3080	ug/L	99
74)	1112Tetclota	11.77	131	141883	10.0238	ug/L	97
75)	Ethylbenzene	11.83	91	741468	10.5560	ug/L	98
76)	m p-Xylene	11.99	106	535401	19.9297	ug/L	98
77)	o-Xylene	12.54	106	269673	9.8499	ug/L	95
78)	Styrene	12.55	104	421000	9.5074	ug/L	98
79)	Bromoform	12.78	173	82375	8.7224	ug/L	97
80)	Isopropylben	13.06	105	684465	10.5220	ug/L	99
81)	cyclohexanone	13.16	55	65035	150.0483	ug/L	98
84)	Bromobenzene	13.48	156	172960	9.9949	ug/L	93
85)	1122Tetrclta	13.45	83	185926	9.5441	ug/L	99
86)	123Triclproa	13.51	75	226277	9.4221	ug/L	98
87)	14dichloro2butene	13.53	53	42194	7.1858	ug/L	99
88)	n-Propylbenz	13.65	91	830628	10.3260	ug/L	99
89)	2chlorotolue	13.76	91	490896	10.1929	ug/L	99
90)	4chlorotolue	13.92	91	570008	10.4127	ug/L	100
91)	135Trimebenz	13.91	105	542449	10.4060	ug/L	98
92)	tbutylbenzen	14.38	119	493746	10.7086	ug/L	99
93)	124Trimetben	14.45	105	537932	10.1717	ug/L	97
94)	sbutylbenzen	14.70	105	716165	10.6994	ug/L	98
95)	13Diclorbenz	14.83	146	303202	9.7363	ug/L	99
96)	pIsopropylto	14.91	119	580633	10.7171	ug/L	99
97)	14dichlorobe	14.96	146	311455	9.9130	ug/L	98
98)	12dichlorobe	15.50	146	283406	9.6669	ug/L	99
99)	nButylbenzen	15.51	91	555527	9.9060	ug/L	99
100)	12dibromo3cl	16.60	157	31856	9.4030	ug/L	90
101)	135Trichlorobenzene	16.92	180	212966	10.4457	ug/L	94

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\MAY0120\412563MS.D Vial: 21
Acq On : 1 May 2020 17:58 Operator: RLD-DGS
Sample : 170774,MSW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:18:55 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	168718	9.8488	ug/L	100
103) Hexachlorobu	17.98	225	88222	10.0836	ug/L	97
104) Naphthalene	18.04	128	387393	10.4297	ug/L	99
105) 123Trichlben	18.35	180	151641	9.9981	ug/L	97

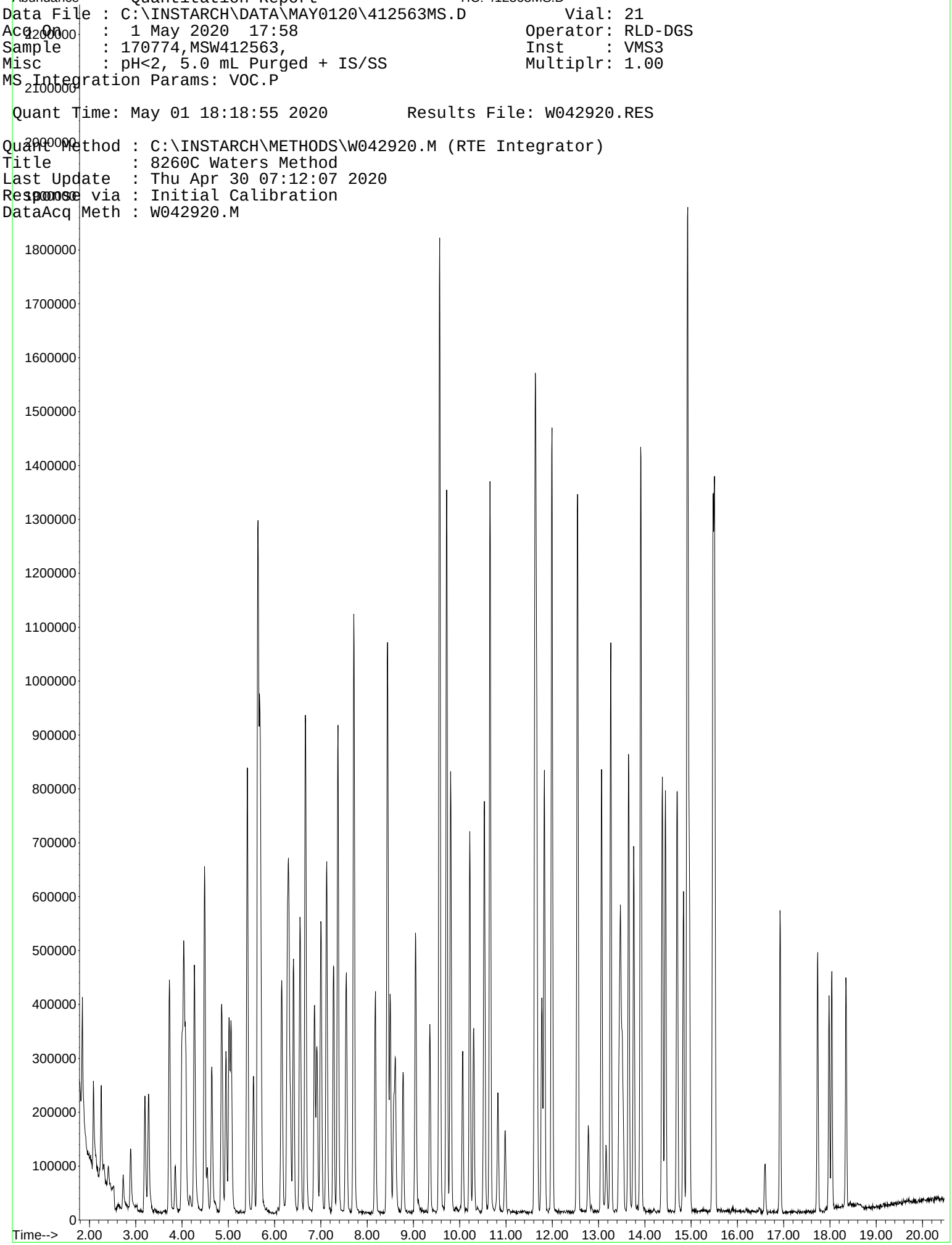
(#) = qualifier out of range (m) = manual integration
412563MS.D W042920.M Mon May 04 08:35:29 2020 Page 365 Page 3

Abundance Quantitation Report TIC: 412563MS.D

Data File : C:\INSTARCH\DATA\MAY0120\412563MS.D Vial: 21
Acq On : 1 May 2020 17:58 Operator: RLD-DGS
Sample : 170774,MSW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:18:55 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412563SD.D Vial: 22
Acq On : 1 May 2020 18:27 Operator: RLD-DGS
Sample : 170774,MSDW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:48:07 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1151450	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	867767	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	482518	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	278583	20.160	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	79954	20.388	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1141426	20.096	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	471938	20.271	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	176222	10.4939	ug/L	100
3) Chloromethan	2.09	50	215741	9.8965	ug/L	100
4) VinylChlorid	2.25	62	200265	9.8352	ug/L	96
5) Bromomethane	2.72	94	96037	9.4308	ug/L	98
6) Chloroethane	2.89	64	113942	9.0594	ug/L	95
7) Dichloroflmethane	3.20	67	259741	8.9444	ug/L	98
8) Trichlorofma	3.28	101	201256	9.5157	ug/L	99
9) Ethylether	3.73	59	121496	8.0086	ug/L	94
10) dichlorotfluoroethan	3.73	67	164850	9.4099	ug/L	98
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	3.85	56	94368	28.8302	ug/L	98
13) 11dichlorthe	4.00	96	123824	9.1815	ug/L	99
14) Trichlorotfluoroeth	4.04	101	260996	19.9562	ug/L	96
15) Acetone	4.08	43	377122	80.7795	ug/L	99
16) Iodomethane	4.18	142	181353	15.1798	ug/L	99
17) Carbon Dislf	4.26	76	794468	20.5698	ug/L	99
18) allylchloride	4.49	41	453201	15.7222	ug/L	99
19) methylacetate	4.55	74	15826	5.0302	ug/L	98
20) Methylchlorid	4.64	84	145702	8.3526	ug/L	99
21) tbutylalcohol	4.86	59	487541	357.1246	ug/L	100
22) Acrylonitrile	4.95	53	275116	42.5202	ug/L	99
23) t12dichlorte	5.02	96	140095	8.8417	ug/L	100
24) MtBE	5.06	73	369959	8.3994	ug/L	99
25) Hexane	5.42	57	414324	16.0254	ug/L	99
26) 11dichlorota	5.54	63	275139	8.9883	ug/L	98
27) Vinylacetate	5.64	43	1855068	53.8119	ug/L	96
28) chloroprene	5.67	53	468089	18.3757	ug/L	99
29) Diisopether	5.70	45	524323	9.1809	ug/L	100
30) ETBE	6.15	59	424708	8.7482	ug/L	100
31) 22dichloropr	6.28	77	63655	2.6611	ug/L	93
32) c12dichlorte	6.27	96	154266	8.5846	ug/L	92
33) 2Butanone	6.31	72	152001	78.8525	ug/L	95
34) propionitrile	6.34	54	194243	78.2305	ug/L	99
35) Ethylacetate	6.41	88	17794	23.8192	ug/L #	86
36) methacrylonitrile	6.55	67	132687	16.3476	ug/L	99
37) Bromochlorma	6.56	128	64394	8.3979	ug/L	99
38) Tetrahydofur	6.66	42	465957	80.9754	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0120\412563SD.D Vial: 22
Acq On : 1 May 2020 18:27 Operator: RLD-DGS
Sample : 170774,MSDW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:48:07 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	247549	8.9257	ug/L	99
40)	111trichlota	6.91	97	218297	9.1287	ug/L	98
42)	Cyclohexane	7.00	56	298307	9.8439	ug/L	99
43)	Carbtetraclo	7.13	119	177999	9.3338	ug/L	96
44)	11dicloprope	7.13	110	64299	8.5631	ug/L	93
46)	Benzene	7.38	78	591236	9.1574	ug/L	99
47)	12dichlorota	7.37	62	195796	8.2662	ug/L	97
48)	TAME	7.55	73	386191	8.7843	ug/L	98
49)	trichloroete	8.17	95	144164	8.5000	ug/L	96
50)	methylcyclohexane	8.44	83	304637	9.7188	ug/L	99
51)	12dicloropra	8.44	63	169393	8.4268	ug/L	95
52)	23Dicl1propene	8.50	75	231719	8.7900	ug/L	99
53)	Dibromometha	8.57	93	84196	8.6002	ug/L	97
54)	methylmethacrylate	8.60	69	99489	7.7019	ug/L	97
55)	14dioxane	8.64	88	27650	295.4609	ug/L	95
56)	Bromodiclrma	8.78	83	184291	8.7449	ug/L	100
57)	2Nitropropane	9.05	43	415018	87.3337	ug/L	99
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.35	75	201125	7.2493	ug/L	99
60)	4Meth2Pentan	9.57	43	1320014	82.5723	ug/L	99
62)	Toluene	9.80	92	386974	8.8809	ug/L	99
63)	t13Dicloprop	10.06	75	172761	7.2791	ug/L	99
64)	ethylmethacrylate	10.22	69	376521	16.7391	ug/L	99
65)	112Triclotha	10.30	83	104245	8.2821	ug/L	98
66)	Tetrachlorte	10.54	166	143041	8.5412	ug/L	99
67)	13Diclorpropa	10.53	76	222846	8.3175	ug/L	98
69)	2Hexanone	10.65	43	987600	80.7216	ug/L	99
70)	Clorodibrmta	10.83	129	119804	8.2350	ug/L	96
71)	12Dibrometha	10.98	107	113958	8.1056	ug/L	96
72)	Chlorobenzen	11.66	112	372999	8.6439	ug/L	99
73)	1Clhexane	11.65	91	207431	8.7875	ug/L	99
74)	1112Tetclota	11.77	131	125759	8.5583	ug/L	96
75)	Ethylbenzene	11.83	91	671164	9.2041	ug/L	100
76)	m p-Xylene	11.99	106	494111	17.7170	ug/L	99
77)	o-Xylene	12.54	106	245567	8.6399	ug/L	98
78)	Styrene	12.55	104	379870	8.2634	ug/L	99
79)	Bromoform	12.78	173	78332	7.9896	ug/L	99
80)	Isopropylben	13.07	105	618395	9.1571	ug/L	99
81)	cyclohexanone	13.17	55	58247	129.4498	ug/L	98
84)	Bromobenzene	13.47	156	161798	8.6739	ug/L	92
85)	1122Tetrclta	13.45	83	167816	7.9916	ug/L	100
86)	123Triclproa	13.50	75	196686	7.5978	ug/L	96
87)	14dichloro2butene	13.54	53	35131	5.5503	ug/L	97
88)	n-Propylbenz	13.65	91	769897	8.8790	ug/L	100
89)	2chlorotolue	13.76	91	462361	8.9063	ug/L	97
90)	4chlorotolue	13.92	91	523870	8.8779	ug/L	100
91)	135Trimebenz	13.91	105	507442	9.0307	ug/L	99
92)	tbutylbenzen	14.38	119	451926	9.0930	ug/L	99
93)	124Trimetben	14.44	105	499055	8.7543	ug/L	98
94)	sbutylbenzen	14.69	105	656229	9.0951	ug/L	97
95)	13Diclorbenz	14.83	146	287300	8.5586	ug/L	99
96)	pIsopropylto	14.91	119	533127	9.1287	ug/L	99
97)	14dichlorobe	14.96	146	285586	8.4325	ug/L	99
98)	12dichlorobe	15.50	146	267245	8.4566	ug/L	99
99)	nButylbenzen	15.51	91	515708	8.5311	ug/L	100
100)	12dibromo3cl	16.60	157	26261	7.1911	ug/L	97
101)	135Trichlorobenzene	16.92	180	190003	8.6456	ug/L	97

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\MAY0120\412563SD.D Vial: 22
Acq On : 1 May 2020 18:27 Operator: RLD-DGS
Sample : 170774,MSDW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:48:07 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	157043	8.5044	ug/L	96
103) Hexachlorobu	17.98	225	82806	8.7802	ug/L	97
104) Naphthalene	18.04	128	338213	8.4473	ug/L	99
105) 123Trichlben	18.34	180	139679	8.5435	ug/L	97

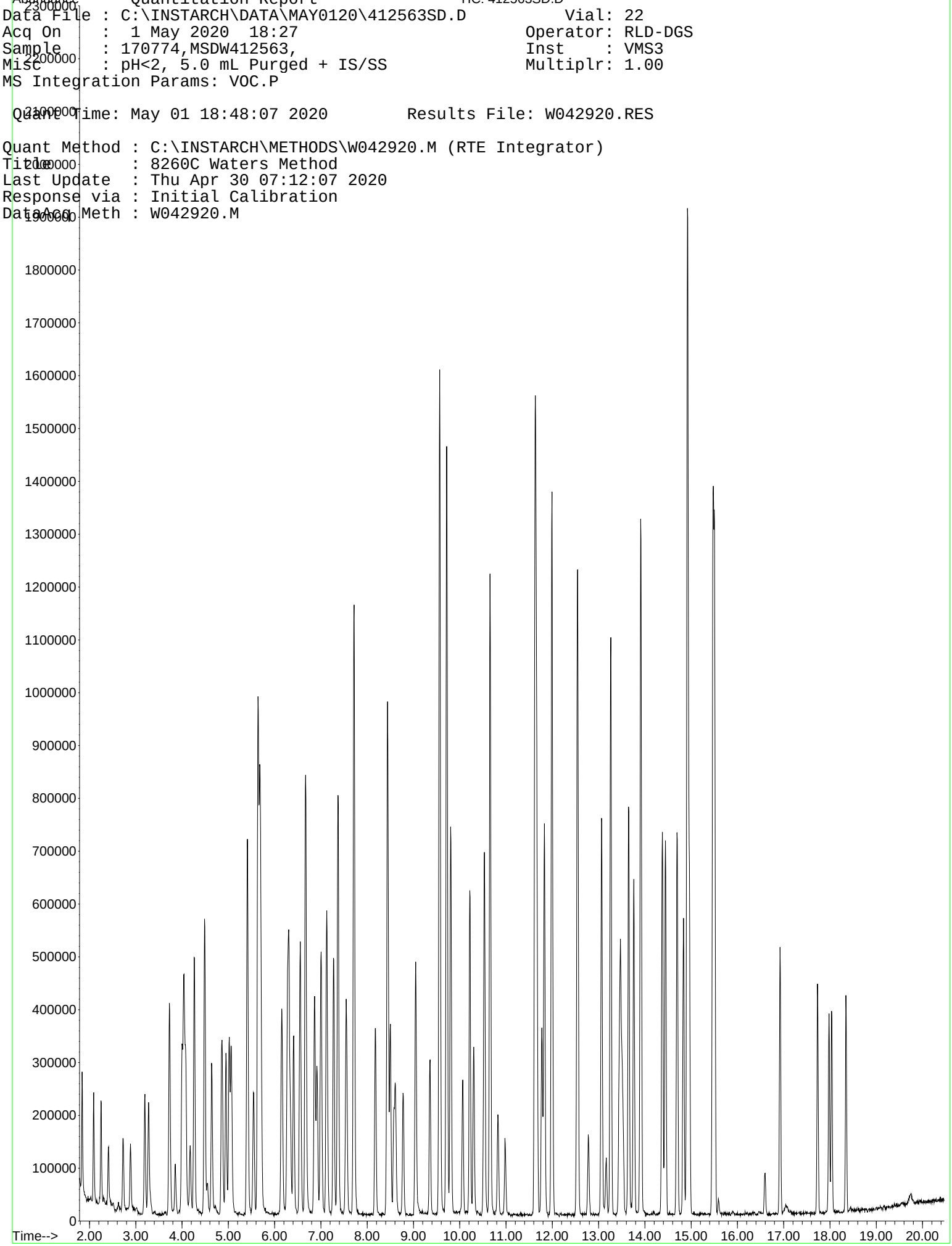
(#) = qualifier out of range (m) = manual integration
412563SD.D W042920.M Mon May 04 08:35:31 2020 Page 369 Page 3

Quantitation Report TIC: 412563SD.D

Data File : C:\INSTARCH\DATA\MAY0120\412563SD.D Vial: 22
Acq On : 1 May 2020 18:27 Operator: RLD-DGS
Sample : 170774,MSDW412563, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 01 18:48:07 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1176443	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	906183	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	514387	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	282768	20.029	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	79090	19.739	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1161686	20.019	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	481903	19.416	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	173291	10.1001	ug/L	97
3) Chloromethan	2.09	50	212227	9.5285	ug/L	100
4) VinylChlorid	2.25	62	197708	9.5033	ug/L	100
5) Bromomethane	2.73	94	96025	9.2293	ug/L	96
6) Chloroethane	2.89	64	115685	9.0026	ug/L	98
7) Dichloroflmethane	3.20	67	273542	9.2196	ug/L	100
8) Trichlorofma	3.28	101	210354	9.7346	ug/L	99
9) Ethylether	3.73	59	136912	8.8330	ug/L	99
10) dichlorotfluoroethan	3.73	67	172980	9.6642	ug/L	96
11) propyleneoxide	3.77	58	308384	87.9928	ug/L	100
12) Acrolein	3.85	56	148625	44.4416	ug/L	93
13) 11dichlorthe	4.00	96	129128	9.3714	ug/L	100
14) Trichlorotfluoroeth	4.04	101	265006	19.8324	ug/L	98
15) Acetone	4.08	43	415842	87.1810	ug/L	98
16) Iodomethane	4.18	142	234643	18.1903	ug/L	99
17) Carbon Dislf	4.27	76	821854	20.8268	ug/L	98
18) allylchloride	4.49	41	558776	18.9729	ug/L	98
19) methylacetate	4.55	74	28044	8.7243	ug/L	94
20) Methylchlorid	4.64	84	159552	8.9522	ug/L	99
21) tbutylalcohol	4.86	59	447360	320.7303	ug/L	98
22) Acrylonitrile	4.95	53	292568	44.2568	ug/L	97
23) t12dichlorte	5.02	96	146646	9.0585	ug/L	98
24) MtBE	5.06	73	407638	9.0583	ug/L	98
25) Hexane	5.42	57	560778	21.2292	ug/L	99
26) 11dichlorota	5.55	63	289835	9.2672	ug/L	98
27) Vinylacetate	5.64	43	3103878	97.8612	ug/L	100
28) chloroprene	5.68	53	516239	19.8354	ug/L	100
29) Diisopether	5.70	45	537843	9.2175	ug/L	99
30) ETBE	6.16	59	467467	9.4244	ug/L	99
31) 22dichloropr	6.29	77	244399	10.0000	ug/L	99
32) c12dichlorte	6.28	96	173666	9.4588	ug/L	94
33) 2Butanone	6.31	72	161663	82.0831	ug/L	100
34) propionitrile	6.34	54	213047	83.9809	ug/L	99
35) Ethylacetate	6.41	88	29449	38.5832	ug/L #	84
36) methacrylonitrile	6.55	67	143617	17.3183	ug/L	97
37) Bromochlorma	6.57	128	69947	8.9283	ug/L	96
38) Tetrahydofur	6.67	42	502842	85.8351	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	265401	9.3661	ug/L	97
40)	111trichlota	6.92	97	231416	9.4717	ug/L	98
42)	Cyclohexane	7.00	56	308948	9.9785	ug/L	99
43)	Carbtetraclo	7.13	119	184775	9.4832	ug/L	97
44)	11dicloprope	7.13	110	70619	9.2050	ug/L	94
46)	Benzene	7.38	78	643883	9.7610	ug/L	100
47)	12dichlorota	7.37	62	221972	9.1722	ug/L	97
48)	TAME	7.55	73	421334	9.3801	ug/L	98
49)	trichloroete	8.18	95	154379	8.9089	ug/L	97
50)	methylcyclohexane	8.44	83	321438	10.0369	ug/L	97
51)	12dicloropra	8.44	63	197595	9.6210	ug/L	98
52)	23Dicl1propene	8.50	75	256328	9.5170	ug/L	99
53)	Dibromometha	8.57	93	90311	9.0288	ug/L	98
54)	methylmethacrylate	8.61	69	110279	8.3558	ug/L	99
55)	14dioxane	8.63	88	27426	286.0493	ug/L	94
56)	Bromodiclrma	8.78	83	210172	9.7611	ug/L	97
57)	2Nitropropane	9.05	43	469877	96.7773	ug/L	97
58)	2CLEVE	9.17	63	413806	40.4943	ug/L	99
59)	c13dicloproe	9.36	75	271930	9.5932	ug/L	97
60)	4Meth2Pentan	9.57	43	1382182	84.8689	ug/L	99
62)	Toluene	9.81	92	426295	9.5754	ug/L	98
63)	t13Dicloprop	10.07	75	238163	9.8216	ug/L	98
64)	ethylmethacrylate	10.22	69	432121	18.8028	ug/L	99
65)	112Triclotha	10.30	83	118553	9.2187	ug/L	97
66)	Tetrachlorte	10.54	166	164148	9.5933	ug/L	97
67)	13Diclorpropa	10.53	76	256143	9.3572	ug/L	99
69)	2Hexanone	10.65	43	1027187	80.3693	ug/L	99
70)	Clorodibrmta	10.83	129	141170	9.2923	ug/L	97
71)	12Dibrometha	10.98	107	133857	9.1174	ug/L	98
72)	Chlorobenzen	11.67	112	416151	9.2350	ug/L	99
73)	1Clhexane	11.65	91	232102	9.4158	ug/L	99
74)	1112Tetclota	11.77	131	143573	9.3564	ug/L	99
75)	Ethylbenzene	11.83	91	745036	9.7840	ug/L	99
76)	m p-Xylene	11.99	106	551764	18.9455	ug/L	99
77)	o-Xylene	12.54	106	268594	9.0494	ug/L	98
78)	Styrene	12.55	104	460636	9.5955	ug/L	100
79)	Bromoform	12.78	173	93999	9.1811	ug/L	95
80)	Isopropylben	13.06	105	699819	9.9235	ug/L	98
81)	cyclohexanone	13.16	55	60472	128.6973	ug/L	99
84)	Bromobenzene	13.48	156	180404	9.0721	ug/L	98
85)	1122Tetrclta	13.45	83	191845	8.5699	ug/L	97
86)	123Triclproa	13.51	75	250148	9.0643	ug/L	98
87)	14dichloro2butene	13.54	53	64107	9.5008	ug/L	94
88)	n-Propylbenz	13.65	91	872569	9.4396	ug/L	99
89)	2chlorotolue	13.76	91	517137	9.3442	ug/L	99
90)	4chlorotolue	13.92	91	602799	9.5826	ug/L	100
91)	135Trimebenz	13.91	105	583108	9.7343	ug/L	100
92)	tbutylbenzen	14.38	119	501895	9.4727	ug/L	98
93)	124Trimetben	14.44	105	587500	9.6672	ug/L	97
94)	sbutylbenzen	14.69	105	746928	9.7108	ug/L	97
95)	13Diclorbenz	14.83	146	325407	9.0932	ug/L	99
96)	pIsopropylto	14.91	119	610388	9.8041	ug/L	99
97)	14dichlorobe	14.96	146	340637	9.4348	ug/L	99
98)	12dichlorobe	15.50	146	307440	9.1258	ug/L	98
99)	nButylbenzen	15.51	91	611239	9.4849	ug/L	99
100)	12dibromo3cl	16.59	157	32887	8.4476	ug/L	91
101)	135Trichlorobenzene	16.92	180	224149	9.5674	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	182155	9.2532	ug/L	99
103) Hexachlorobu	17.98	225	96439	9.5923	ug/L	99
104) Naphthalene	18.03	128	387880	9.0876	ug/L	100
105) 123Trichlben	18.34	180	149888	8.6000	ug/L	98

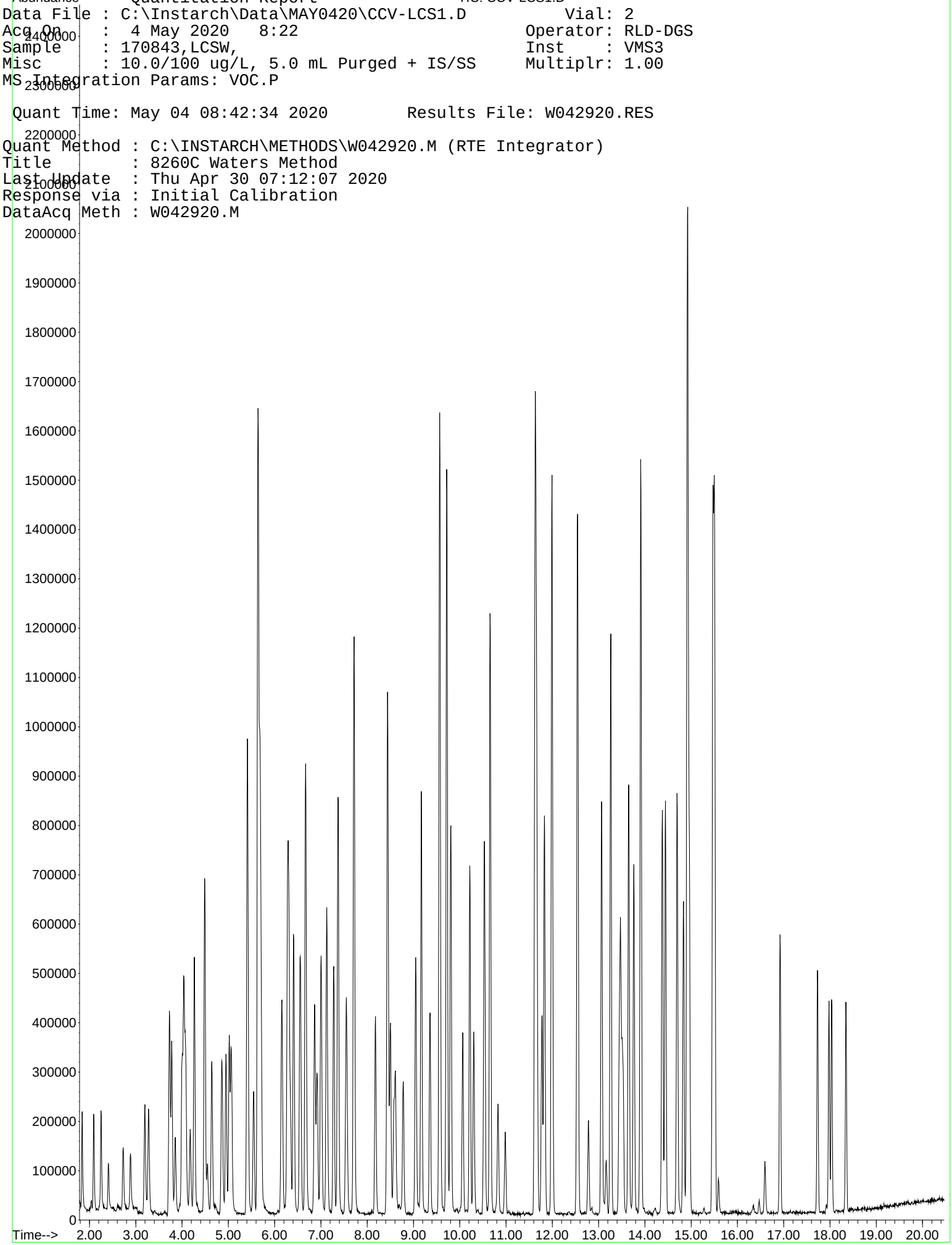
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\Instarch\Data\MAY0420\CCV-LCS1.D Vial: 2
Acq On : 4 May 2020 8:22 Operator: RLD-DGS
Sample : 170843,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 08:42:34 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\MB1.D Vial: 5
Acq On : 4 May 2020 9:52 Operator: RLD-DGS
Sample : 170843,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 10:13:27 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1092192	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	839711	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	444235	20.00	ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma	6.87	113	259764	19.818	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	75770	20.369	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %			
61) SURRd8Tolule	9.72	98	1076815	19.988	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %			
83) SURR4BrFBenz	13.26	95	437495	20.411	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102 %			

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.08	43	5985	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.26	76	4882	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.65	84	2524	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	5.65	43	3561	Below Cal #	71
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	2944	Below Cal #	38

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\MB1.D Vial: 5
Acq On : 4 May 2020 9:52 Operator: RLD-DGS
Sample : 170843,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 10:13:27 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	2678	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.50	91	3488	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\MB1.D Vial: 5
Acq On : 4 May 2020 9:52 Operator: RLD-DGS
Sample : 170843,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 10:13:27 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.04	128	5471	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

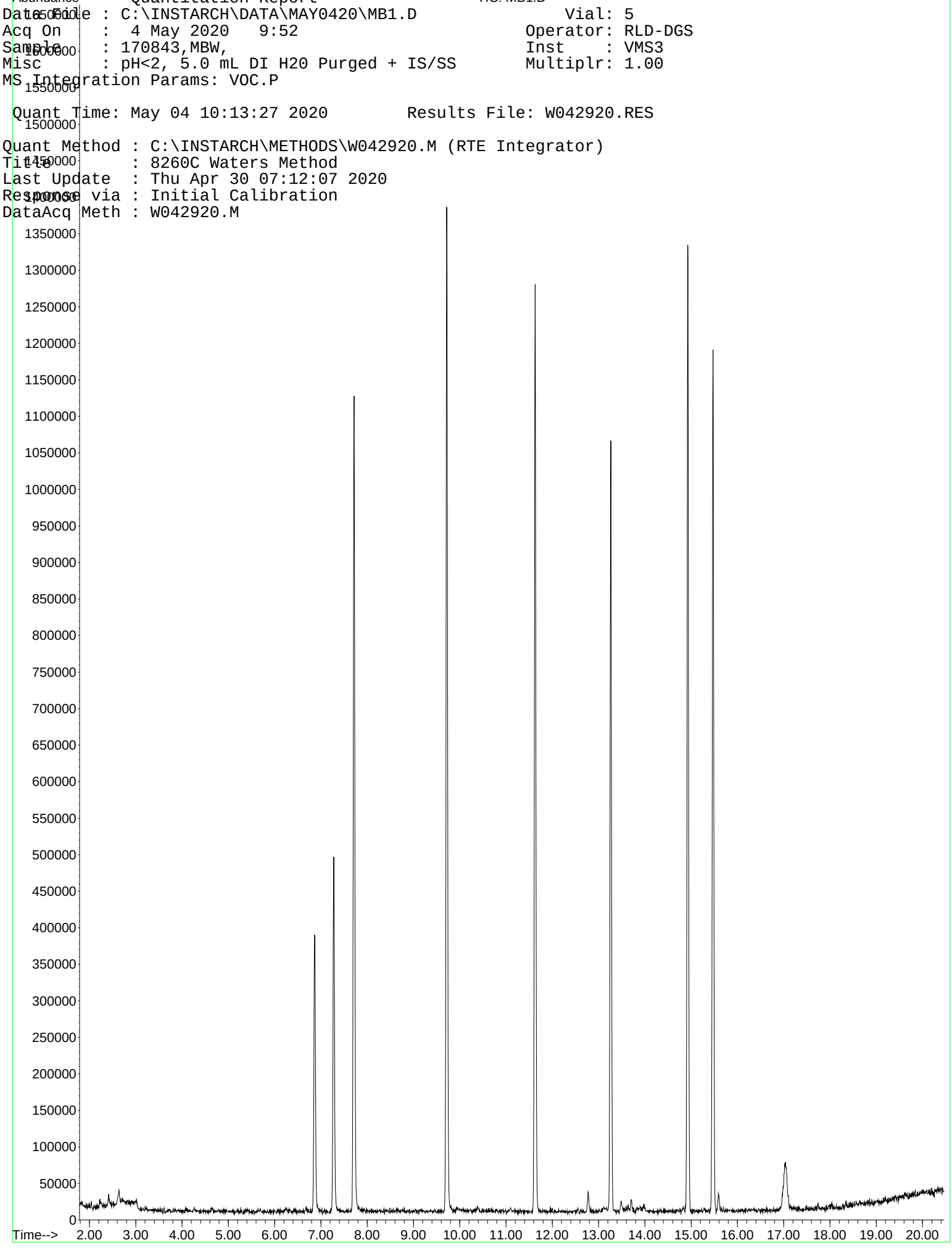
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\MAY0420\MB1.D Vial: 5
Acq On : 4 May 2020 9:52 Operator: RLD-DGS
Sample : 170843,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 10:13:27 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M



Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1069437	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	827877	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	465463	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.86	113	265842	20.714	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.28	102	74263	20.389	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1071093	20.304	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102	%		
83) SURR4BrFBenz	13.26	95	436488	19.435	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 97	%		
Target Compounds						Qvalue
2) Dichlorodi	1.84	85	162437	10.4148	ug/L	99
3) Chloromethan	2.09	50	196495	9.7049	ug/L	97
4) VinylChlorid	2.25	62	187892	9.9352	ug/L	98
5) Bromomethane	2.72	94	47447	5.0166	ug/L	95
6) Chloroethane	2.89	64	118233	10.1215	ug/L	98
7) Dichloroflmethane	3.20	67	258280	9.5762	ug/L	97
8) Trichlorofma	3.28	101	205570	10.4651	ug/L	99
9) Ethylether	3.73	59	141293	10.0278	ug/L	98
10) dichlorotfluoroethan	3.73	67	165449	10.1683	ug/L	98
11) propyleneoxide	3.78	58	299065	93.8722	ug/L	98
12) Acrolein	3.86	56	120148	39.5212	ug/L	90
13) 11dichlorthe	4.00	96	127232	10.1577	ug/L	95
14) Trichlorotfluoroeth	4.04	101	249921	20.5749	ug/L	99
15) Acetone	4.08	43	418313	96.4741	ug/L	98
16) Iodomethane	4.18	142	134759	12.9313	ug/L	99
17) Carbon Dislf	4.27	76	745258	20.7754	ug/L	99
18) allylchloride	4.49	41	518737	19.3758	ug/L	99
19) methylacetate	4.55	74	27142	9.2886	ug/L	92
20) Methylchlorid	4.64	84	150800	9.3078	ug/L	98
21) tbutylalcohol	4.86	59	496235	391.3686	ug/L	98
22) Acrylonitrile	4.95	53	288204	47.9589	ug/L	98
23) t12dichlorte	5.02	96	142859	9.7075	ug/L	97
24) MtBE	5.06	73	391609	9.5728	ug/L	98
25) Hexane	5.42	57	450375	18.7557	ug/L	97
26) 11dichlorota	5.54	63	281515	9.9019	ug/L	99
27) Vinylacetate	5.64	43	2862241	99.6117	ug/L	99
28) chloroprene	5.68	53	496548	20.9878	ug/L	100
29) Diisopether	5.70	45	515807	9.7244	ug/L	98
30) ETBE	6.15	59	442373	9.8109	ug/L	99
31) 22dichloropr	6.29	77	177229	7.9772	ug/L	99
32) c12dichlorte	6.28	96	159049	9.5295	ug/L	99
33) 2Butanone	6.31	72	169055	94.4250	ug/L	98
34) propionitrile	6.34	54	208981	90.6208	ug/L	99
35) Ethylacetate	6.41	88	32566	46.9361	ug/L	92
36) methacrylonitrile	6.55	67	144422	19.1579	ug/L	98
37) Bromochlorma	6.56	128	66480	9.3348	ug/L	97
38) Tetrahydofur	6.67	42	513783	97.2341	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	250828	9.7375	ug/L	99
40)	111trichlota	6.92	97	221690	9.9815	ug/L	98
42)	Cyclohexane	7.00	56	294940	10.4792	ug/L	99
43)	Carbtetraclo	7.13	119	173643	9.8036	ug/L	100
44)	11dicloprope	7.13	110	71413	10.2398	ug/L	95
46)	Benzene	7.37	78	615039	10.2566	ug/L	99
47)	12dichlorota	7.37	62	211364	9.6077	ug/L	96
48)	TAME	7.55	73	400179	9.8005	ug/L	99
49)	trichloroete	8.17	95	152734	9.6959	ug/L	97
50)	methylcyclohexane	8.44	83	293473	10.0806	ug/L	97
51)	12dicloropra	8.44	63	177131	9.4875	ug/L	100
52)	23Dicl1propene	8.50	75	232562	9.4986	ug/L	99
53)	Dibromometha	8.57	93	88710	9.7561	ug/L	98
54)	methylmethacrylate	8.61	69	113256	9.4400	ug/L	98
55)	14dioxane	8.64	88	19856	222.4903	ug/L	97
56)	Bromodiclrma	8.78	83	190841	9.7501	ug/L	98
57)	2Nitropropane	9.05	43	435816	98.7434	ug/L	100
58)	2CLEVE	9.17	63	459727	49.4895	ug/L	99
59)	c13dicloproe	9.36	75	244896	9.5039	ug/L	100
60)	4Meth2Pentan	9.57	43	1448194	99.6120	ug/L	99
62)	Toluene	9.80	92	398197	9.8392	ug/L	94
63)	t13Dicloprop	10.06	75	204464	9.2755	ug/L	98
64)	ethylmethacrylate	10.22	69	421895	20.1947	ug/L	100
65)	112Triclotha	10.31	83	114727	9.8139	ug/L	96
66)	Tetrachlorte	10.54	166	155999	10.0293	ug/L	96
67)	13Diclorpropa	10.53	76	255215	10.2562	ug/L	97
69)	2Hexanone	10.65	43	1086923	94.4179	ug/L	99
70)	Clorodibrmta	10.83	129	129879	9.3577	ug/L	99
71)	12Dibrometha	10.98	107	128677	9.5936	ug/L	97
72)	Chlorobenzen	11.67	112	403061	9.7906	ug/L	97
73)	1Clhexane	11.65	91	215878	9.5860	ug/L	99
74)	1112Tetclota	11.78	131	138638	9.8893	ug/L	97
75)	Ethylbenzene	11.83	91	706291	10.1525	ug/L	100
76)	m p-Xylene	11.99	106	519192	19.5133	ug/L	97
77)	o-Xylene	12.54	106	267046	9.8483	ug/L	96
78)	Styrene	12.55	104	431774	9.8450	ug/L	100
79)	Bromoform	12.78	173	82215	8.7897	ug/L	98
80)	Isopropylben	13.06	105	657527	10.2057	ug/L	100
81)	cyclohexanone	13.17	55	56178	130.8674	ug/L	96
84)	Bromobenzene	13.48	156	170794	9.4916	ug/L	94
85)	1122Tetrclta	13.45	83	188983	9.3294	ug/L	98
86)	123Triclproa	13.51	75	204561	8.1916	ug/L	92
87)	14dichloro2butene	13.53	53	23467	3.8434	ug/L	96
88)	n-Propylbenz	13.65	91	810768	9.6930	ug/L	99
89)	2chlorotolue	13.76	91	488997	9.7645	ug/L	99
90)	4chlorotolue	13.92	91	562984	9.8904	ug/L	100
91)	135Trimebenz	13.90	105	549881	10.1445	ug/L	100
92)	tbutylbenzen	14.38	119	468867	9.7795	ug/L	98
93)	124Trimetben	14.45	105	547207	9.9506	ug/L	99
94)	sbutylbenzen	14.70	105	692646	9.9516	ug/L	99
95)	13Diclorbenz	14.83	146	309990	9.5729	ug/L	98
96)	pIsopropylto	14.91	119	572228	10.1573	ug/L	98
97)	14dichlorobe	14.96	146	312616	9.5688	ug/L	99
98)	12dichlorobe	15.50	146	296741	9.7340	ug/L	99
99)	nButylbenzen	15.50	91	557635	9.5627	ug/L	98
100)	12dibromo3cl	16.60	157	31947	9.0686	ug/L	97
101)	135Trichlorobenzene	16.93	180	202597	9.5564	ug/L	99

(#) = qualifier out of range (m) = manual integration

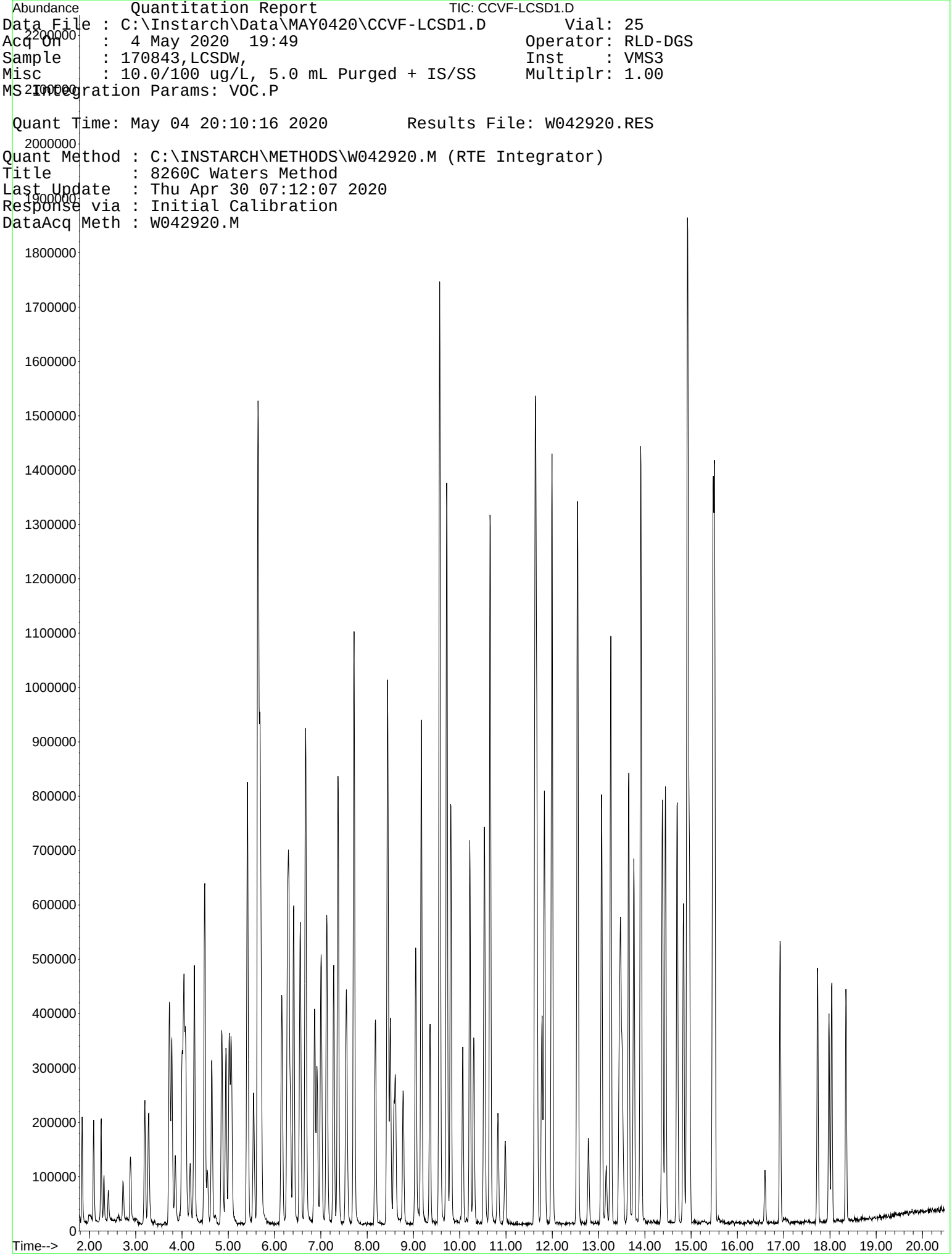
Quantitation Report
Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	169518	9.5164	ug/L	97
103) Hexachlorobu	17.98	225	84685	9.3085	ug/L	97
104) Naphthalene	18.04	128	392720	10.1681	ug/L	99
105) 123Trichlben	18.34	180	150511	9.5434	ug/L	97

(#) = qualifier out of range (m) = manual integration



Quantitation Report

Data File : C:\Instarch\Data\MAY0420\CCVF-LCSD1.D Vial: 25
Acq On : 4 May 2020 19:49 Operator: RLD-DGS
Sample : 170843,LCSDW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: May 04 20:10:16 2020 Results File: W042920.RES

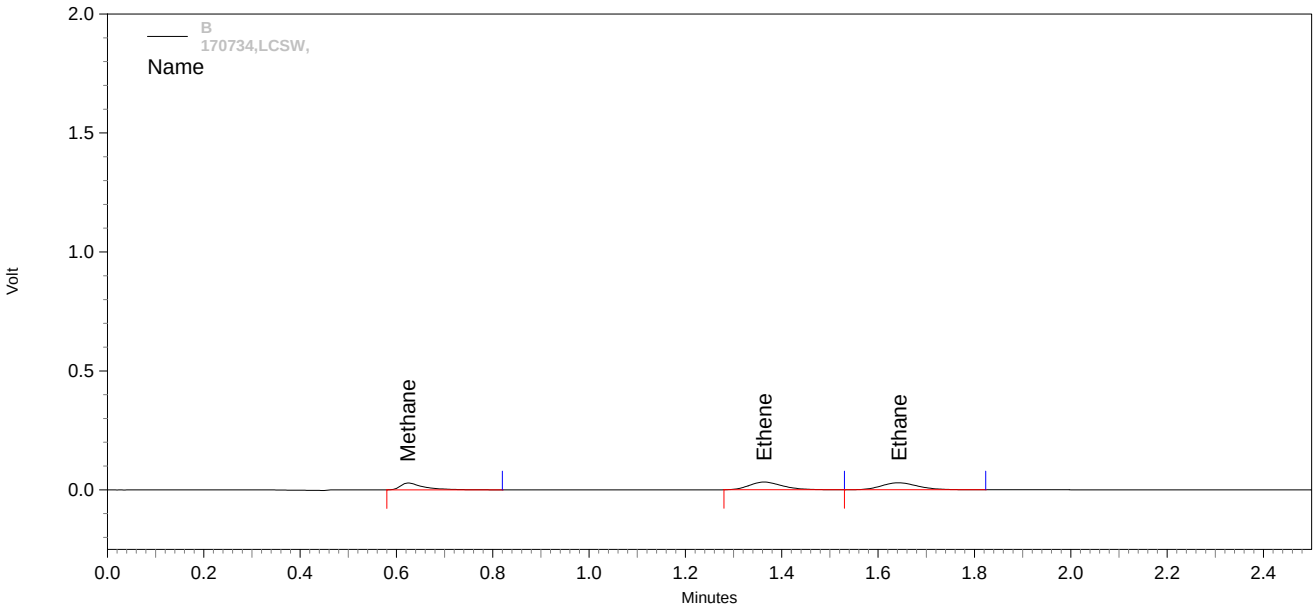
Quant Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Thu Apr 30 07:12:07 2020
Response via : Initial Calibration
DataAcq Meth : W042920.M

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,LCSW,
Acquired: May 04, 2020 09:58:32
File Desc. Laboratory Control Sample - 25 ppmV -

500 uL of the 200 ppmV MEE Std. into 4 mL of headspace. 1.0 mL injection (Methane, Ethene, Ethane,)



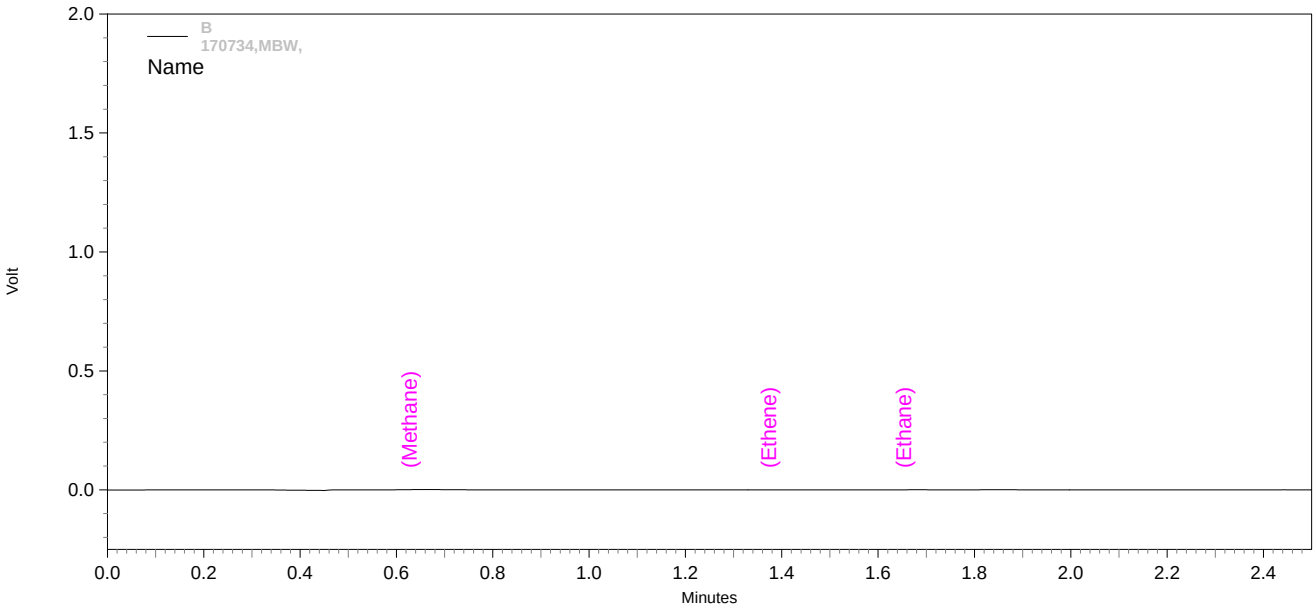
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.623**	**0.627**	**93582**	**25.044**	**ppmV**
2	**Ethene**	**1.363**	**1.373**	**154459**	**23.213**	**ppmV**
3	**Ethane**	**1.643**	**1.653**	**153284**	**23.251**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,MBW,
Acquired: May 04, 2020 10:05:08
File Desc. Method Blank
1.0 mL injection (Methane, Ethene, Ethane)



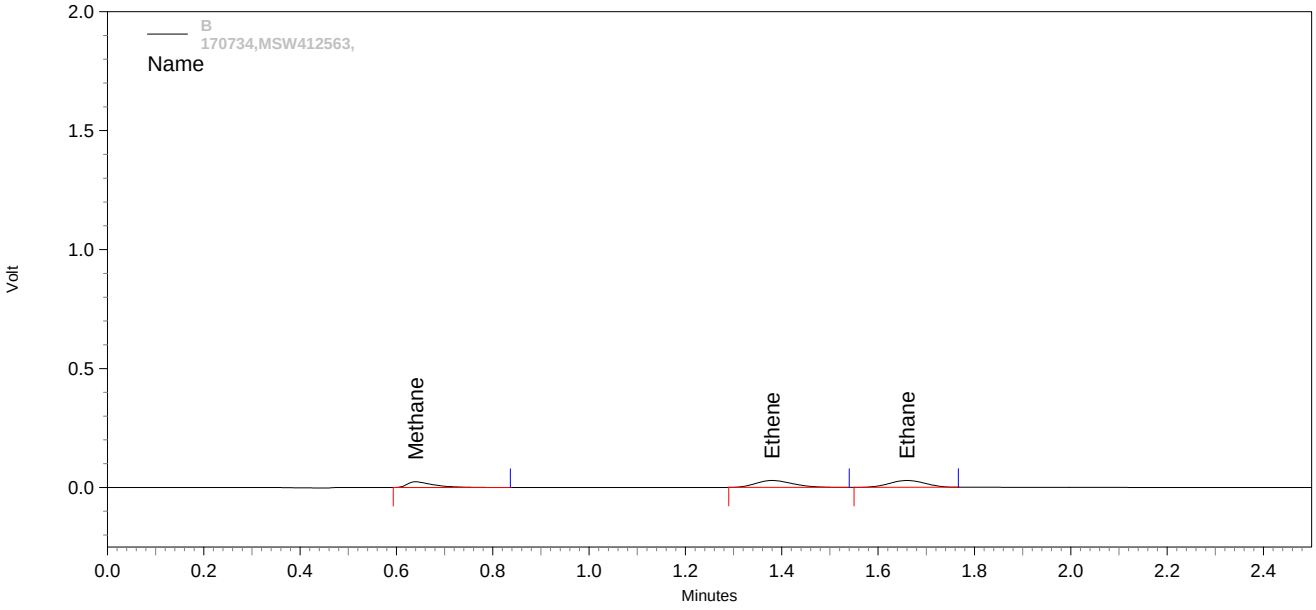
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.627**		**0.000 BDL**	**ppmV**
	Ethene		**1.373**		**0.000 BDL**	**ppmV**
	Ethane		**1.653**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\011.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,MSW412563,
Acquired: May 04, 2020 10:48:46
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



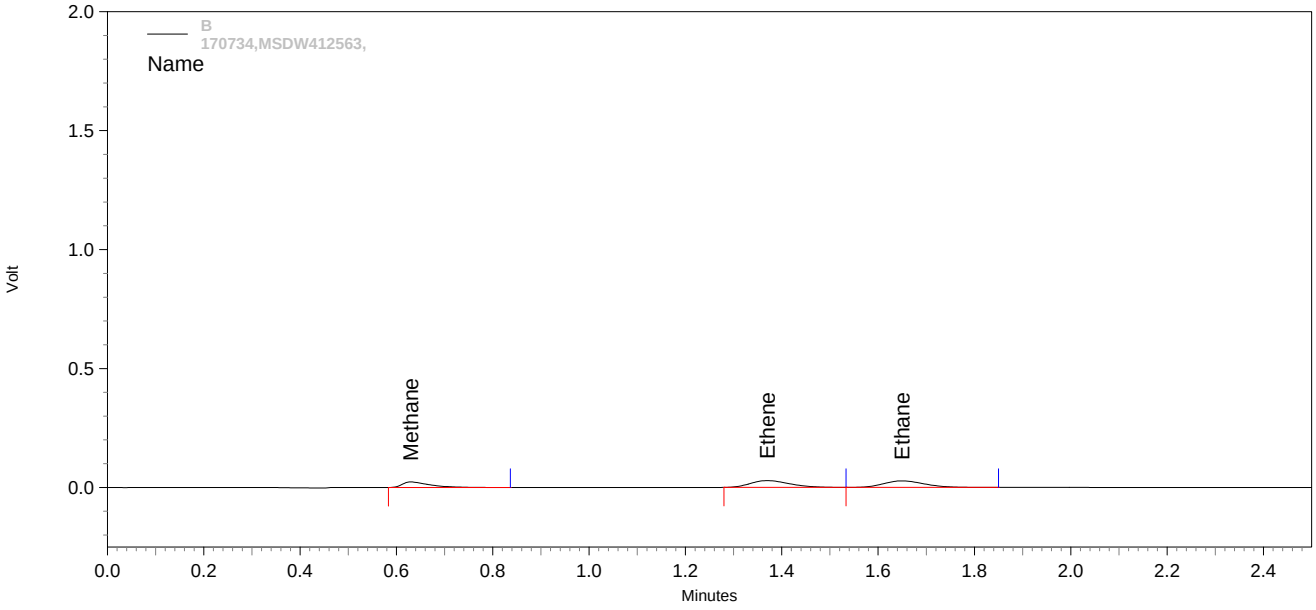
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.640**	**0.627**	**89167**	**23.826**	**ppmV**
2	**Ethene**	**1.380**	**1.373**	**155333**	**23.339**	**ppmV**
3	**Ethane**	**1.660**	**1.653**	**148638**	**22.567**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\050420 -\012.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 170734,MSDW412563,
Acquired: May 04, 2020 10:54:57
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.630**	**0.627**	**90665**	**24.239**	**ppmV**
2	**Ethene**	**1.370**	**1.373**	**160778**	**24.126**	**ppmV**
3	**Ethane**	**1.650**	**1.653**	**159418**	**24.153**	**ppmV**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
170774 on 05/08/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	416568							VOC 8260 QSM WATER 5.0				
					BFB				0			
	413899							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	413900							VOC 8260 QSM WATER 5.0				
					CCV				0			
	413968							VOC 8260 QSM WATER 5.0				
					MBW				0			
152873	412552		04/27/2020			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		M	**4**	
		TB-1										
152924	413573		04/29/2020	1200		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		M	**4**	
		TB-2										
152873	412553		04/27/2020	1015		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13MW4										
152873	412558		04/27/2020	1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13MW3										
152873	412559		04/27/2020	1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13TW3										
152873	412562		04/27/2020	1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW04										
152873	412563		04/27/2020	1325		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13MW2			Designated MS/MSD							
152924	413571		04/29/2020	0940		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW06										
152924	413572		04/29/2020	0952		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49EQB-48MW06										
152924	413574		04/29/2020	1110		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW1										
152924	413575		04/29/2020	1245		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW01										
152924	413576		04/29/2020	1410		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW2										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

VOC 8260 QSM WATER 5.0 Analytical Run
170774 on 05/08/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	414345		04/27/2020	1325					VOC 8260 QSM 5.0				
		13MW2			MSW	412563				0			
	414346		04/27/2020	1325					VOC 8260 QSM 5.0				
		13MW2			MSDW	414345				0			
	414347								VOC 8260 QSM WATER 5.0				
					CCVF					0			

19 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\MAY0120\BFB1.D
Injection Date : 1 May 2020 Log Time Period (hrs) : ALL
Injection Time : 08:15 Total files within period : 22
Sample Directory : C:\INSTARCH\DATA\MAY0120\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
IB1	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	1 May 2020	08:30
CCV-LCS1	1.00	1.00	1.00	170774,LCSW, 10.0/100 ug/L, 5.0 mL Pur	1 May 2020	09:00
IB2	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	1 May 2020	10:00
MB1	1.00	1.00	1.00	170774,MBW, pH<2, 5.0 mL DI H20 Purge	1 May 2020	10:30
412552	1.00	1.00	1.00	170774,412552, pH<2, 5.0 mL Purged + IS/	1 May 2020	11:01
412573	1.00	1.00	1.00	170774,413573, pH<2, 5.0 mL Purged + IS/	1 May 2020	11:30
412553	1.00	1.00	1.00	170774,412553, pH<2, 5.0 mL Purged + IS/	1 May 2020	12:00
412558	1.00	1.00	1.00	170774,412558, pH<2, 5.0 mL Purged + IS	1 May 2020	12:30
412559	1.00	1.00	1.00	170774,412559, pH<2, 5.0 mL Purged + IS	1 May 2020	13:00
412562	1.00	1.00	1.00	170774,412562, pH<2, 5.0 mL Purged + IS	1 May 2020	13:30
412563	1.00	1.00	1.00	170774,412563, pH<2, 5.0 mL Purged + IS/	1 May 2020	13:59
413571	1.00	1.00	1.00	170774,413571, pH<2, 5.0 mL Purged + IS/	1 May 2020	14:29
413572	1.00	1.00	1.00	170774,413572, pH<2, 5.0 mL Purged + IS/	1 May 2020	14:59
413574	1.00	1.00	1.00	170774,413574, pH<2, 5.0 mL Purged + IS/	1 May 2020	15:29
413575	1.00	1.00	1.00	170774,413575, pH<2, 5.0 mL Purged + IS/	1 May 2020	15:59
413576	1.00	1.00	1.00	170774,413576, pH<2, 5.0 mL Purged + IS/	1 May 2020	16:28
412563MS	1.00	1.00	1.00	170774,MSW412563, pH<2, 5.0 mL Purged + IS/	1 May 2020	17:58
412563SD	1.00	1.00	1.00	170774,MSDW412563, pH<2, 5.0 mL Purged + IS/	1 May 2020	18:27
CCVF1-~1	1.00	1.00	1.00	170775,CCVF, 10.0/100 ug/L, 5.0 mL Pur	1 May 2020	18:56

8260 ISTD/SSTD 20ug/ml VOC0693
8260 BFB STD. 50ug/ml VOC0692
8260 ICV STD. 100ug/ml VOC0698
8260 CCV/CALIB. 100ug/ml VOC0699

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W042920.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\APR2920\BFB1.D
Injection Date : 29 Apr 2020 Log Time Period (hrs) : ALL
Injection Time : 08:38 Total files within period : 20
Sample Directory : C:\INSTARCH\DATA\APR2920\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name / Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	29 Apr 2020	09:54
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0	29 Apr 2020	10:23
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0	29 Apr 2020	10:54
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	29 Apr 2020	11:24
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0	29 Apr 2020	11:54
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0	29 Apr 2020	12:24
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0	29 Apr 2020	12:54
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0	29 Apr 2020	13:24
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0	29 Apr 2020	13:54
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	29 Apr 2020	14:54
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	29 Apr 2020	15:24
ICB1	1.00	1.00	1.00	INITIAL CALIBRATION pH<2, 5.0 mL DI H20	29 Apr 2020	16:54
BFB2	1.00	1.00	1.00	BFB DIRECT INJ. 50 ng Inj.	29 Apr 2020	19:57
WCAL4R	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	29 Apr 2020	20:44

8260 ISTD/SSTD 20ug/ml VOC0693
8260 BFB STD. 50ug/ml VOC0692
8260 ICV STD. 100ug/ml VOC0698
8260 CCV/CALIB. 100ug/ml VOC0699

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	**LIMS Run #(s):**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved?**		**Instrument**
					Yes	No	
05/01/2020	170776 170774	DGS/RLD	RLD	05/11/2020	Yes		VMS3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF<or= specified limits (<15%D.)see SOP)	Yes		Yes		
Was a second-source ICV(s) analyzed (for Quadratic Curve)?	Required before sample analyses.	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		
Was a second CCV (CCV2) for compounds calibrated using quadratic curves analyzed after every 12 hour tune check?	Required before analyses of WI samples (above the inflection point of the curve).	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	Affected compunds were Z flagged
If necessary, were the results for outlying compounds qualified?		Yes		Yes		

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						
V. Laboratory Control Spike (LCS)						
Was a LCS (and LCSD if needed) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the LCS (LCSD) recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	Affected samples were Q flagged
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?		Yes		Yes		
Is the relative percent difference (RPD) for each analyte between the LCS and LSCD (if applicable) acceptable?	Default 20%, or see internally generated limits, or client specific limits.		No		No	Affected samples were Y flagged
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	Affected samples were M flagged
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific limits.		No		No	Affected samples were Y flagged
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		
If possible, were the affected samples reanalyzed?						
**Were reported sample results with failing surrogate recoveries qualified?						
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		
Were all data, calculations, and values verified in LIMS (including removal of non-detections) upon completion of data capture?		Yes		Yes		
Were manual integrations performed correctly?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms.	Yes		Yes		
Was the rational for the manual integration verified?		Yes		Yes		
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

VOC 8260 QSM WATER 5.0 Analytical Run
170842 on 05/07/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415999							VOC 8260 QSM WATER 5.0				
					BFB				0			
	414442							VOC 8260 QSM WATER 5.0				
					CCV				0			
	414443							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	414470							VOC 8260 QSM WATER 5.0				
					MBW				0			
152962	413970		04/30/2020			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		M	**4**	
		TB-3										
152962	413971		04/30/2020	0955		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		50MW02										
152962	413972		04/30/2020	1100		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW3										
152962	413973		04/30/2020	1100		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48TW3										
152962	413974		04/30/2020	1250		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW02										
	414752							VOC 8260 QSM WATER 5.0				
					LCSDW 414443				0			
	414753							VOC 8260 QSM WATER 5.0				
					CCVF				0			

11 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W042920.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\MAY0420\BFB1.D
Injection Date : 4 May 2020 Log Time Period (hrs) : ALL
Injection Time : 08:06 Total files within period : 30
Sample Directory : C:\INSTARCH\DATA\MAY0420\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	170843,LCSW, 10.0/100 ug/L, 5.0 mL Pur	4 May 2020	08:22
IB2	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	4 May 2020	09:22
MB1	1.00	1.00	1.00	170843,MBW, pH<2, 5.0 mL DI H20 Purge	4 May 2020	09:52
413970	1.00	1.00	1.00	170842,413970, pH<2, 5.0 mL Purged + IS/	4 May 2020	10:52
413971	1.00	1.00	1.00	170842,413971, pH<2, 5.0 mL Purged + IS/	4 May 2020	13:52
413972	1.00	1.00	1.00	170842,413972, pH<2, 5.0 mL Purged + IS/	4 May 2020	14:21
413973	1.00	1.00	1.00	170842,413973, pH<2, 5.0 mL Purged + IS/	4 May 2020	14:51
413974	1.00	1.00	1.00	170842,413974, pH<2, 5.0 mL Purged + IS/	4 May 2020	15:21
CCVF-L~1	1.00	1.00	1.00	170843,LCSDW, 10.0/100 ug/L, 5.0 mL Pur	4 May 2020	19:49

8260 ISTD/SSTD 20ug/ml VOC0693
8260 BFB STD. 50ug/ml VOC0692
8260 ICV STD. 100ug/ml VOC0698
8260 CCV/CALIB. 100ug/ml VOC0699

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)					
Analysis Date	**LIMS Run #(s):**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved?**			**Instrument**
					Yes	No		
05/04/2020	170843 170842 170841	DGS/RLD	RLD	05/07/2020	Yes			VMS4

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF<or= specified limits (<15%D.)see SOP)	Yes		Yes		
Was a second-source ICV(s) analyzed (for Quadratic Curve)?	Required before sample analyses.	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific	Yes		Yes		
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		
Was a second CCV (CCV2) for compounds calibrated using quadratic curves analyzed after every 12 hour tune check?	Required before analyses of WI samples (above the inflection point of the curve).	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	Affected samples results were "Z" flagged
If necessary, were the results for outlying compounds qualified?		Yes		Yes		

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						
V. Laboratory Control Spike (LCS)						
Was a LCS (and LCSD if needed) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the LCS (LCSD) recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	Affected sample results were "Q" flagged
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?		Yes		Yes		
Is the relative percent difference (RPD) for each analyte between the LCS and LSCD (if applicable) acceptable?	Default 20%, or see internally generated limits, or client specific limits.		No			Affected samples results were "Y" flagged
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	N/A		N/A		
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	N/A		N/A		
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific limits.	N/A		N/A		
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		
If possible, were the affected samples reanalyzed?						
**Were reported sample results with failing surrogate recoveries qualified?						
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)		No		No	Affected data results were T flagged
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		
Were all data, calculations, and values verified in LIMS (including removal of non-detections) upon completion of data capture?		Yes		Yes		
Were manual integrations performed correctly?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms.	Yes		Yes		
Was the rational for the manual integration verified?		Yes		Yes		
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments: y

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 96
Page is Locked
Author: rdigmann on: 4/30/2020 10:34:47 AM
Page is not Witnessed
Project: Unassigned
Page Title: 042820

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0698	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0948, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0950, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0946 into 2250uL of MeOH.	MeOH / B&J / DV957-U	100 ug/mL	04/28/2020	05/05/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0699	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0951, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0947 into 2250uL of MeOH.	MeOH / B&J / DV957-U	100 ug/mL	04/28/2020	05/05/2020	RLD

1

CT Laboratories, LLC

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 94
Page is Locked
Author: rdigmann on: 4/15/2020 1:43:45 PM
Page is not Witnessed
Project: Unassigned
Page Title: 041420

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0692	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0929 into 2925uL of MeOH.	MeOH / B&J / DV-597-L	50 ug/mL	04/14/2020	05/14/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0693	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0944 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0924 into 25mL of MeOH.	MeOH / B&J / DV-597-L	20 ug/mL	04/14/2020	05/14/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0694	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0948, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0942, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0946 into 2250uL of MeOH.	MeOH / B&J / DV-597-L	100 ug/mL	04/14/2020	04/21/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst

VOC0695	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0943, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0947 into 2250uL of MeOH.	MeOH / B&J / DV-597-U	100 ug/mL	04/14/2020	04/21/2020	RLD

1

CT Laboratories, LLC

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0690	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0942, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0946 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	04/06/2020	04/13/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0691	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0943, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0947 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	04/06/2020	04/13/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0687	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0942, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0939 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	03/27/2020	04/03/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0688	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0943, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0940 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	03/27/2020	04/03/2020	RLD

LPVO1-03-VOC
Volatiles Standard Prep Logbook
Logbook Created: 06/18/18

NOTEBOOK VIEW: LTN_LPVO1_03_VOC_Default, NOTEBOOK: LPVO1_03_VOC, PAGE: 86
Page is Locked
Author: rdigmann on: 3/20/2020 9:15:16 AM
Page is not Witnessed
Project: Unassigned
Page Title: 031820

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0681	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0929 into 2925uL of MeOH.	MeOH / B&J / DU783-U	50 ug/mL	03/18/2020	04/18/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0682	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0944 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0924 into 25mL of MeOH.	MeOH / B&J / DU783-U	20 ug/mL	03/18/2020	04/18/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0683	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0937, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0942, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0939 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	03/18/2020	03/25/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst

VOC0684	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0941, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0943, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0940 into 2250uL of MeOH.	MeOH / B&J / DU783-U	100 ug/mL	03/18/2020	03/25/2020	RLD

1

CT Laboratories, LLC

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0949	8260 VOC Mix	Agilent	DWM-588-1	0006518399
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	04/30/2023	04/23/2020	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0950	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN200424002
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	07/23/2020	04/27/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0951	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	AA200424003
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	07/23/2020	04/27/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0948	8260 VOC Mix	AccuStandard	M-502-10X-PAK	219111249
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	11/21/2022	04/01/2020	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0946	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	AA200303013
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	08/30/2020	03/09/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0947	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	AA200303018
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	08/30/2020	03/09/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0944	8260 ISTD/SSTD Mix	Agilent	STM-540	CT-0055
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,500 ug/mL	MeOH	2/28/2022	01/31/2020	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 ISTD/SSTD preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0945	1,2-Dichlorobenzene-$_{d4}$	Agilent	STS-210-1	CM-4301A
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	07/31/2021	01/31/2020	RLD
# of Ampules/Units:	4	Comments:	Used for 524.2 & 8021 IS/SS and SS preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0942	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN200120003
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	04/19/2020	01/24/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spikking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0943	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN200120019
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	04/19/2020	01/24/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0939	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191125015
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	05/23/2020	11/29/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0940	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191126007
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	05/24/2020	11/29/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0941	8260 VOC Mix	Agilent	DWM-588-1	CT-0287
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	02/28/2022	12/02/2019	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0929	4-Bromofluorobenzene	Agilent	STS-110N	0006476760
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	7/31/2022	09/10/2019	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 BFB Std. and 8015 SSTD.	

V METH, ETH, ETHENE QSM 5.0 Analytical Run # 170734 on 05/04/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	414485						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	412924						METH,ETH,ETHE QSM 5.0				
				LCSW				76239			
	412923						METH,ETH,ETHE QSM 5.0				
				MBW				76239			
152873	412553		04/27/2020 1015		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4						76239			
152873	412558		04/27/2020 1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3						76239			
152873	412559		04/27/2020 1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13TW3						76239			
152873	412562		04/27/2020 1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04						76239			
152873	412563		04/27/2020 1325		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2		Designated MS/MSD				76239			
	414513		04/27/2020 1325				METH,ETH,ETHE QSM 5.0				
		13MW2		MSW 412563				76239			
	414517		04/27/2020 1325				METH,ETH,ETHE QSM 5.0				
		13MW2		MSDW 414513				76239			
152924	413571		04/29/2020 0940		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06						76239			
152924	413572		04/29/2020 0952		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49EQB-48MW06						76239			
152924	413574		04/29/2020 1110		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW1						76239			
152924	413575		04/29/2020 1245		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01						76239			
152924	413576		04/29/2020 1410		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2						76239			
	414486						V METH, ETH, ETHENE QSM 5.				
				CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

V METH, ETH, ETHENE QSM 5.0 Analytical Run
170734 on 05/04/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
152962	413971		04/30/2020 0955		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02						76239			
152962	413972		04/30/2020 1100		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3						76239			
152962	413973		04/30/2020 1100		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48TW3						76239			
	414487						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
152962	413974		04/30/2020 1250		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW02						76239			
	414644						V METH, ETH, ETHENE QSM 5.				
				CCV							

22 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 05/04/2020

Prep Batch **76,239** Date Prepped: 05/04/2020 Prepped By KMT

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	412923	MBW		METH,ETH,ETHE QSM	LIQUID	20.5				
	412924	LCSW		METH,ETH,ETHE QSM	LIQUID	20.5				
152873	412553			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	412558			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	412559			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	412562			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	412563	sample designated for QC		METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
152924	413571			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	413572			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	413574			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	413575			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	413576			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
152962	413971			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	413972			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	413973			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	413974			METH,ETH,ETHE QSM	GROUND WATER	20.5			4	
	414513	MSW	412563	METH,ETH,ETHE QSM	GROUND WATER	20.5				

PREP WORKSHEET
on 05/04/2020

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	414517	MSDW	414513	METH,ETH,ETHE QSM	GROUND WATER	20.5				

Notes:_____

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	**Analysis Date (s)**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**	**Instrument**
170734	05/04/2020	KMT	RLD	05/04/2020	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
2. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
3. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		
4. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?		Yes		Yes		

5. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
6. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		.
7. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		
8. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

* Non-Applicable Yes/No Cells Are Left Blank*

Comments: _____

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 05/04/2020 **Instrument:** PVOC4

Calibration Date: 12/13/2019 **Analyst:** KMT

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)	pH
1	PS	0.250	43	20.5	
2	CCV	0.250	43		
3	LCSW	1	43		
4	MBW	1	43		
5	412553	1	43		
6	412553 R	1	43		
7	412558	1	43		
8	412559	1	43		
9	412562	1	43		
10	412563	1	43		
11	MSW412563	1	43		
12	MSDW412563	1	43		
13	413571	1	43		
14	413572	1	43		
15	413574	1	43		
16	413575	1	43		
17	413575 R	1	43		
18	413576	1	43		
19	CCV	0.250	43		
20	CCB	1	43		
21	413971	1	43		
22	413972	1	43		
23	413973	1	43		
24	CCV	0.250	43		
25	CCB	1	43		

Calibration Standard Ref. #: VO886

Second Source Ref. #: VOC0299

Page 1

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 05/04/2020 **Instrument:** PVOC4

Calibration Date: 12/13/2020 **Analyst:** KMT

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)	pH
26	413974	1	43	20.5	
27	CCV	0.250	43	↓	
28			43		
29			43		
30			43		
31			43		
32			43		
33			43		
34			43		
35			43		
36			43		
37			43		
38			43		
39			43		
40			43		
41			43		
42			43		
43			43		
44			43		
45			43		
46			43		
47			43		
48			43		
49			43		
50			43		

Calibration Standard Ref. #: VO 886

Second Source Ref. #: VOC0299

Page 1

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\050420 - 170734.seq
Instrument: PVOC4
Processing Date: May 04, 2020 12:58:00

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
2	170829,CCV,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 09:22:38
3	170734,LCSW,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 09:58:32
4	170829,MBW,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:05:08
5	170734,412553,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:17:05
6	170734,412553,R	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:22:21
7	170734,412558,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:26:35
8	170734,412559,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:31:23
9	170734,412562,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:35:52
10	170734,412563,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:41:10
11	170734,MSW412563,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:48:46
12	170734,MSDW412563,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 10:54:57
13	170734,413571,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:00:36
14	170734,413572,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:05:06
15	170734,413574,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:10:20
16	170734,413575,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:15:05
17	170734,413575,R	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:19:27
18	170734,413576,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:25:02
19	170734,CCV,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:28:41
20	170734,CCB,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:32:26
21	170734,413971,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:36:43
22	170734,413972,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:40:38
23	170734,413973,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:45:17
24	170734,CCV,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 11:49:07
25	170734,CCB,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 12:50:19
26	170734,413974,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 12:54:21
27	170734,CCV,	C:\InStarch\PVOC4\Data\050420 ...	C:\Instarch\PVOC4\Methods\P4...	May 04, 2020 12:58:00

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\121319 - MEE ICAL.seq
Instrument: PVOC4
Processing Date: Dec 13, 2019 14:03:04

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 10:58:16
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 11:06:00
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 11:09:45
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:18:01
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:21:29
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:24:55
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 13:46:48
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 13:51:32
9	ICB	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 14:03:04

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 12/13/19 **Instrument:** PVOC4

Calibration Date: 12/13/19 **Analyst:** TMG

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)
1	PT 1	0.01	43	
2	PT 2	0.025	43	
3	PT3	0.05	43	
4	PT4	0.1	43	
5	PT5	0.25	43	
6	PT6	0.5	43	
7	PT7	1	43	
8	ICV	0.250	43	
9	ICB	1	43	
10			43	
11			43	
12			43	
13			43	
14			43	
15			43	
16			43	
17			43	
18			43	
19			43	
20			43	
21			43	
22			43	
23			43	
24			43	
25			43	

Calibration Standard Ref. #: V0886

Second Source Ref. #: V0C0299

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 64
Page is Locked
Author: rdigmann on: 5/25/2018 7:47:52 AM
Witness: akurth on: 7/31/2018 9:54:19 AM
Project: Unassigned
Page Title: 05/24/18

Standard Log #:	VO886	Standard/Reagent:	Methane Ethene Ethane STI
Analyst:	AGK	Final Concentration:	200.0 PPM
Prep Date:	05/24/18	Expiration Date:	05/17/21
Prep:	Airgas Methane, Ethene, Ethane Standard Received 05/24/18 LOT# 54-401204472-1 REF# 54-401204472-1 Cylinder # P180959		

LPVO1-02 VOC
Volatiles Standards Prep Logbook
Logbook Created: 10/10/16
Balance used in reagent prep: VOB01
NOTEBOOK VIEW: LTN_LPVO1_02_VOC_Default, NOTEBOOK: LPVO1_02_VOC, PAGE: 27
Page is Locked
Author: AKURTH on: 22.03.2017 10:57:51
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	VOC0299	Standard/Reagent:	MEE RECERTIFICATION O
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	03/17/17	Expiration Date:	03/17/20
Prep:	Recertification of methane, ethane, ethane tank (V681). Ran 4 consecutive CCV's with acceptable recoveries.		

1

CT Laboratories, LLC

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413975
Analytical Method:	EPA 6010C	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170876	Analysis Date/Time	05/07/2020 13:08
Analytical Prep Batch #:	76290	Prep. Date/Time:	05/04/2020 11:26
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	3970		90	250	500	500
7440-23-5	Total Sodium	14400		100	300	600	600

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413975
Analytical Method:	EPA 7470A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170961	Analysis Date/Time	05/06/2020 13:39
Analytical Prep Batch #:	76285	Prep. Date/Time:	05/05/2020 14:15
ICAL Calibration #:	05062020	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413975
Analytical Method:	EPA 6010C	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170875	Analysis Date/Time	05/06/2020 23:55
Analytical Prep Batch #:	76290	Prep. Date/Time:	05/04/2020 11:26
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers		DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	5690			6.0	18	36	36
7440-36-0	Total Antimony	6.0	U		2.0	6.0	12	12
7440-38-2	Total Arsenic	7.2	J	B	4.0	12	24	24
7440-39-3	Total Barium	233			0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.43	J	B	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U		0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	103000			17	50	100	100
7440-47-3	Total Chromium	12.6			0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	5.3			0.70	2.0	4.0	4.0
7440-50-8	Total Copper	19.7			1.2	3.5	7.0	7.0
7439-89-6	Total Iron	9380		M	16	50	100	100
7439-92-1	Total Lead	6.8			1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	55900			6.0	20	40	40
7439-96-5	Total Manganese	567		M	0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	9.2			1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U		2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U		0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U		2.5	7.5	15	15
7440-62-2	Total Vanadium	10.0			0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	35.9			1.6	5.0	10	10

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170961 Lab Sample ID: 416251

ICAL Calibration #: 05062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	5/6/20 12:39	3.00	3.00	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876

Lab Sample ID: 417013

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	5/7/20	12:18	100000	97600	98	90	110
Sodium	5/7/20	12:18	100000	99500	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876

Lab Sample ID: 417014

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	5/7/20	12:20	3000	3100	103	80	120
Sodium	5/7/20	12:20	3000	3070	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417126

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/6/20	10:16	12000	11500	96	90	110
Antimony	5/6/20	10:16	500.0	537.0	107	90	110
Arsenic	5/6/20	10:16	2000	2120	106	90	110
Barium	5/6/20	10:16	2000	2060	103	90	110
Beryllium	5/6/20	10:16	50.00	50.60	101	90	110
Cadmium	5/6/20	10:16	50.00	50.30	101	90	110
Calcium	5/6/20	10:16	10000	10400	104	90	110
Chromium	5/6/20	10:16	200.0	215.0	108	90	110
Cobalt	5/6/20	10:16	500.0	518.0	104	90	110
Copper	5/6/20	10:16	250.0	255.0	102	90	110
Iron	5/6/20	10:16	5000	5160	103	90	110
Lead	5/6/20	10:16	500.0	518.0	104	90	110
Magnesium	5/6/20	10:16	10000	10300	103	90	110
Manganese	5/6/20	10:16	500.0	506.0	101	90	110
Nickel	5/6/20	10:16	500.0	512.0	102	90	110
Selenium	5/6/20	10:16	2000	2130	106	90	110
Silver	5/6/20	10:16	50.00	50.50	101	90	110
Thallium	5/6/20	10:16	2000	2060	103	90	110
Vanadium	5/6/20	10:16	500.0	528.0	106	90	110
Zinc	5/6/20	10:16	500.0	531.0	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417127

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/6/20	10:23	1200	1200	100	80	120
Antimony	5/6/20	10:23	60.00	66.30	110	80	120
Arsenic	5/6/20	10:23	60.00	63.00	105	80	120
Barium	5/6/20	10:23	30.00	30.00	100	80	120
Beryllium	5/6/20	10:23	12.00	12.40	103	80	120
Cadmium	5/6/20	10:23	15.00	15.20	101	80	120
Calcium	5/6/20	10:23	1500	1520	101	80	120
Chromium	5/6/20	10:23	30.00	31.10	104	80	120
Cobalt	5/6/20	10:23	30.00	30.80	103	80	120
Copper	5/6/20	10:23	30.00	32.70	109	80	120
Iron	5/6/20	10:23	900.0	912.0	101	80	120
Lead	5/6/20	10:23	30.00	29.90	100	80	120
Magnesium	5/6/20	10:23	1500	1490	99	80	120
Manganese	5/6/20	10:23	30.00	31.90	106	80	120
Nickel	5/6/20	10:23	30.00	31.30	104	80	120
Selenium	5/6/20	10:23	60.00	60.60	101	80	120
Thallium	5/6/20	10:23	60.00	59.50	99	80	120
Vanadium	5/6/20	10:23	30.00	31.60	105	80	120
Zinc	5/6/20	10:23	30.00	30.50	102	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875

Lab Sample ID: 417131

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	5/6/20	11:08	10.00	10.40	104	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419560

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/14/20	11:43	12000	10800	90	90	110
Antimony	5/14/20	11:43	500.0	501.0	100	90	110
Arsenic	5/14/20	11:43	2000	1990	100	90	110
Barium	5/14/20	11:43	2000	1890	94	90	110
Beryllium	5/14/20	11:43	50.00	48.00	96	90	110
Cadmium	5/14/20	11:43	50.00	47.50	95	90	110
Calcium	5/14/20	11:43	10000	9660	97	90	110
Chromium	5/14/20	11:43	200.0	203.0	102	90	110
Cobalt	5/14/20	11:43	500.0	506.0	101	90	110
Copper	5/14/20	11:43	250.0	235.0	94	90	110
Iron	5/14/20	11:43	5000	4800	96	90	110
Lead	5/14/20	11:43	500.0	473.0	95	90	110
Magnesium	5/14/20	11:43	10000	9910	99	90	110
Manganese	5/14/20	11:43	500.0	476.0	95	90	110
Nickel	5/14/20	11:43	500.0	505.0	101	90	110
Selenium	5/14/20	11:43	2000	2050	102	90	110
Silver	5/14/20	11:43	50.00	48.90	98	90	110
Thallium	5/14/20	11:43	2000	1890	94	90	110
Vanadium	5/14/20	11:43	500.0	501.0	100	90	110
Zinc	5/14/20	11:43	500.0	493.0	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419561

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/14/20	11:50	1200	1130	94	80	120
Antimony	5/14/20	11:50	60.00	60.40	101	80	120
Arsenic	5/14/20	11:50	60.00	58.50	98	80	120
Barium	5/14/20	11:50	30.00	28.70	96	80	120
Beryllium	5/14/20	11:50	12.00	11.90	99	80	120
Cadmium	5/14/20	11:50	15.00	14.70	98	80	120
Calcium	5/14/20	11:50	1500	1440	96	80	120
Chromium	5/14/20	11:50	30.00	30.70	102	80	120
Cobalt	5/14/20	11:50	30.00	30.60	102	80	120
Copper	5/14/20	11:50	30.00	31.00	103	80	120
Iron	5/14/20	11:50	900.0	867.0	96	80	120
Lead	5/14/20	11:50	30.00	30.00	100	80	120
Magnesium	5/14/20	11:50	1500	1580	105	80	120
Manganese	5/14/20	11:50	30.00	30.40	101	80	120
Nickel	5/14/20	11:50	30.00	30.80	103	80	120
Selenium	5/14/20	11:50	60.00	55.70	93	80	120
Thallium	5/14/20	11:50	60.00	56.70	94	80	120
Vanadium	5/14/20	11:50	30.00	29.80	99	80	120
Zinc	5/14/20	11:50	30.00	28.80	96	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875

Lab Sample ID: 419565

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	5/14/20	12:35	10.00	10.10	101	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170961 Lab Sample ID: 416253

ICAL Calibration #: 05062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	5/6/20 13:20	3.00	3.03	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170961 Lab Sample ID: 416255

ICAL Calibration #: 05062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	5/6/20 14:01	3.00	3.03	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876

Lab Sample ID: 417019

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	5/7/20	13:03	100000	101000	101	90	110
Sodium	5/7/20	13:03	100000	102000	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876

Lab Sample ID: 417023

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	5/7/20	13:36	100000	102000	102	90	110
Sodium	5/7/20	13:36	100000	102000	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417132

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/6/20	23:05	5000	5210	104	90	110
Antimony	5/6/20	23:05	5000	5410	108	90	110
Arsenic	5/6/20	23:05	5000	5520	110	90	110
Barium	5/6/20	23:05	5000	5360	107	90	110
Beryllium	5/6/20	23:05	500.0	502.0	100	90	110
Cadmium	5/6/20	23:05	500.0	492.0	98	90	110
Calcium	5/6/20	23:05	5000	5300	106	90	110
Chromium	5/6/20	23:05	5000	5480	110	90	110
Cobalt	5/6/20	23:05	5000	5370	107	90	110
Copper	5/6/20	23:05	5000	5380	108	90	110
Iron	5/6/20	23:05	5000	5180	104	90	110
Lead	5/6/20	23:05	5000	5250	105	90	110
Magnesium	5/6/20	23:05	5000	5220	104	90	110
Manganese	5/6/20	23:05	5000	5340	107	90	110
Nickel	5/6/20	23:05	5000	5390	108	90	110
Selenium	5/6/20	23:05	5000	5460	109	90	110
Silver	5/6/20	23:05	500.0	519.0	104	90	110
Thallium	5/6/20	23:05	5000	4960	99	90	110
Vanadium	5/6/20	23:05	5000	5310	106	90	110
Zinc	5/6/20	23:05	5000	5430	109	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417133

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/6/20	23:10	500.0	551.0	110	90	110
Antimony	5/6/20	23:10	500.0	547.0	109	90	110
Arsenic	5/6/20	23:10	500.0	523.0	105	90	110
Barium	5/6/20	23:10	500.0	509.0	102	90	110
Beryllium	5/6/20	23:10	50.00	53.00	106	90	110
Cadmium	5/6/20	23:10	50.00	51.90	104	90	110
Calcium	5/6/20	23:10	500.0	551.0	110	90	110
Chromium	5/6/20	23:10	500.0	543.0	109	90	110
Cobalt	5/6/20	23:10	500.0	525.0	105	90	110
Copper	5/6/20	23:10	500.0	523.0	105	90	110
Iron	5/6/20	23:10	500.0	523.0	105	90	110
Lead	5/6/20	23:10	500.0	534.0	107	90	110
Magnesium	5/6/20	23:10	500.0	493.0	99	90	110
Manganese	5/6/20	23:10	500.0	502.0	100	90	110
Nickel	5/6/20	23:10	500.0	517.0	103	90	110
Selenium	5/6/20	23:10	500.0	535.0	107	90	110
Silver	5/6/20	23:10	50.00	52.60	105	90	110
Thallium	5/6/20	23:10	500.0	532.0	106	90	110
Vanadium	5/6/20	23:10	500.0	530.0	106	90	110
Zinc	5/6/20	23:10	500.0	530.0	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417136

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/7/20	00:26	5000	5180	104	90	110
Antimony	5/7/20	00:26	5000	5410	108	90	110
Arsenic	5/7/20	00:26	5000	5510	110	90	110
Barium	5/7/20	00:26	5000	5340	107	90	110
Beryllium	5/7/20	00:26	500.0	505.0	101	90	110
Cadmium	5/7/20	00:26	500.0	494.0	99	90	110
Calcium	5/7/20	00:26	5000	5290	106	90	110
Chromium	5/7/20	00:26	5000	5440	109	90	110
Cobalt	5/7/20	00:26	5000	5370	107	90	110
Copper	5/7/20	00:26	5000	5370	107	90	110
Iron	5/7/20	00:26	5000	5190	104	90	110
Lead	5/7/20	00:26	5000	5250	105	90	110
Magnesium	5/7/20	00:26	5000	5180	104	90	110
Manganese	5/7/20	00:26	5000	5320	106	90	110
Nickel	5/7/20	00:26	5000	5390	108	90	110
Selenium	5/7/20	00:26	5000	5510	110	90	110
Silver	5/7/20	00:26	500.0	517.0	103	90	110
Thallium	5/7/20	00:26	5000	4950	99	90	110
Vanadium	5/7/20	00:26	5000	5370	107	90	110
Zinc	5/7/20	00:26	5000	5420	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417137

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/7/20	00:32	500.0	549.0	110	90	110
Antimony	5/7/20	00:32	500.0	552.0	110	90	110
Arsenic	5/7/20	00:32	500.0	530.0	106	90	110
Barium	5/7/20	00:32	500.0	512.0	102	90	110
Beryllium	5/7/20	00:32	50.00	53.30	107	90	110
Cadmium	5/7/20	00:32	50.00	52.10	104	90	110
Calcium	5/7/20	00:32	500.0	547.0	109	90	110
Chromium	5/7/20	00:32	500.0	541.0	108	90	110
Cobalt	5/7/20	00:32	500.0	524.0	105	90	110
Copper	5/7/20	00:32	500.0	524.0	105	90	110
Iron	5/7/20	00:32	500.0	522.0	104	90	110
Lead	5/7/20	00:32	500.0	533.0	107	90	110
Magnesium	5/7/20	00:32	500.0	496.0	99	90	110
Manganese	5/7/20	00:32	500.0	508.0	102	90	110
Nickel	5/7/20	00:32	500.0	518.0	104	90	110
Selenium	5/7/20	00:32	500.0	539.0	108	90	110
Silver	5/7/20	00:32	50.00	52.20	104	90	110
Thallium	5/7/20	00:32	500.0	531.0	106	90	110
Vanadium	5/7/20	00:32	500.0	535.0	107	90	110
Zinc	5/7/20	00:32	500.0	530.0	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417140

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/7/20	01:49	5000	5040	101	90	110
Antimony	5/7/20	01:49	5000	5370	107	90	110
Arsenic	5/7/20	01:49	5000	5510	110	90	110
Barium	5/7/20	01:49	5000	5190	104	90	110
Beryllium	5/7/20	01:49	500.0	509.0	102	90	110
Cadmium	5/7/20	01:49	500.0	501.0	100	90	110
Calcium	5/7/20	01:49	5000	5250	105	90	110
Chromium	5/7/20	01:49	5000	5370	107	90	110
Cobalt	5/7/20	01:49	5000	5390	108	90	110
Copper	5/7/20	01:49	5000	5320	106	90	110
Iron	5/7/20	01:49	5000	5130	103	90	110
Lead	5/7/20	01:49	5000	5250	105	90	110
Magnesium	5/7/20	01:49	5000	5050	101	90	110
Manganese	5/7/20	01:49	5000	5230	105	90	110
Nickel	5/7/20	01:49	5000	5400	108	90	110
Selenium	5/7/20	01:49	5000	5520	110	90	110
Silver	5/7/20	01:49	500.0	517.0	103	90	110
Thallium	5/7/20	01:49	5000	4950	99	90	110
Vanadium	5/7/20	01:49	5000	5320	106	90	110
Zinc	5/7/20	01:49	5000	5410	108	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417141

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/7/20	01:55	500.0	547.0	109	90	110
Antimony	5/7/20	01:55	500.0	543.0	109	90	110
Arsenic	5/7/20	01:55	500.0	524.0	105	90	110
Barium	5/7/20	01:55	500.0	519.0	104	90	110
Beryllium	5/7/20	01:55	50.00	54.00	108	90	110
Cadmium	5/7/20	01:55	50.00	53.10	106	90	110
Calcium	5/7/20	01:55	500.0	541.0	108	90	110
Chromium	5/7/20	01:55	500.0	540.0	108	90	110
Cobalt	5/7/20	01:55	500.0	520.0	104	90	110
Copper	5/7/20	01:55	500.0	522.0	104	90	110
Iron	5/7/20	01:55	500.0	525.0	105	90	110
Lead	5/7/20	01:55	500.0	522.0	104	90	110
Magnesium	5/7/20	01:55	500.0	505.0	101	90	110
Manganese	5/7/20	01:55	500.0	520.0	104	90	110
Nickel	5/7/20	01:55	500.0	519.0	104	90	110
Selenium	5/7/20	01:55	500.0	535.0	107	90	110
Silver	5/7/20	01:55	50.00	53.30	107	90	110
Thallium	5/7/20	01:55	500.0	531.0	106	90	110
Vanadium	5/7/20	01:55	500.0	539.0	108	90	110
Zinc	5/7/20	01:55	500.0	529.0	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419566

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/14/20	17:49	5000	4490	90	90	110
Antimony	5/14/20	17:49	5000	4630	93	90	110
Arsenic	5/14/20	17:49	5000	4830	97	90	110
Barium	5/14/20	17:49	5000	4880	98	90	110
Beryllium	5/14/20	17:49	500.0	463.0	93	90	110
Cadmium	5/14/20	17:49	500.0	466.0	93	90	110
Calcium	5/14/20	17:49	5000	4580	92	90	110
Chromium	5/14/20	17:49	5000	4790	96	90	110
Cobalt	5/14/20	17:49	5000	4780	96	90	110
Copper	5/14/20	17:49	5000	4740	95	90	110
Iron	5/14/20	17:49	5000	4520	90	90	110
Lead	5/14/20	17:49	5000	4570	91	90	110
Magnesium	5/14/20	17:49	5000	4560	91	90	110
Manganese	5/14/20	17:49	5000	4660	93	90	110
Nickel	5/14/20	17:49	5000	4750	95	90	110
Selenium	5/14/20	17:49	5000	4790	96	90	110
Silver	5/14/20	17:49	500.0	448.0	90	90	110
Thallium	5/14/20	17:49	5000	4660	93	90	110
Vanadium	5/14/20	17:49	5000	4670	93	90	110
Zinc	5/14/20	17:49	5000	4850	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419567

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/14/20	17:55	500.0	481.0	96	90	110
Antimony	5/14/20	17:55	500.0	490.0	98	90	110
Arsenic	5/14/20	17:55	500.0	465.0	93	90	110
Barium	5/14/20	17:55	500.0	458.0	92	90	110
Beryllium	5/14/20	17:55	50.00	48.40	97	90	110
Cadmium	5/14/20	17:55	50.00	48.30	97	90	110
Calcium	5/14/20	17:55	500.0	498.0	100	90	110
Chromium	5/14/20	17:55	500.0	481.0	96	90	110
Cobalt	5/14/20	17:55	500.0	492.0	98	90	110
Copper	5/14/20	17:55	500.0	460.0	92	90	110
Iron	5/14/20	17:55	500.0	462.0	92	90	110
Lead	5/14/20	17:55	500.0	456.0	91	90	110
Magnesium	5/14/20	17:55	500.0	507.0	101	90	110
Manganese	5/14/20	17:55	500.0	454.0	91	90	110
Nickel	5/14/20	17:55	500.0	486.0	97	90	110
Selenium	5/14/20	17:55	500.0	476.0	95	90	110
Silver	5/14/20	17:55	50.00	48.10	96	90	110
Thallium	5/14/20	17:55	500.0	464.0	93	90	110
Vanadium	5/14/20	17:55	500.0	477.0	95	90	110
Zinc	5/14/20	17:55	500.0	467.0	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875

Lab Sample ID: 419569

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/14/20	18:58	5000	4510	90	90	110
Antimony	5/14/20	18:58	5000	4620	92	90	110
Arsenic	5/14/20	18:58	5000	4810	96	90	110
Barium	5/14/20	18:58	5000	4930	99	90	110
Beryllium	5/14/20	18:58	500.0	466.0	93	90	110
Cadmium	5/14/20	18:58	500.0	465.0	93	90	110
Calcium	5/14/20	18:58	5000	4670	93	90	110
Chromium	5/14/20	18:58	5000	4800	96	90	110
Cobalt	5/14/20	18:58	5000	4770	95	90	110
Copper	5/14/20	18:58	5000	4740	95	90	110
Iron	5/14/20	18:58	5000	4590	92	90	110
Lead	5/14/20	18:58	5000	4570	91	90	110
Magnesium	5/14/20	18:58	5000	4630	93	90	110
Manganese	5/14/20	18:58	5000	4740	95	90	110
Nickel	5/14/20	18:58	5000	4770	95	90	110
Selenium	5/14/20	18:58	5000	4800	96	90	110
Silver	5/14/20	18:58	500.0	450.0	90	90	110
Thallium	5/14/20	18:58	5000	4650	93	90	110
Vanadium	5/14/20	18:58	5000	4750	95	90	110
Zinc	5/14/20	18:58	5000	4880	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419570

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	5/14/20	19:03	500.0	483.0	97	90	110
Antimony	5/14/20	19:03	500.0	491.0	98	90	110
Arsenic	5/14/20	19:03	500.0	463.0	93	90	110
Barium	5/14/20	19:03	500.0	458.0	92	90	110
Beryllium	5/14/20	19:03	50.00	48.60	97	90	110
Cadmium	5/14/20	19:03	50.00	48.50	97	90	110
Calcium	5/14/20	19:03	500.0	496.0	99	90	110
Chromium	5/14/20	19:03	500.0	480.0	96	90	110
Cobalt	5/14/20	19:03	500.0	492.0	98	90	110
Copper	5/14/20	19:03	500.0	457.0	91	90	110
Iron	5/14/20	19:03	500.0	462.0	92	90	110
Lead	5/14/20	19:03	500.0	456.0	91	90	110
Magnesium	5/14/20	19:03	500.0	509.0	102	90	110
Manganese	5/14/20	19:03	500.0	456.0	91	90	110
Nickel	5/14/20	19:03	500.0	487.0	97	90	110
Selenium	5/14/20	19:03	500.0	497.0	99	90	110
Silver	5/14/20	19:03	50.00	47.70	95	90	110
Thallium	5/14/20	19:03	500.0	463.0	93	90	110
Vanadium	5/14/20	19:03	500.0	480.0	96	90	110
Zinc	5/14/20	19:03	500.0	466.0	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876 Lab Sample ID: 417016

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	5/7/20	12:26	1000	1040	104	70	130
Sodium	5/7/20	12:26	1000	981.0	98	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170961 Lab Sample ID: 416252

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 05062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	05/06/2020 12:45	0.00300	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876

Lab Sample ID: 417015

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	05/07/2020 12:23	79.00	U	90	250
Sodium	05/07/2020 12:23	29.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417128

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	05/06/2020 10:35	-3.02	U	6	18
Antimony	05/06/2020 10:35	1.75	U	2.0	6.0
Arsenic	05/06/2020 10:35	4.41		4	12
Barium	05/06/2020 10:35	-0.0610	U	0.29	0.90
Beryllium	05/06/2020 10:35	0.0370	U	0.10	0.30
Cadmium	05/06/2020 10:35	0.0620	U	0.3	1.0
Calcium	05/06/2020 10:35	-2.00	U	17	50
Chromium	05/06/2020 10:35	-0.250	U	0.6	2.0
Cobalt	05/06/2020 10:35	-0.166	U	0.7	2.0
Copper	05/06/2020 10:35	0.255	U	1.2	3.5
Iron	05/06/2020 10:35	0.957	U	16	50
Lead	05/06/2020 10:35	-1.31	U	1.4	2.0
Magnesium	05/06/2020 10:35	-1.22	U	6	20
Manganese	05/06/2020 10:35	-0.0620	U	0.7	2.0
Nickel	05/06/2020 10:35	0.149	U	1.0	3.0
Selenium	05/06/2020 10:35	-2.95	U	2.2	6.5
Silver	05/06/2020 10:35	-2.11	U	0.7	2.0
Thallium	05/06/2020 10:35	-0.0520	U	2.5	7.5
Vanadium	05/06/2020 10:35	0.0630	U	0.8	2.5
Zinc	05/06/2020 10:35	-1.78	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419562

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	05/14/2020 11:56	-3.76	U	6	18
Antimony	05/14/2020 11:56	1.28	U	2.0	6.0
Arsenic	05/14/2020 11:56	-0.919	U	4	12
Barium	05/14/2020 11:56	0.0120	U	0.29	0.90
Beryllium	05/14/2020 11:56	-0.0420	U	0.10	0.30
Cadmium	05/14/2020 11:56	0.0780	U	0.3	1.0
Calcium	05/14/2020 11:56	0.0960	U	17	50
Chromium	05/14/2020 11:56	1.39		0.6	2.0
Cobalt	05/14/2020 11:56	-0.170	U	0.7	2.0
Copper	05/14/2020 11:56	-0.287	U	1.2	3.5
Iron	05/14/2020 11:56	-0.608	U	16	50
Lead	05/14/2020 11:56	-0.0230	U	1.4	2.0
Magnesium	05/14/2020 11:56	0.0570	U	6	20
Manganese	05/14/2020 11:56	-0.0490	U	0.7	2.0
Nickel	05/14/2020 11:56	0.0370	U	1.0	3.0
Selenium	05/14/2020 11:56	-12.2	U	2.2	6.5
Silver	05/14/2020 11:56	-0.0970	U	0.7	2.0
Thallium	05/14/2020 11:56	1.88	U	2.5	7.5
Vanadium	05/14/2020 11:56	0.433	U	0.8	2.5
Zinc	05/14/2020 11:56	-1.75	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170961

Lab Sample ID: 416254

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 05062020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	05/06/2020 13:26	0.00100	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170961 Lab Sample ID: 416256

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 05062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	05/06/2020 14:07	0.00300	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876 Lab Sample ID: 417020

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	05/07/2020 13:05	118.0		90	250
Sodium	05/07/2020 13:05	48.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876 Lab Sample ID: 417024

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	05/07/2020 13:39	144.0		90	250
Sodium	05/07/2020 13:39	80.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417134

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	05/06/2020 23:16	-2.90	U	6	18
Antimony	05/06/2020 23:16	-1.47	U	2.0	6.0
Arsenic	05/06/2020 23:16	-0.925	U	4	12
Barium	05/06/2020 23:16	0.447		0.29	0.90
Beryllium	05/06/2020 23:16	0.122		0.10	0.30
Cadmium	05/06/2020 23:16	0.0300	U	0.3	1.0
Calcium	05/06/2020 23:16	-1.65	U	17	50
Chromium	05/06/2020 23:16	-0.237	U	0.6	2.0
Cobalt	05/06/2020 23:16	-0.228	U	0.7	2.0
Copper	05/06/2020 23:16	0.672	U	1.2	3.5
Iron	05/06/2020 23:16	1.65	U	16	50
Lead	05/06/2020 23:16	0.700	U	1.4	2.0
Magnesium	05/06/2020 23:16	-0.947	U	6	20
Manganese	05/06/2020 23:16	0.0680	U	0.7	2.0
Nickel	05/06/2020 23:16	-0.145	U	1.0	3.0
Selenium	05/06/2020 23:16	3.79		2.2	6.5
Silver	05/06/2020 23:16	-1.59	U	0.7	2.0
Thallium	05/06/2020 23:16	-0.448	U	2.5	7.5
Vanadium	05/06/2020 23:16	0.195	U	0.8	2.5
Zinc	05/06/2020 23:16	-1.83	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417138

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	05/07/2020 00:38	-3.08	U	6	18
Antimony	05/07/2020 00:38	2.25		2.0	6.0
Arsenic	05/07/2020 00:38	2.42	U	4	12
Barium	05/07/2020 00:38	0.248	U	0.29	0.90
Beryllium	05/07/2020 00:38	0.0780	U	0.10	0.30
Cadmium	05/07/2020 00:38	-0.00800	U	0.3	1.0
Calcium	05/07/2020 00:38	-1.11	U	17	50
Chromium	05/07/2020 00:38	0.322	U	0.6	2.0
Cobalt	05/07/2020 00:38	0.144	U	0.7	2.0
Copper	05/07/2020 00:38	0.0790	U	1.2	3.5
Iron	05/07/2020 00:38	2.03	U	16	50
Lead	05/07/2020 00:38	-0.500	U	1.4	2.0
Magnesium	05/07/2020 00:38	-0.992	U	6	20
Manganese	05/07/2020 00:38	-0.0920	U	0.7	2.0
Nickel	05/07/2020 00:38	-0.0780	U	1.0	3.0
Selenium	05/07/2020 00:38	-2.22	U	2.2	6.5
Silver	05/07/2020 00:38	-1.92	U	0.7	2.0
Thallium	05/07/2020 00:38	0.146	U	2.5	7.5
Vanadium	05/07/2020 00:38	-0.184	U	0.8	2.5
Zinc	05/07/2020 00:38	-1.80	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 417142

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	05/07/2020 02:01	-2.80	U	6	18
Antimony	05/07/2020 02:01	1.97	U	2.0	6.0
Arsenic	05/07/2020 02:01	-0.770	U	4	12
Barium	05/07/2020 02:01	-0.0580	U	0.29	0.90
Beryllium	05/07/2020 02:01	0.00500	U	0.10	0.30
Cadmium	05/07/2020 02:01	-0.106	U	0.3	1.0
Calcium	05/07/2020 02:01	-1.55	U	17	50
Chromium	05/07/2020 02:01	-0.454	U	0.6	2.0
Cobalt	05/07/2020 02:01	0.0380	U	0.7	2.0
Copper	05/07/2020 02:01	0.286	U	1.2	3.5
Iron	05/07/2020 02:01	-0.120	U	16	50
Lead	05/07/2020 02:01	-0.254	U	1.4	2.0
Magnesium	05/07/2020 02:01	-1.01	U	6	20
Manganese	05/07/2020 02:01	-0.0740	U	0.7	2.0
Nickel	05/07/2020 02:01	-0.00300	U	1.0	3.0
Selenium	05/07/2020 02:01	-2.40	U	2.2	6.5
Silver	05/07/2020 02:01	-2.20	U	0.7	2.0
Thallium	05/07/2020 02:01	2.78		2.5	7.5
Vanadium	05/07/2020 02:01	0.208	U	0.8	2.5
Zinc	05/07/2020 02:01	-1.65	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419568

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	05/14/2020 18:00	-3.98	U	6	18
Antimony	05/14/2020 18:00	2.71		2.0	6.0
Arsenic	05/14/2020 18:00	1.67	U	4	12
Barium	05/14/2020 18:00	0.144	U	0.29	0.90
Beryllium	05/14/2020 18:00	0.00400	U	0.10	0.30
Cadmium	05/14/2020 18:00	0.206	U	0.3	1.0
Calcium	05/14/2020 18:00	0.837	U	17	50
Chromium	05/14/2020 18:00	0.911		0.6	2.0
Cobalt	05/14/2020 18:00	0.147	U	0.7	2.0
Copper	05/14/2020 18:00	-0.00600	U	1.2	3.5
Iron	05/14/2020 18:00	-0.950	U	16	50
Lead	05/14/2020 18:00	-0.914	U	1.4	2.0
Magnesium	05/14/2020 18:00	0.478	U	6	20
Manganese	05/14/2020 18:00	0.0150	U	0.7	2.0
Nickel	05/14/2020 18:00	-0.331	U	1.0	3.0
Selenium	05/14/2020 18:00	-0.377	U	2.2	6.5
Silver	05/14/2020 18:00	0.206	U	0.7	2.0
Thallium	05/14/2020 18:00	1.49	U	2.5	7.5
Vanadium	05/14/2020 18:00	0.187	U	0.8	2.5
Zinc	05/14/2020 18:00	-1.71	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 419571

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	05/14/2020 19:09	-3.88	U	6	18
Antimony	05/14/2020 19:09	1.14	U	2.0	6.0
Arsenic	05/14/2020 19:09	-1.83	U	4	12
Barium	05/14/2020 19:09	0.297		0.29	0.90
Beryllium	05/14/2020 19:09	0.00500	U	0.10	0.30
Cadmium	05/14/2020 19:09	0.103	U	0.3	1.0
Calcium	05/14/2020 19:09	1.03	U	17	50
Chromium	05/14/2020 19:09	1.18		0.6	2.0
Cobalt	05/14/2020 19:09	-0.255	U	0.7	2.0
Copper	05/14/2020 19:09	0.251	U	1.2	3.5
Iron	05/14/2020 19:09	-0.545	U	16	50
Lead	05/14/2020 19:09	1.85		1.4	2.0
Magnesium	05/14/2020 19:09	0.505	U	6	20
Manganese	05/14/2020 19:09	0.0620	U	0.7	2.0
Nickel	05/14/2020 19:09	0.211	U	1.0	3.0
Selenium	05/14/2020 19:09	-5.36	U	2.2	6.5
Silver	05/14/2020 19:09	0.740		0.7	2.0
Thallium	05/14/2020 19:09	0.397	U	2.5	7.5
Vanadium	05/14/2020 19:09	0.695	U	0.8	2.5
Zinc	05/14/2020 19:09	-1.59	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170961 Lab Sample ID: 414388

Analytical Prep Batch # 76285 Preparation Date/Time: 05/05/2020 14:15

ICAL Calibration #: 05062020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	05/06/2020 12:54	-0.00400	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170875 Lab Sample ID: 414407

Analytical Prep Batch # 76290 Preparation Date/Time: 05/04/2020 11:26

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	05/06/2020 23:49	0.387	U	6	18	
Total Antimony	05/06/2020 23:49	1.14	U	2.0	6.0	
Total Arsenic	05/06/2020 23:49	4.62		4	12	FAIL
Total Barium	05/06/2020 23:49	0.275	U	0.29	0.90	
Total Beryllium	05/06/2020 23:49	0.141		0.10	0.30	FAIL
Total Cadmium	05/06/2020 23:49	-0.0650	U	0.3	1.0	
Total Calcium	05/06/2020 23:49	4.62	U	17	50	
Total Chromium	05/06/2020 23:49	-0.648	U	0.6	2.0	
Total Cobalt	05/06/2020 23:49	-0.255	U	0.7	2.0	
Total Copper	05/06/2020 23:49	1.84		1.2	3.5	FAIL
Total Iron	05/06/2020 23:49	2.62	U	16	50	
Total Lead	05/06/2020 23:49	-1.90	U	1.4	2.0	
Total Magnesium	05/06/2020 23:49	-0.497	U	6	20	
Total Manganese	05/06/2020 23:49	-0.0820	U	0.7	2.0	
Total Nickel	05/06/2020 23:49	0.220	U	1.0	3.0	
Total Selenium	05/06/2020 23:49	4.06		2.2	6.5	FAIL
Total Silver	05/06/2020 23:49	-1.42	U	0.7	2.0	
Total Thallium	05/06/2020 23:49	-0.503	U	2.5	7.5	
Total Vanadium	05/06/2020 23:49	-0.424	U	0.8	2.5	
Total Zinc	05/06/2020 23:49	-1.46	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876 Lab Sample ID: 414407

Analytical Prep Batch # 76290 Preparation Date/Time: 05/04/2020 11:26

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	05/07/2020 13:00	80.00	U	90	250
Total Sodium	05/07/2020 13:00	17.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170876 Lab Sample ID: 414407

Analytical Prep Batch # 76290 Preparation Date/Time: 05/04/2020 11:26

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	05/07/2020 13:00	80.00	U	90	250
Total Sodium	05/07/2020 13:00	17.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 152873
ICS Source: SPEX

Analytical Run #: 170876
Lab Sample ID: 417017
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	05/07/2020 12:29	500000	492000	98	80	120
Calcium	05/07/2020 12:29	500000	488000	98	80	120
Iron	05/07/2020 12:29	500000	483000	97	80	120
Magnesium	05/07/2020 12:29	500000	493000	99	80	120
Potassium	05/07/2020 12:29	0	0		-170	170
Sodium	05/07/2020 12:29	0	-9.00		-140	140

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 152873
ICS Source: SPEX

Analytical Run #: 170875
Lab Sample ID: 417129
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	05/06/2020 10:48	500000	487000	97	80	120
Antimony	05/06/2020 10:48	0	1.49		-10	10
Arsenic	05/06/2020 10:48	0	-0.236		-20	20
Barium	05/06/2020 10:48	0	-0.990		-1.7	1.7
Beryllium	05/06/2020 10:48	0	-0.00100		-.7	.7
Cadmium	05/06/2020 10:48	0	0.00800		-1.3	1.3
Calcium	05/06/2020 10:48	500000	494000	99	80	120
Chromium	05/06/2020 10:48	0	1.89		-13	13
Cobalt	05/06/2020 10:48	0	1.44		-2	2
Copper	05/06/2020 10:48	0	1.81		-7	7
Iron	05/06/2020 10:48	500000	455000	91	80	120
Lead	05/06/2020 10:48	0	-1.56		-4.7	4.7
Magnesium	05/06/2020 10:48	500000	531000	106	80	120
Manganese	05/06/2020 10:48	0	0.828		-7.3	7.3
Nickel	05/06/2020 10:48	0	-2.07		-7	7
Selenium	05/06/2020 10:48	0	-6.35		-13	13
Silver	05/06/2020 10:48	0	-1.78		-7.3	7.3
Thallium	05/06/2020 10:48	0	-4.56		-7.3	7.3
Vanadium	05/06/2020 10:48	20000	22300		16000	24000
Zinc	05/06/2020 10:48	0	-11.2		-20	20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 152873
ICS Source: SPEX

Analytical Run #: 170875
Lab Sample ID: 419563
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	05/14/2020 12:15	500000	453000	91	80	120
Antimony	05/14/2020 12:15	0	2.08		-10	10
Arsenic	05/14/2020 12:15	0	0.0200		-20	20
Barium	05/14/2020 12:15	0	1.28		-1.7	1.7
Beryllium	05/14/2020 12:15	0	0		-.7	.7
Cadmium	05/14/2020 12:15	0	0.130		-1.3	1.3
Calcium	05/14/2020 12:15	500000	457000	91	80	120
Chromium	05/14/2020 12:15	0	3.74		-13	13
Cobalt	05/14/2020 12:15	0	0		-2	2
Copper	05/14/2020 12:15	0	-0.0990		-7	7
Iron	05/14/2020 12:15	500000	420000	84	80	120
Lead	05/14/2020 12:15	0	0.361		-4.7	4.7
Magnesium	05/14/2020 12:15	500000	450000	90	80	120
Manganese	05/14/2020 12:15	0	4.03		-7.3	7.3
Nickel	05/14/2020 12:15	0	-1.82		-7	7
Selenium	05/14/2020 12:15	0	0.0330		-13	13
Silver	05/14/2020 12:15	0	2.78		-7.3	7.3
Thallium	05/14/2020 12:15	0	-0.00100		-7.3	7.3
Vanadium	05/14/2020 12:15	20000	20100		16000	24000
Zinc	05/14/2020 12:15	0	-4.86		-20	20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 152873
ICS Source: SPEX, Ultra

Analytical Run #: 170876
Lab Sample ID: 417018
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	05/07/2020 12:32	500000	504000	101	80	120
Calcium	05/07/2020 12:32	500000	499000	100	80	120
Iron	05/07/2020 12:32	500000	511000	102	80	120
Magnesium	05/07/2020 12:32	500000	503000	101	80	120
Potassium	05/07/2020 12:32	100000	104000	104	80	120
Sodium	05/07/2020 12:32	100000	104000	104	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 152873
ICS Source: SPEX, Ultra

Analytical Run #: 170875
Lab Sample ID: 417130
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	05/06/2020 10:55	500000	487000	97	80	120
Antimony	05/06/2020 10:55	500.0	483.0	97	80	120
Arsenic	05/06/2020 10:55	500.0	505.0	101	80	120
Barium	05/06/2020 10:55	500.0	457.0	91	80	120
Beryllium	05/06/2020 10:55	500.0	421.0	84	80	120
Cadmium	05/06/2020 10:55	500.0	514.0	103	80	120
Calcium	05/06/2020 10:55	500000	496000	99	80	120
Chromium	05/06/2020 10:55	500.0	494.0	99	80	120
Cobalt	05/06/2020 10:55	500.0	453.0	91	80	120
Copper	05/06/2020 10:55	500.0	490.0	98	80	120
Iron	05/06/2020 10:55	500000	459000	92	80	120
Lead	05/06/2020 10:55	500.0	412.0	82	80	120
Magnesium	05/06/2020 10:55	500000	533000	107	80	120
Manganese	05/06/2020 10:55	500.0	456.0	91	80	120
Nickel	05/06/2020 10:55	500.0	433.0	87	80	120
Selenium	05/06/2020 10:55	500.0	447.0	89	80	120
Silver	05/06/2020 10:55	500.0	464.0	93	80	120
Thallium	05/06/2020 10:55	500.0	438.0	88	80	120
Vanadium	05/06/2020 10:55	500.0	472.0	94	80	120
Zinc	05/06/2020 10:55	500.0	474.0	95	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 152873
ICS Source: SPEX, Ultra

Analytical Run #: 170875
Lab Sample ID: 419564
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	05/14/2020 12:22	500000	450000	90	80	120
Antimony	05/14/2020 12:22	500.0	466.0	93	80	120
Arsenic	05/14/2020 12:22	500.0	459.0	92	80	120
Barium	05/14/2020 12:22	500.0	435.0	87	80	120
Beryllium	05/14/2020 12:22	500.0	424.0	85	80	120
Cadmium	05/14/2020 12:22	500.0	461.0	92	80	120
Calcium	05/14/2020 12:22	500000	456000	91	80	120
Chromium	05/14/2020 12:22	500.0	458.0	92	80	120
Cobalt	05/14/2020 12:22	500.0	433.0	87	80	120
Copper	05/14/2020 12:22	500.0	447.0	89	80	120
Iron	05/14/2020 12:22	500000	420000	84	80	120
Lead	05/14/2020 12:22	500.0	402.0	80	80	120
Magnesium	05/14/2020 12:22	500000	451000	90	80	120
Manganese	05/14/2020 12:22	500.0	427.0	85	80	120
Nickel	05/14/2020 12:22	500.0	418.0	84	80	120
Selenium	05/14/2020 12:22	500.0	443.0	89	80	120
Silver	05/14/2020 12:22	500.0	441.0	88	80	120
Thallium	05/14/2020 12:22	500.0	490.0	98	80	120
Vanadium	05/14/2020 12:22	500.0	484.0	97	80	120
Zinc	05/14/2020 12:22	500.0	440.0	88	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solids for Sample:
Concentration Units: ug/L
Sample No: 414410
Parent Sample No.: 413975
Analytical Prep Batch #: 76290
Analytical Preparation Date/Time: 05/04/2020 11:26
Analytical Run #: 170875
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 05/14/2020 Analysis Time: -------- 18:39

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	7360		5690		800	209		P	*FAIL*
Total Antimony	88-113	195		BDL	U	200	98		P	
Total Arsenic	87-113	754		7.2	J	800	93		P	
Total Barium	88-113	891		233		800	82		P	*FAIL*
Total Beryllium	89-112	18.3		0.43	J	20.0	89		P	
Total Cadmium	88-113	16.8		BDL	U	20.0	84		P	*FAIL*
Total Calcium	87-113	259000		103000		200000	78		P	*FAIL*
Total Chromium	90-113	88.2		12.6		80.0	94		P	
Total Cobalt	89-114	188		5.3		200	91		P	
Total Copper	86-114	98.8		19.7		100	79		P	*FAIL*
Total Iron	87-115	7980		9380		400	0		P	*FAIL*
Total Lead	86-113	177		6.8		200	85		P	*FAIL*
Total Magnesium	85-113	130000		55900		100000	74		P	*FAIL*
Total Manganese	90-114	652		567		200	42		P	*FAIL*
Total Nickel	88-113	189		9.2		200	90		P	
Total Selenium	83-114	741		BDL	U	800	93		P	
Total Silver	84-115	18.8		BDL	U	20.0	94		P	
Total Thallium	85-114	522		BDL	U	800	65		P	*FAIL*
Total Vanadium	90-111	164		10.0		200	77		P	*FAIL*
Total Zinc	87-115	222		35.9		200	93		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	ug/L
Sample No	414410	Parent Sample No.:	413975
Analytical Prep Batch #	76290	Analytical Preparation Date/Time:	05/04/2020 11:26
Analytical Run #:	170876	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 05/07/2020 Analysis Time: -------- 13:17

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	106000		3970		100000	102		P
Total Sodium	87-115	113000		14400		100000	99		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solids for Sample:
Concentration Units: ug/L
Sample No: 417022
Parent Sample No.: 413975
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 170876
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 05/07/2020 Analysis Time: -------- 13:22

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	95200		3970		100000	91		P
Sodium	80-120.	120000		14400		100000	106		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solids for Sample:
Concentration Units: ug/L
Sample No: 417139
Parent Sample No.: 413975
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 170875
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 05/07/2020 Analysis Time: -------- 00:44

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	9560		5690		4000	97		P	
Barium	80-120	4510		233		4000	107		P	
Cadmium	80-120	84.3		BDL	U	100	84		P	
Calcium	80-120	495000		103000		400000	98		P	
Copper	80-120	507		19.7		500	97		P	
Iron	80-120	10500		9380		2000	56		P	*FAIL*
Lead	80-120	978		6.8		1000	97		P	
Magnesium	80-120	262000		55900		200000	103		P	
Manganese	80-120	1250		567		1000	68		P	*FAIL*
Thallium	80-120	3580		BDL	U	4000	90		P	
Vanadium	80-120	833		10.0		1000	82		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **49IDW**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	ug/L
Sample No	414411	Parent Sample No.:	414410
Analytical Prep Batch #	76290	Analytical Preparation Date/Time:	05/04/2020 11:26
Analytical Run #:	170875	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 05/14/2020 Analysis Time: -------- 18:45

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	7420		5690		800	216		P	*FAIL*
Total Antimony	88-113	195		BDL	U	200	98		P	
Total Arsenic	87-113	754		7.2	J	800	93		P	
Total Barium	88-113	891		233		800	82		P	*FAIL*
Total Beryllium	89-112	18.4		0.43	J	20.0	90		P	
Total Cadmium	88-113	16.6		BDL	U	20.0	83		P	*FAIL*
Total Calcium	87-113	261000		103000		200000	79		P	*FAIL*
Total Chromium	90-113	88.0		12.6		80.0	94		P	
Total Cobalt	89-114	189		5.3		200	92		P	
Total Copper	86-114	99.3		19.7		100	80		P	*FAIL*
Total Iron	87-115	8100		9380		400	0		P	*FAIL*
Total Lead	86-113	176		6.8		200	85		P	*FAIL*
Total Magnesium	85-113	131000		55900		100000	75		P	*FAIL*
Total Manganese	90-114	652		567		200	42		P	*FAIL*
Total Nickel	88-113	188		9.2		200	89		P	
Total Selenium	83-114	732		BDL	U	800	92		P	
Total Silver	84-115	18.8		BDL	U	20.0	94		P	
Total Thallium	85-114	621		BDL	U	800	78		P	*FAIL*
Total Vanadium	90-111	165		10.0		200	78		P	*FAIL*
Total Zinc	87-115	221		35.9		200	93		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	ug/L
Sample No	414411	Parent Sample No.:	414410
Analytical Prep Batch #	76290	Analytical Preparation Date/Time:	05/04/2020 11:26
Analytical Run #:	170876	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 05/07/2020 Analysis Time: -------- 13:19

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	99700		3970		100000	96		P
Total Sodium	87-115	106000		14400		100000	92		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 152873

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch #: 1

Analytical Preparation Date/Time: 76290

Analytical Run #: 170875

ICAL Calibration #:

Sample #: 414409

Parent Sample #: 413975

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	05/07/2020	00:08	20	5690		5500		3		P	
Total Antimony	05/07/2020	00:08	20	2.0	U	2.0	U	0		P	
Total Arsenic	05/07/2020	00:08	20	7.2	J	5.4	J	29		P	*FAIL*
Total Barium	05/07/2020	00:08	20	233		225		3		P	
Total Beryllium	05/07/2020	00:08	20	0.43	J	0.41	J	5		P	
Total Cadmium	05/07/2020	00:08	20	0.30	U	0.30	U	0		P	
Total Calcium	05/07/2020	00:08	20	103000		101000		2		P	
Total Chromium	05/07/2020	00:08	20	12.6		12.0		5		P	
Total Cobalt	05/07/2020	00:08	20	5.3		5.6		6		P	
Total Copper	05/07/2020	00:08	20	19.7		18.8		5		P	
Total Iron	05/07/2020	00:08	20	9380		9150		2		P	
Total Lead	05/07/2020	00:08	20	6.8		7.5		10		P	
Total Magnesium	05/07/2020	00:08	20	55900		54700		2		P	
Total Manganese	05/07/2020	00:08	20	567		559		1		P	
Total Nickel	05/07/2020	00:08	20	9.2		8.9		3		P	
Total Selenium	05/07/2020	00:08	20	2.2	U	3.2	J	200		P	*FAIL*
Total Silver	05/07/2020	00:08	20	0.70	U	0.70	U	0		P	
Total Thallium	05/07/2020	00:08	20	2.5	U	2.5	U	0		P	
Total Vanadium	05/07/2020	00:08	20	10.0		10.2		2		P	
Total Zinc	05/07/2020	00:08	20	35.9		35.4		1		P	

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 76290
Analytical Run #: 170876
ICAL Calibration #:
Sample #: 414409
Parent Sample #: 413975

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	05/07/2020	13:14	20	3970		3990		1		P
Total Sodium	05/07/2020	13:14	20	14400		14500		1		P

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49IDW**

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID | SDG No.: 152873

% Solid for Sample: | Concentration Units: ug/L

Analytical Prep Batch #: 76290 | Analytical Preparation Date/Time: 05/04/2020 11:26

Analytical Run #: 170875 | ICAL Calibration #:

Sample #: 414411 | Parent Sample #: 414410

Analysis Type: *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	05/14/2020	18:45	20	7360		7420		1		P
Total Antimony	05/14/2020	18:45	20	195		195		0		P
Total Arsenic	05/14/2020	18:45	20	754		754		0		P
Total Barium	05/14/2020	18:45	20	891		891		0		P
Total Beryllium	05/14/2020	18:45	20	18.3		18.4		1		P
Total Cadmium	05/14/2020	18:45	20	16.8		16.6		1		P
Total Calcium	05/14/2020	18:45	20	259000		261000		1		P
Total Chromium	05/14/2020	18:45	20	88.2		88.0		0		P
Total Cobalt	05/14/2020	18:45	20	188		189		1		P
Total Copper	05/14/2020	18:45	20	98.8		99.3		1		P
Total Iron	05/14/2020	18:45	20	7980		8100		1		P
Total Lead	05/14/2020	18:45	20	177		176		1		P
Total Magnesium	05/14/2020	18:45	20	130000		131000		1		P
Total Manganese	05/14/2020	18:45	20	652		652		0		P
Total Nickel	05/14/2020	18:45	20	189		188		1		P
Total Selenium	05/14/2020	18:45	20	741		732		1		P
Total Silver	05/14/2020	18:45	20	18.8		18.8		0		P
Total Thallium	05/14/2020	18:45	20	522		621		17		P
Total Vanadium	05/14/2020	18:45	20	164		165		1		P
Total Zinc	05/14/2020	18:45	20	222		221		0		P

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49IDW**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 76290
Analytical Preparation Date/Time: 05/04/2020 11:26
Analytical Run #: 170876
ICAL Calibration #:
Sample #: 414411
Parent Sample #: 414410

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	05/07/2020	13:19	20	106000		99700		6		P
Total Sodium	05/07/2020	13:19	20	113000		106000		6		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 152873

Concentration Units: ug/L

Analytical Run #: 170961 Sample No.:#: 414389

Analytical Prep Batch #: 76285 Preparation Date/Time: 05/05/2020 14:15

ICAL Calibration #: 05062020

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	05/06/2020 12:48	82-119	2.03		2.00	102		CV

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 152873

Concentration Units: ug/L

Analytical Run #: 170875 Sample No.:#: 414408

Analytical Prep Batch #: 76290 Preparation Date/Time: 05/04/2020 11:26

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	05/06/2020 23:42	86-115	827.0		800.0	103		P
Total Antimony	05/06/2020 23:42	88-113	222.0		200.0	111		P
Total Arsenic	05/06/2020 23:42	87-113	868.0		800.0	108		P
Total Barium	05/06/2020 23:42	88-113	795.0		800.0	99		P
Total Beryllium	05/06/2020 23:42	89-112	18.90		20.00	94		P
Total Cadmium	05/06/2020 23:42	88-113	17.90		20.00	90		P
Total Calcium	05/06/2020 23:42	87-113	205000		200000	102		P
Total Chromium	05/06/2020 23:42	90-113	87.20		80.00	109		P
Total Cobalt	05/06/2020 23:42	89-114	205.0		200.0	102		P
Total Copper	05/06/2020 23:42	86-114	99.30		100.0	99		P
Total Iron	05/06/2020 23:42	87-115	409.0		400.0	102		P
Total Lead	05/06/2020 23:42	86-113	205.0		200.0	102		P
Total Magnesium	05/06/2020 23:42	85-113	105000		100000	105		P
Total Manganese	05/06/2020 23:42	90-114	199.0		200.0	100		P
Total Nickel	05/06/2020 23:42	88-113	200.0		200.0	100		P
Total Selenium	05/06/2020 23:42	83-114	851.0		800.0	106		P
Total Silver	05/06/2020 23:42	84-115	16.80		20.00	84		P
Total Thallium	05/06/2020 23:42	85-114	757.0		800.0	95		P
Total Vanadium	05/06/2020 23:42	90-111	194.0		200.0	97		P
Total Zinc	05/06/2020 23:42	87-115	216.0		200.0	108		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 152873

Concentration Units: ug/L

Analytical Run #: 170876 Sample No.:#: 414408

Analytical Prep Batch #: 76290 Preparation Date/Time: 05/04/2020 11:26

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	05/07/2020 12:57	86-114	104000		100000	104		P
Total Sodium	05/07/2020 12:57	87-115	100000		100000	100		P

CT LABORATORIES
delivering more than data from your environmental analyses

9

ICP SERIAL DILUTION

Sample Description

49IDW

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID SDG No.: 152873

Concentration Units: ug/L

Sample No.: 417135 Parent Sample No.: 413975

LIMS Run #: 170875 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	05/07/2020 00:01	5690.		8850		56		P	*FAIL*
Antimony	05/07/2020 00:01	BDL	U	10	U	0		P	*INVALID*
Arsenic	05/07/2020 00:01	7.16	U	20	U	100		P	*INVALID*
Barium	05/07/2020 00:01	233.		242		4		P	
Beryllium	05/07/2020 00:01	.425	U	0.885	J	108		P	*INVALID*
Cadmium	05/07/2020 00:01	BDL	U	1.5	U	0		P	*INVALID*
Calcium	05/07/2020 00:01	103000.		154500		50		P	*FAIL*
Chromium	05/07/2020 00:01	12.6	J	12.55	J	0		P	*INVALID*
Cobalt	05/07/2020 00:01	5.34	J	5.05	J	5		P	*INVALID*
Copper	05/07/2020 00:01	19.7	J	25.05	J	27		P	*INVALID*
Iron	05/07/2020 00:01	9380.		14000		49		P	*FAIL*
Lead	05/07/2020 00:01	6.83	U	7	U	100		P	*INVALID*
Magnesium	05/07/2020 00:01	55900.		83000		48		P	*FAIL*
Manganese	05/07/2020 00:01	567.		700		23		P	*FAIL*
Nickel	05/07/2020 00:01	9.15	J	9.55	J	4		P	*INVALID*
Selenium	05/07/2020 00:01	BDL	U	11	U	0		P	*INVALID*
Silver	05/07/2020 00:01	BDL	U	3.5	U	0		P	*INVALID*
Thallium	05/07/2020 00:01	BDL	U	12.5	U	0		P	*INVALID*
Vanadium	05/07/2020 00:01	10.0	J	11.15	J	12		P	*INVALID*
Zinc	05/07/2020 00:01	35.9	J	31.3	J	13		P	*INVALID*

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

ICP ID Number: TJA SDG No.: 152873

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	2	Fe	0.000006	0.000000	No
			Ce	0.000000	0.000000	No
Ag 338.289 {100}	☒	1	Fe	0.000906	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	1	Al	0.001713	0.000000	No
As 197.262 {471}	☒	1	Al	-0.000113	0.000000	No
Ba 233.527 {445}	☒	3	Fe	-0.000038	0.000000	No
			V	0.000180	0.000000	No
			Al	0.000000	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000029	0.000000	No
Be 313.042 {108}	☒	1	Fe	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000016	0.000000	No
Ca 315.887 {107}	☒	None				
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	2	Fe	0.000090	0.000000	No
			Al	0.000000	0.000000	No
Cd 228.802 {147}	☒	None				
Co 228.616 {447}	☒	5	Fe	0.000009	0.000000	No
			Ti	0.003000	0.000000	No
			Ba	-0.001300	0.000000	No
			Ni	0.000040	0.000000	No
			Al	0.000001	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000188	0.000000	No
Cr 205.560 {464}	☒	1	Fe	-0.000004	0.000000	No
Cr 267.716 {126}	☒	1	Fe	-0.000014	0.000000	No
Cu 224.700 {450}	☒	5	Fe	0.000274	0.000000	No
			Mo	0.001320	0.000000	No
			Ni	-0.006000	0.000000	No
			Pb	0.003030	0.000000	No
			Al	0.000000	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000136	0.000000	No
Cu 327.396 {103}	☒	1	Fe	0.000069	0.000000	No
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	-0.000086	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Mn 259.373 {130}	☒	1	Mg	0.001339	0.000000	No
Mo 202.030 {466}	☒	1	Fe	-0.000011	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000020	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000036	0.000000	No
Ni 221.647 {452}	☒	1	Ca	0.000021	0.000000	No
Ni 231.604 {445}	☒	3	Fe	0.000012	0.000000	No
			Co	0.000000	0.000000	No
			Mo	0.000000	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.001241	0.000000	No
			Na	0.000000	0.000000	No
Pb 220.353 {453}	☒	3	Si	0.000000	0.000000	No
			Al	0.000001	0.000000	No
			Fe	0.000018	0.000000	No
Pb 220.353 {153}	☒	1	Al	-0.000040	0.000000	No
Sb 206.833 {463}	☒	1	Fe	0.000009	0.000000	No
Sb 217.581 {455}	☒	3	Fe	-0.000069	0.000000	No
			V	0.002070	0.000000	No
			Pb	-0.001040	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000360	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.001308	0.000000	No
Tl 190.856 {476}	☒	5	Fe	0.000024	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000050	0.000000	No
			Cr	0.000251	0.000000	No
			V	-0.003800	0.000000	No
Tl 190.856 {477}	☒	1	Fe	-0.000048	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000073	0.000000	No
V 292.402 {115}	☒	3	Fe	0.000020	0.000000	No
			Cr	-0.000400	0.000000	No
			Al	0.000000	0.000000	No
Zn 202.548 {466}	☒	1	Fe	-0.000239	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000003	0.000000	No
Zn 213.856 {457}	☒	2	Fe	0.000167	0.000000	No
			Cu	0.007413	0.000000	No
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Si 251.611 {134}	☒	2	Fe	-0.000105	0.000000	No
			Mo	0.005400	0.000000	No
Ti 323.452 {104}	☒	1	Fe	0.000036	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000052	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000014	0.000000	No
Sr 421.552 { 80}	☒	1	Fe	0.000014	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Sn 189.989 {477}	☒	1	Fe	0.000013	0.000000	No
B 249.678 {135}	☒	2	Fe	0.000001	0.000000	No
			Co	0.003970	0.000000	No
B 249.773 {135}	☒	1	Fe	0.000357	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000011	0.000000	No
K 766.490 { 44}	☒	1	Fe	0.000216	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000079	0.000000	No
S 182.034 {485}	☒	1	Mg	0.000100	0.000000	No
Hg 184.950 {482}	☒	1	Fe	0.000001	0.000000	No
Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

ICP ID Number: TA SDG No.: 152873

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Method: EPA 7470A

SDG No.: 152873

Preparation Batch #: 76285

Preparation Date/Time: 05/05/2020 / 14:15

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
413136	Normal Sample	54IDW	GROUND WATER	25.0
413975	Normal Sample	49IDW	GROUND WATER	25.0
414388	Method Blank		LIQUID	25.0
414389	Lab Control Spike		LIQUID	25.0
414390	Lab Duplicate	54IDW	GROUND WATER	25.0
414391	Matrix Spike	54IDW	GROUND WATER	25.0
414392	Matrix Spike Duplicate	54IDW	GROUND WATER	25.0

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Method: EPA 3010A

SDG No.: 152873

Preparation Batch #: 76290

Preparation Date/Time: 05/04/2020 / 11:26

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
413975	Normal Sample	49IDW	GROUND WATER	50.0
414407	Method Blank		LIQUID	50.0
414408	Lab Control Spike		LIQUID	50.0
414409	Lab Duplicate	49IDW	GROUND WATER	50.0
414410	Matrix Spike	49IDW	GROUND WATER	50.0
414411	Matrix Spike Duplicate	49IDW	GROUND WATER	50.0

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 152873

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 05/06/2020 to 05/06/2020

Analytical Run #: 170961

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
416251	ICV	1.00	5/06 12:39																X													
416252	ICB	1.00	5/06 12:45																X													
414389	LCSW	1.00	5/06 12:48																X													
414388	MBW	1.00	5/06 12:54																X													
416253	CCV	1.00	5/06 13:20																X													
416254	CCB	1.00	5/06 13:26																X													
413136	Initial	1.00	5/06 13:32																X													
414390	DUP	1.00	5/06 13:36																X													
413975	Initial	1.00	5/06 13:39																X													
414391	MSW	1.00	5/06 13:48																X													
414392	MSDW	1.00	5/06 13:51																X													
416255	CCV	1.00	5/06 14:01																X													
416256	CCB	1.00	5/06 14:07																X													

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 152873

Instrument ID Number: TJA

Method Number: P

Start & End Date: 05/06/2020 to 05/14/2020

Analytical Run #: 170875

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
417126	ICV	1.00	5/06 10:16	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417127	ICVLL	1.00	5/06 10:23	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
417128	ICB	1.00	5/06 10:35	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417129	ICSA	1.00	5/06 10:48	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417130	ICSAB	1.00	5/06 10:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417131	ICVLL	1.00	5/06 11:08																							X							
417132	CCV1	1.00	5/06 23:05	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417133	CCV2	1.00	5/06 23:10	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417134	CCB	1.00	5/06 23:16	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
414408	LCSW	1.00	5/06 23:42	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
414407	MBW	1.00	5/06 23:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
413975	Initial	1.00	5/06 23:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417135	L	5	5/07 00:01	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
414409	DUP	1.00	5/07 00:08	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417136	CCV1	1.00	5/07 00:26	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417137	CCV2	1.00	5/07 00:32	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417138	CCB	1.00	5/07 00:38	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417139	PDSW	1.00	5/07 00:44	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417140	CCV1	1.00	5/07 01:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417141	CCV2	1.00	5/07 01:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
417142	CCB	1.00	5/07 02:01	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419560	ICV	1.00	5/14 11:43	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419561	ICVLL	1.00	5/14 11:50	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
419562	ICB	1.00	5/14 11:56	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419563	ICSA	1.00	5/14 12:15	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419564	ICSAB	1.00	5/14 12:22	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419565	ICVLL	1.00	5/14 12:35																							X							

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 152873

Instrument ID Number: TJA

Method Number: P

Start & End Date: 05/06/2020 to 05/14/2020

Analytical Run #: 170875

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
419566	CCV1	1.00	5/14 17:49	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419567	CCV2	1.00	5/14 17:55	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419568	CCB	1.00	5/14 18:00	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
414410	MSW	1.00	5/14 18:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
414411	MSDW	1.00	5/14 18:45	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419569	CCV1	1.00	5/14 18:58	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419570	CCV2	1.00	5/14 19:03	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
419571	CCB	1.00	5/14 19:09	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 152873

Instrument ID Number: TJA

Method Number: P

Start & End Date: 05/07/2020 to 05/07/2020

Analytical Run #: 170876

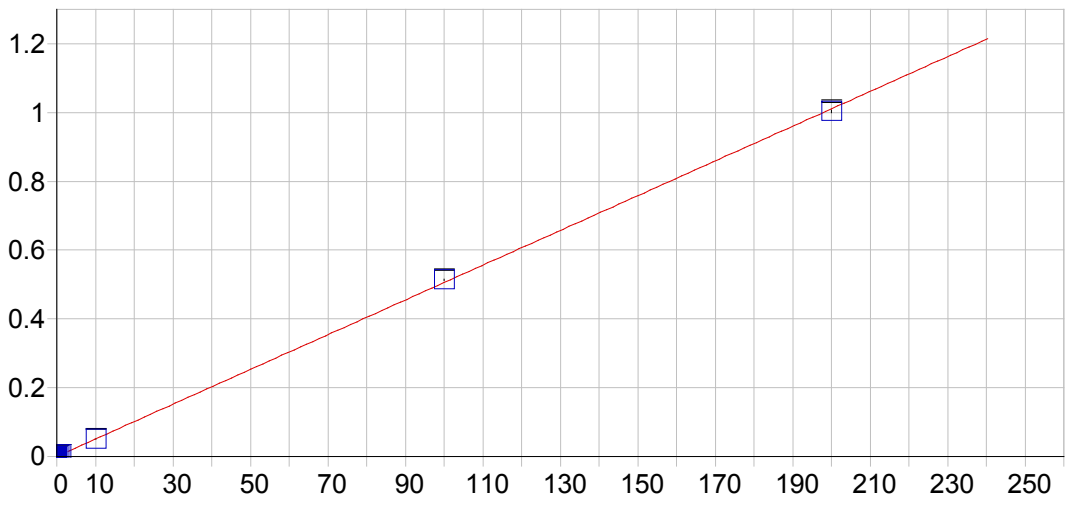
Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
417013	ICV	1.00	5/07 12:18																				X				X					
417014	ICVLL	1.00	5/07 12:20																				X				X					
417015	ICB	1.00	5/07 12:23																				X				X					
417016	MRL	1.00	5/07 12:26																				X				X					
417017	ICSA	1.00	5/07 12:29	X							X				X		X						X				X					
417018	ICSAB	1.00	5/07 12:32	X							X				X		X						X				X					
414408	LCSW	1.00	5/07 12:57																				X				X					
414407	MBW	1.00	5/07 13:00																				X				X					
417019	CCV	1.00	5/07 13:03																				X				X					
417020	CCB	1.00	5/07 13:05																				X				X					
413975	Initial	1.00	5/07 13:08																				X				X					
417021	L	5	5/07 13:11																				X				X					
414409	DUP	1.00	5/07 13:14																				X				X					
414410	MSW	1.00	5/07 13:17																				X				X					
414411	MSDW	1.00	5/07 13:19																				X				X					
417022	PDSW	1.00	5/07 13:22																				X				X					
417023	CCV	1.00	5/07 13:36																				X				X					
417024	CCB	1.00	5/07 13:39																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	05/08/2020 12:57:54	05/07/2020 12:14:51	Linear	1/Conc	0.000563	0.005051	0.000000	1.000000	0.999937	0.000027	0.026262	0.087541
	K 769.896 { 44}	05/08/2020 12:57:54	05/07/2020 12:14:51	Linear	1/Conc	0.000460	0.004697	0.000000	1.000000	0.999929	0.000027	0.037736	0.125786
	Na 330.237 {102}	05/08/2020 12:57:54	05/07/2020 12:14:51	Linear	1/Conc	0.000096	0.000099	0.000000	1.000000	0.999903	0.000003	0.790767	2.635890
	Na 589.592 { 57}	05/08/2020 12:57:54	05/07/2020 12:14:51	Linear	1/Conc	0.002847	0.044204	0.000000	1.000000	0.999890	0.000324	0.005249	0.017497
	Y 320.332 {105}*	05/08/2020 12:57:54	05/07/2020 11:55:09	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 360.073 { 94}	05/08/2020 12:57:54	05/07/2020 11:55:09	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	05/08/2020 12:57:54	05/07/2020 12:17:58	Linear	1/Conc	0.001283	0.000012	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	05/08/2020 12:57:54	05/07/2020 12:17:58	Linear	1/Conc	0.000259	0.008305	0.000000	1.000000	1.000000	0.000000	0.010491	0.034972
	Mg 285.213 {118}	05/08/2020 12:57:54	05/07/2020 12:17:58	Linear	None	0.000071	0.045338	0.000000	1.000000	1.000000	0.000000	0.001123	0.003744
	Ca 317.933 {106}	05/08/2020 12:57:54	05/07/2020 12:17:58	Linear	None	0.022204	0.008708	0.000000	1.000000	1.000000	0.000000	0.006100	0.020332
	Fe 234.349 {144}	05/08/2020 12:57:54	05/07/2020 12:17:58	Linear	None	0.000187	0.001830	0.000000	1.000000	1.000000	0.000000	0.010661	0.035536

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
K 766.490 { 44}	☒	1	Fe	-0.000187	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000322	0.000000	No
Na 330.237 {102}	☒	1	Fe	-0.002386	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000122	0.000000	No
Y 320.332 {105}*	☒	None				
Y 360.073 { 94}	☒	None				
Al 308.215 {109}	☒	1	Fe	0.000000	0.000000	No
Al 396.152 { 85}	☒	None				
Mg 285.213 {118}	☒	None				
Ca 317.933 {106}	☒	None				
Fe 234.349 {144}	☒	None				

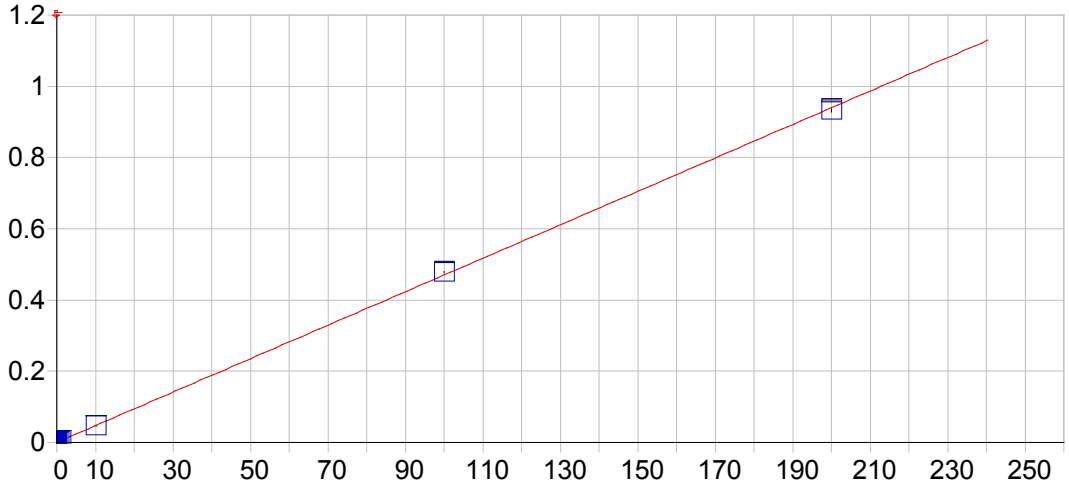


K 766.490 { 44}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000563	Re-Slope:	1.000000
A1 (Gain):	0.005051	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999937	Status:	OK.
Std Error of Est:	0.000027		
Predicted MDL:	0.026262		
Predicted MQL:	0.087541		

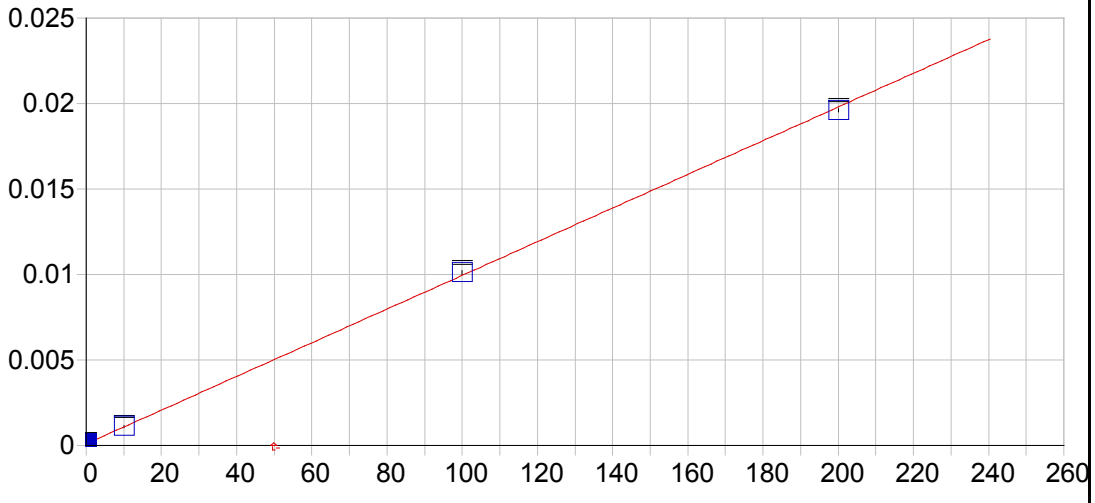
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00056	.000	1
CalibStd-1.0	1.0000	1.0034	.003	.342	.00563	.000	1
CalibStd-10.	10.000	9.9764	-.024	-.236	.05096	.000	1
CalibStd-0.5	.50000	.49142	-.009	-1.72	.00305	.000	1
CalibStd-200	200.00	198.40	-1.60	-.799	1.0028	.004	1
CalibStd-100	100.00	101.63	1.63	1.63	.51392	.002	1



K 769.896 { 44}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000460		Re-Slope:	1.000000	
A1 (Gain):	0.004697		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999929		Status:	OK.	
Std Error of Est:	0.000027				
Predicted MDL:	0.037736				
Predicted MQL:	0.125786				

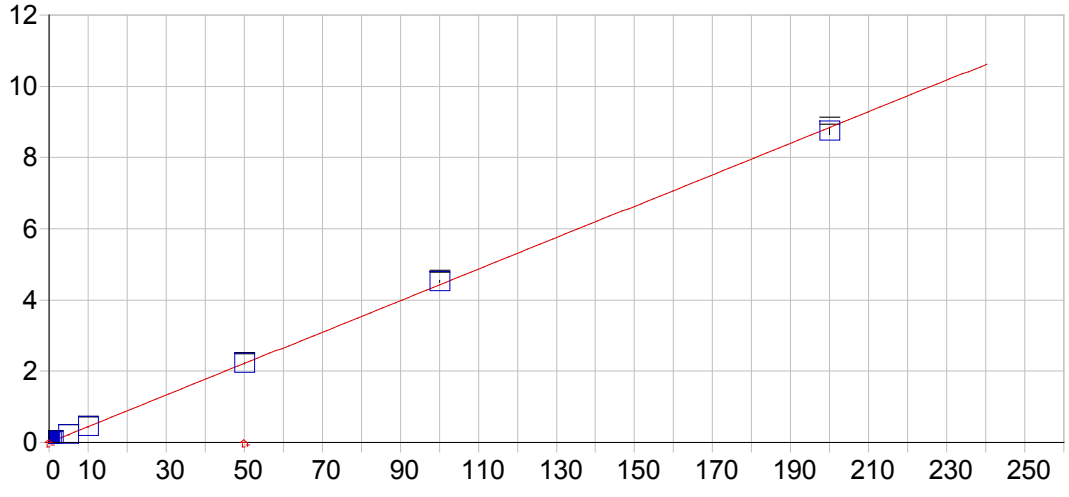
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00006	.000	.000	.00046	.000	1
CalibStd-1.0	1.0000	.96796	-.032	-3.20	.00501	.000	1
CalibStd-10.	10.000	9.9117	-.088	-.883	.04701	.000	1
CalibStd-0.5	.50000	.45913	-.041	-8.17	.00262	.000	1
CalibStd-200	200.00	198.50	-1.50	-.750	.93278	.004	1
CalibStd-100	100.00	101.66	1.66	1.66	.47794	.002	1



Na 330.237 {102}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000096		Re-Slope:	1.000000	
A1 (Gain):	0.000099		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999903		Status:	OK.	
Std Error of Est:	0.000003				
Predicted MDL:	0.790767				
Predicted MQL:	2.635890				

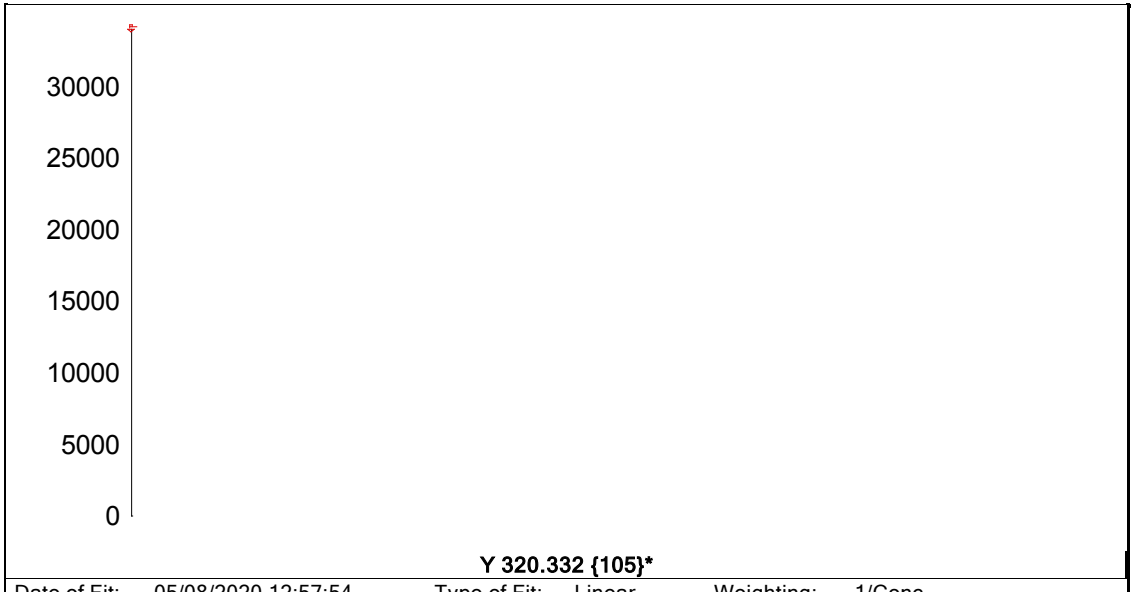
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00038	-.000	.000	.00010	.000	1
CalibStd-200	200.00	197.97	-2.03	-1.02	.01960	.000	1
CalibStd-10.	10.000	10.309	.309	3.09	.00111	.000	1
CalibStd-100	100.00	101.72	1.72	1.72	.01012	.000	1



Na 589.592 { 57}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.002847		Re-Slope:	1.000000	
A1 (Gain):	0.044204		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999890		Status:	OK.	
Std Error of Est:	0.000324				
Predicted MDL:	0.005249				
Predicted MQL:	0.017497				

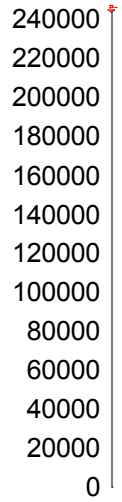
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00008	.000	.000	.00285	.000	1
CalibStd-0.5	.50000	.45027	-.050	-9.95	.02275	.001	1
CalibStd-1.0	1.0000	.94543	-.055	-5.46	.04464	.000	1
CalibStd-5.0	5.0000	4.9677	-.032	-.646	.22244	.001	1
CalibStd-10.	10.000	9.9301	-.070	-.699	.44180	.003	1
CalibStd-50	50.000	50.164	.164	.328	2.2203	.013	1
CalibStd-100	100.00	102.20	2.20	2.20	4.5205	.020	1
CalibStd-200	200.00	197.84	-2.16	-1.08	8.7482	.103	1



Y 320.332 {105}*

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

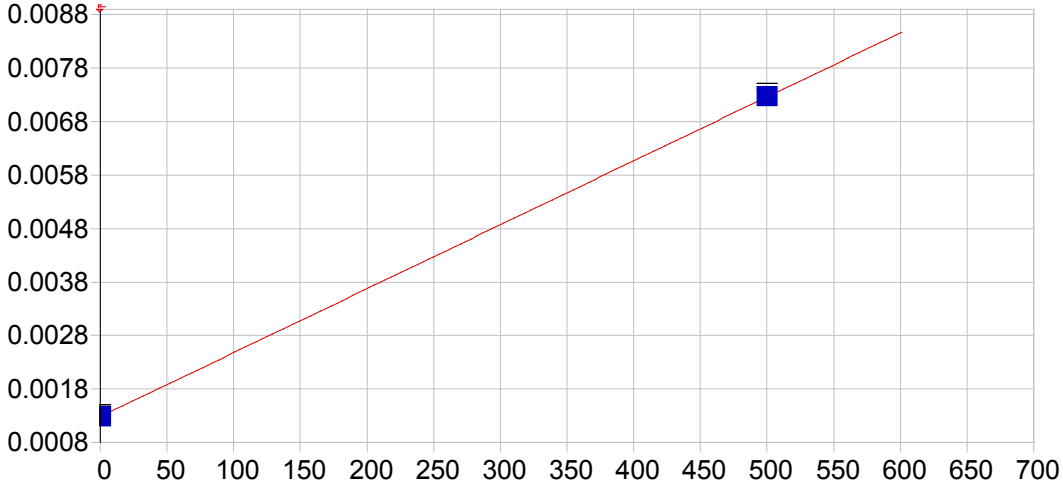
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	31883.	159.	1



Y 360.073 { 94}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	228490.	2500.	1

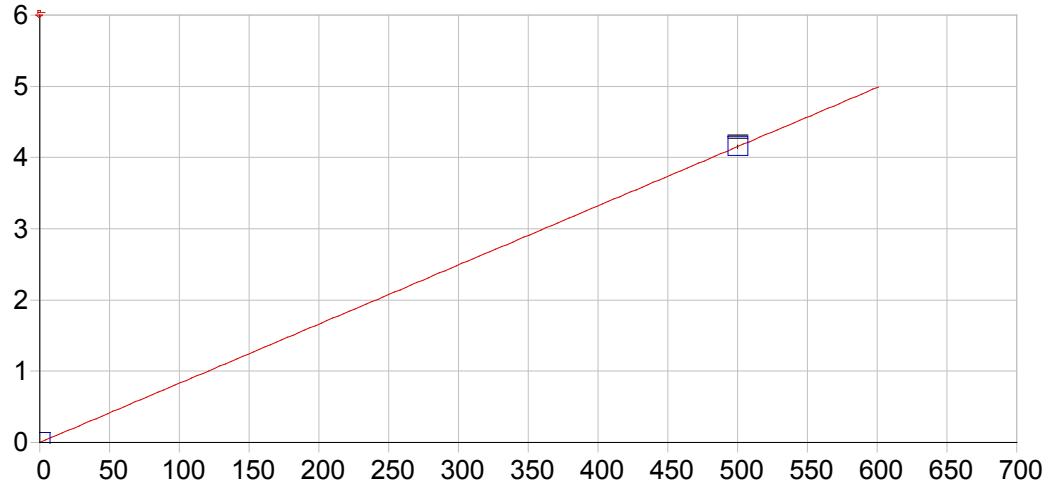


Al 308.215 {109}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.001283	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00128	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00726	.000	1

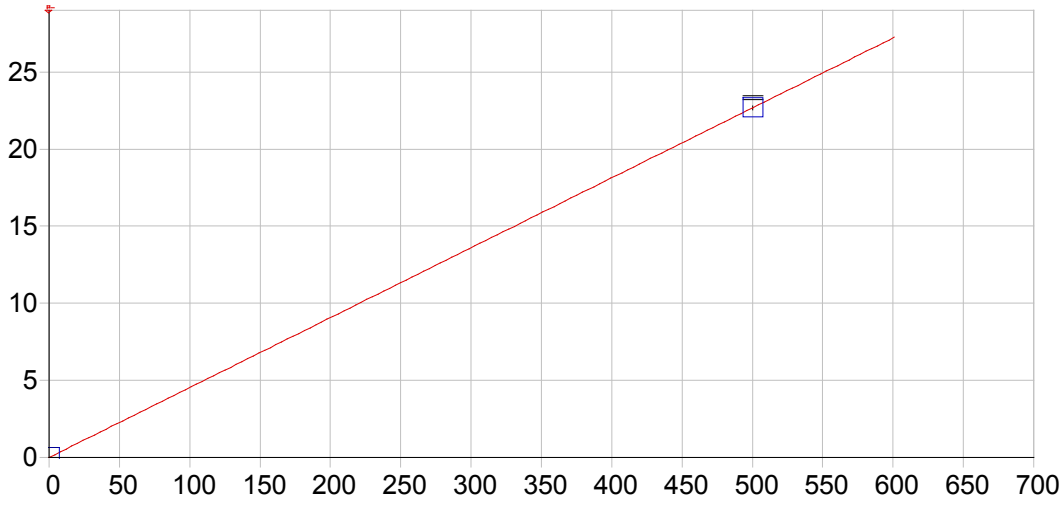


Al 396.152 { 85}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000259	Re-Slope:	1.000000
A1 (Gain):	0.008305	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.010491		
Predicted MQL:	0.034972		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00026	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.1525	.021	1

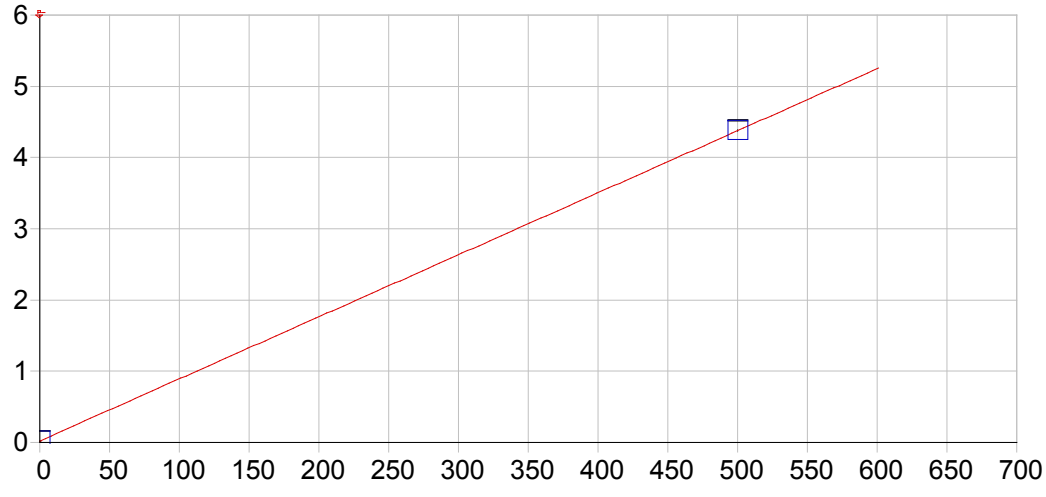


Mg 285.213 {118}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000071	Re-Slope:	1.000000
A1 (Gain):	0.045338	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.001123		
Predicted MQL:	0.003744		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00007	.000	1
CalibStd-500	500.00	500.00	.000	.000	22.669	.131	1

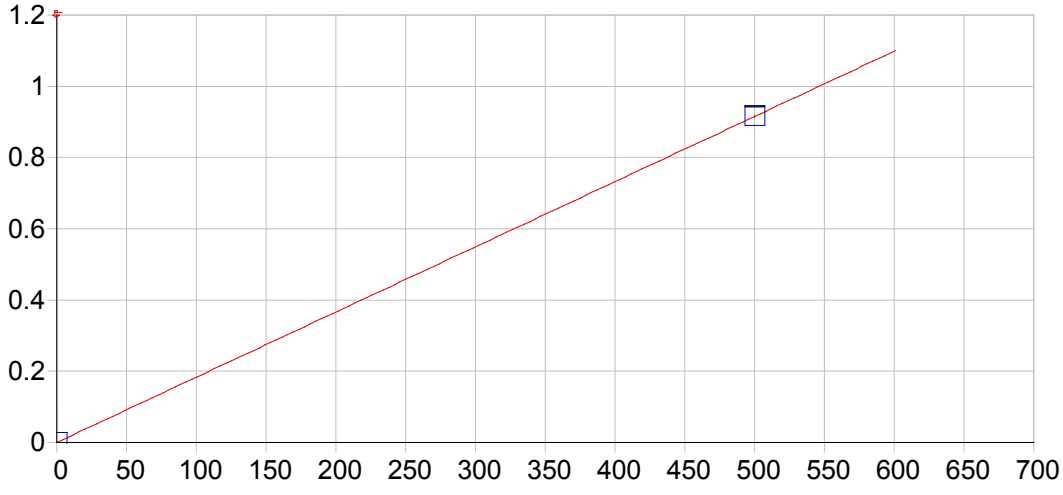


Ca 317.933 {106}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.022204	Re-Slope:	1.000000
A1 (Gain):	0.008708	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.006100		
Predicted MQL:	0.020332		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.02220	.000	1
CalibStd-500	500.00	500.00	.000	.000	4.3764	.008	1



Fe 234.349 {144}

Date of Fit:	05/08/2020 12:57:54	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000187	Re-Slope:	1.000000
A1 (Gain):	0.001830	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.010661		
Predicted MQL:	0.035536		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00019	.000	1
CalibStd-500	500.00	500.00	.000	.000	.91536	.001	1

Sample Name: Blank Acquired: 05/07/2020 11:52:13 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.003**	**.000**	**.000**	**.022**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	9.63	56.7	10.1	33.0	61.3	.386	4.58

Int. Std.	Y_3203
Units	Cts/S
Avg	**31883.**
Stddev	159.
%RSD	.49981

Sample Name: CalibStd-0.5 Acquired: 05/07/2020 11:55:12 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.003**	**.023**
Stddev	.000	.001
%RSD	5.74	3.88

Int. Std.	Y_3203
Units	Cts/S
Avg	**32023.**
Stddev	507.
%RSD	1.5834

Sample Name: CalibStd-1.0 Acquired: 05/07/2020 11:58:02 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.006**	**.045**
Stddev	.000	.000
%RSD	1.74	.723

Int. Std.	Y_3203
Units	Cts/S
Avg	**31619.**
Stddev	102.
%RSD	.32327

Sample Name: CalibStd-5.0 Acquired: 05/07/2020 12:00:52 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.222
Stddev	.001
%RSD	.502

Int. Std.	Y_3203
Units	Cts/S
Avg	31526.
Stddev	113.
%RSD	.35828

Sample Name: CalibStd-10.0 Acquired: 05/07/2020 12:03:39 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.051**	**.001**	**.442**
Stddev	.000	.000	.003
%RSD	.633	5.61	.787

Int. Std.	Y_3203
Units	Cts/S
Avg	**31423.**
Stddev	79.
%RSD	.25092

Sample Name: CalibStd-50 Acquired: 05/07/2020 12:06:26 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**2.22**
Stddev	.01
%RSD	.578

Int. Std.	Y_3203
Units	Cts/S
Avg	**31314.**
Stddev	69.
%RSD	.22030

Sample Name: CalibStd-100 Acquired: 05/07/2020 12:09:13 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.514**	**.010**	**4.52**
Stddev	.002	.000	.02
%RSD	.451	1.17	.445

Int. Std.	Y_3203
Units	Cts/S
Avg	**31086.**
Stddev	37.
%RSD	.11917

Sample Name: CalibStd-200 Acquired: 05/07/2020 12:12:00 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**1.00**	**.020**	**8.75**
Stddev	.00	.000	.10
%RSD	.352	.490	1.18

Int. Std.	Y_3203
Units	Cts/S
Avg	**30901.**
Stddev	68.
%RSD	.21953

Sample Name: CalibStd-500 Acquired: 05/07/2020 12:14:54 Type: Cal
Method: Sodium and Potassium 1(v1249) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**4.15**	**22.7**	**4.38**	**.915**
Stddev	.02	.1	.01	.001
%RSD	.496	.577	.188	.129

Int. Std.	Y_3203
Units	Cts/S
Avg	**29490.**
Stddev	69.
%RSD	.23541

Sample Name: icv Acquired: 05/07/2020 12:18:02 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**97.6**	**99.5**	**-.003**	**.031**	**-.055**	**.066**
Stddev	.3	.4	.006	.002	.041	.030
%RSD	.309	.391	239.	6.84	73.6	45.7
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31228.**
Stddev	23.
%RSD	.07453

Sample Name: ICVLL Acquired: 05/07/2020 12:20:48 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.10**	**3.07**	**-.036**	**.005**	**-.079**	**-.040**
Stddev	.04	.03	.013	.001	.023	.006
%RSD	1.33	.933	36.4	19.8	29.0	15.8
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31574.**
Stddev	87.
%RSD	.27573

Sample Name: icb Acquired: 05/07/2020 12:23:35 Type: QC

Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000

User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1

Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.079**	**.029**	**-.027**	**.005**	**-.065**	**-.029**
Stddev	.024	.002	.003	.001	.033	.004
%RSD	30.6	6.22	10.8	17.5	50.1	13.0
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31670.**
Stddev	72.
%RSD	.22644

Sample Name: mrl Acquired: 05/07/2020 12:26:25 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.04**	**.981**	**-.035**	**-.000**	**-.115**	**-.061**
Stddev	.02	.011	.006	.001	.014	.006
%RSD	1.92	1.08	16.3	224.	11.9	9.24
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31732.**
Stddev	51.
%RSD	.16118

Sample Name: icsa Acquired: 05/07/2020 12:29:14 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**-.000**	**-.009**	**492.**	**493.**	**488.**	**483.**
Stddev	.015	.004	3.	3.	3.	3.
%RSD	3840.	39.1	.682	.657	.668	.707
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**29133.**
Stddev	88.
%RSD	.30141

Sample Name: icsab Acquired: 05/07/2020 12:32:24 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**104.**	**504.**	**503.**	**499.**	**511.**
Stddev	1.	2.	2.	3.	3.	3.
%RSD	.719	1.72	.437	.655	.587	.490
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**29502.**
Stddev	84.
%RSD	.28573

Sample Name: lcsw76290 Acquired: 05/07/2020 12:57:23 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**100.**	**.947**	**110.**	**202.**	**.382**
Stddev	.	1.	.018	1.	.	.012
%RSD	.248	1.24	1.90	.465	.176	3.02

Int. Std.	Y_3203
Units	Cts/S
Avg	**30327.**
Stddev	36.
%RSD	.11832

Sample Name: mbw76290 Acquired: 05/07/2020 13:00:10 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.080**	**.017**	**-.042**	**-.000**	**-.122**	**-.068**
Stddev	.016	.003	.003	.001	.016	.011
%RSD	20.4	19.0	8.00	500.	12.7	16.1

Int. Std.	Y_3203
Units	Cts/S
Avg	**31729.**
Stddev	90.
%RSD	.28474

Sample Name: ccv Acquired: 05/07/2020 13:03:02 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**102.**	**-.038**	**.004**	**-.135**	**-.054**
Stddev	1.	1.	.012	.001	.009	.005
%RSD	.680	1.33	31.3	15.3	6.65	9.98
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31215.**
Stddev	101.
%RSD	.32221

Sample Name: ccb Acquired: 05/07/2020 13:05:48 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.118**	**.048**	**-.038**	**.000**	**-.157**	**-.061**
Stddev	.007	.005	.010	.000	.033	.002
%RSD	6.28	10.4	27.5	64.7	20.9	3.40
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31637.**
Stddev	50.
%RSD	.15659

Sample Name: 413975 Acquired: 05/07/2020 13:08:40 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.97**	**14.4**	**5.90**	**60.8**	**105.**	**10.4**
Stddev	.02	.2	.05	.4	.	.0
%RSD	.557	1.35	.796	.732	.369	.371

Int. Std.	Y_3203
Units	Cts/S
Avg	**30968.**
Stddev	212.
%RSD	.68434

Sample Name: I413975 Acquired: 05/07/2020 13:11:26 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.797**	**2.88**	**1.17**	**12.4**	**21.5**	**2.09**
Stddev	.021	.01	.01	.0	.1	.02
%RSD	2.59	.184	.803	.122	.360	.958

Int. Std.	Y_3203
Units	Cts/S
Avg	**31649.**
Stddev	32.
%RSD	.10223

Sample Name: dup413975 Acquired: 05/07/2020 13:14:15 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.99**	**14.5**	**5.86**	**60.5**	**105.**	**10.2**
Stddev	.03	.0	.02	.2	.	.0
%RSD	.679	.230	.276	.342	.255	.381

Int. Std.	Y_3203
Units	Cts/S
Avg	**30941.**
Stddev	47.
%RSD	.15331

Sample Name: msw413975 Acquired: 05/07/2020 13:17:00 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**106.**	**113.**	**8.45**	**167.**	**299.**	**9.71**
Stddev	1.	1.	.06	1.	2.	.04
%RSD	.863	1.06	.660	.607	.647	.437

Int. Std.	Y_3203
Units	Cts/S
Avg	**29969.**
Stddev	110.
%RSD	.36707

Sample Name: msdw413975 Acquired: 05/07/2020 13:19:43 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**99.7**	**106.**	**7.43**	**149.**	**269.**	**8.48**
Stddev	.6	.	.03	1.	1.	.02
%RSD	.596	.420	.337	.443	.312	.282

Int. Std.	Y_3203
Units	Cts/S
Avg	**30133.**
Stddev	110.
%RSD	.36665

Sample Name: pdsw413975 Acquired: 05/07/2020 13:22:27 Type: Unk
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**95.2**	**120.**	**5.78**	**59.7**	**103.**	**10.1**
Stddev	2.8	.	.01	.1	.	.0
%RSD	2.96	.138	.266	.209	.216	.168

Int. Std.	Y_3203
Units	Cts/S
Avg	**30710.**
Stddev	65.
%RSD	.21040

Sample Name: ccv Acquired: 05/07/2020 13:36:30 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**102.**	**102.**	**-.036**	**.004**	**-.097**	**-.042**
Stddev	.	1.	.009	.001	.027	.014
%RSD	.058	1.34	24.5	22.8	27.6	33.6
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31025.**
Stddev	67.
%RSD	.21587

Sample Name: ccb Acquired: 05/07/2020 13:39:17 Type: QC
Method: Sodium and Potassium 1(v1249) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.144**	**.080**	**-.036**	**.000**	**-.120**	**-.065**
Stddev	.021	.011	.006	.001	.016	.009
%RSD	14.5	14.2	15.6	580.	13.5	13.2
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**31362.**
Stddev	60.
%RSD	.18974

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	05/13/2020 12:05:58	05/06/2020 09:15:39	Linear	1/Var	3.848436	3.933632	0.000000	1.000000	0.998626	9.489005	0.858108	2.860362
Ag 338.289 {100}	05/13/2020 12:05:58	05/06/2020 10:02:39	Linear	1/Conc	0.000011	0.000001	0.000000	1.000000	0.999513	0.000000	6.956579	23.188596
Al 167.079 {501}	05/13/2020 12:05:58	05/06/2020 09:21:19	Linear	None	0.000015	0.000003	0.000000	1.000000	0.999964	0.000014	0.801619	2.672063
Al 308.215 {109}	05/13/2020 12:05:58	05/06/2020 09:41:04	Linear	1/Conc	0.000045	0.000000	0.000000	1.000000	0.999943	0.000002	19.704917	65.683057
Al 396.152 { 85}	05/13/2020 12:05:58	05/06/2020 09:56:01	Linear	1/Conc	-0.000037	0.000002	0.000000	1.000000	0.999760	0.000066	6.198982	20.663272
As 193.759 {474}	05/13/2020 12:05:58	05/06/2020 09:21:19	Linear	1/Var	0.000001	0.000001	0.000000	1.000000	0.999993	0.000001	4.099974	13.666579
As 197.262 {471}	05/13/2020 12:05:58	05/06/2020 09:27:57	Linear	None	0.000002	0.000001	0.000000	1.000000	0.999997	0.000006	6.973852	23.246175
Ba 233.527 {445}	05/13/2020 12:05:58	05/06/2020 09:21:19	Linear	1/Conc	-0.000000	0.000001	0.000000	1.000000	0.998914	0.000000	0.443468	1.478227
Ba 455.403 { 74}	05/13/2020 12:05:58	05/06/2020 09:27:57	Linear	1/Conc	0.000089	0.000042	0.000000	1.000000	0.999841	0.000003	0.224036	0.746785
Ba 493.409 { 68}	05/13/2020 12:05:58	05/06/2020 10:02:39	Linear	None	0.009052	0.000037	0.000000	1.000000	1.000000	0.000343	0.728387	2.427957
Be 313.042 {108}	05/13/2020 12:05:58	05/06/2020 09:21:20	Linear	1/Conc	-153.12014	117.16110	0.000000	1.000000	0.999293	3.893152	0.034457	0.114857
Be 234.861 {144}	05/13/2020 12:05:58	05/06/2020 09:21:20	Linear	1/Conc	0.000001	0.000006	0.000000	1.000000	0.999993	0.000000	0.285406	0.951352
Ca 315.887 {107}	05/13/2020 12:05:58	05/06/2020 09:56:01	Curvili	1/Var	0.000055	0.000000	0.000000	1.000000	0.999976	0.000005	7.188284	23.960947
Ca 317.933 {106}	05/13/2020 12:05:58	05/06/2020 09:56:02	Linear	1/Var	0.001102	0.000001	0.000000	1.000000	0.999918	0.000044	3.183062	10.610205
Ca 393.366 { 86}	05/13/2020 12:05:58	05/06/2020 09:21:21	Linear	1/Var	0.000589	0.000204	0.000000	1.000000	0.999999	0.000036	0.040653	0.135509
Ca 396.847 { 85}	05/13/2020 12:05:58	05/06/2020 09:27:58	Linear	1/Conc	0.000256	0.000099	0.000000	1.000000	0.999999	0.000006	0.083493	0.278309
Cd 226.502 {449}	05/13/2020 12:05:58	05/06/2020 09:21:21	Linear	1/Conc	-0.285764	4.450143	0.000000	1.000000	0.999294	0.147850	0.228455	0.761517
Cd 228.802 {447}	05/13/2020 12:05:58	05/06/2020 09:21:21	Linear	None	0.000011	0.000024	0.000000	1.000000	0.999990	0.000042	0.296862	0.989538
Co 228.616 {447}	05/13/2020 12:05:58	05/06/2020 09:27:58	Linear	1/Conc	0.000009	0.000023	0.000000	1.000000	0.999447	0.000001	0.283152	0.943841
Co 238.892 {141}	05/13/2020 12:05:58	05/06/2020 09:27:58	Linear	1/Conc	0.000002	0.000002	0.000000	1.000000	0.999924	0.000001	0.713936	2.379788
Cr 205.560 {464}	05/13/2020 12:05:58	05/06/2020 09:34:46	Curvili	1/Conc	-0.000004	0.000014	-0.000000	1.000000	0.999984	0.000001	0.328390	1.094633
Cr 267.716 {126}	05/13/2020 12:05:58	05/06/2020 09:27:59	Linear	1/Conc	0.000001	0.000022	0.000000	1.000000	0.999841	0.000003	0.764073	2.546911
Cu 223.008 {451}	05/13/2020 12:05:58	05/06/2020 09:21:22	Linear	1/Conc	0.000001	0.000006	0.000000	1.000000	0.998051	0.000002	1.050170	3.500568
Cu 224.700 {450}	05/13/2020 12:05:58	05/06/2020 09:34:47	Linear	None	-0.000770	0.000008	0.000000	1.000000	0.999993	0.001245	0.376058	1.253527
Cu 324.754 {104}	05/13/2020 12:05:58	05/06/2020 09:34:47	Linear	1/Conc	0.000268	0.000003	0.000000	1.000000	0.999908	0.000001	2.191391	7.304638
Cu 327.396 {103}	05/13/2020 12:05:58	05/06/2020 09:27:59	Linear	1/Conc	0.000041	0.000002	0.000000	1.000000	0.999572	0.000000	4.996209	16.654029
Fe 234.349 {144}	05/13/2020 12:05:58	05/06/2020 09:41:05	Linear	1/Var	0.000029	0.000001	0.000000	1.000000	0.999498	0.000010	1.462761	4.875870
Fe 239.562 {140}	05/13/2020 12:05:58	05/06/2020 09:56:02	Linear	1/Var	0.000004	0.000001	0.000000	1.000000	0.999569	0.000019	3.249606	10.832019
Fe 259.940 {129}	05/13/2020 12:05:58	05/06/2020 09:48:15	Curvili	1/Var	-0.000001	0.000001	0.000000	1.000000	0.999973	0.000008	2.676144	8.920479
Mg 202.582 {466}	05/13/2020 12:05:58	05/06/2020 09:56:02	Curvili	1/Var	-0.000000	0.000000	0.000000	1.000000	0.999726	0.000009	2.821261	9.404203
Mg 279.079 {121}	05/13/2020 12:05:58	05/06/2020 09:56:02	Full Fit	1/Var	-0.000003	0.000000	0.000000	1.000000	0.999961	0.000005	23.386822	77.956075
Mg 280.270 {120}	05/13/2020 12:05:58	05/06/2020 09:28:00	Curvili	1/Conc	311.90625	53.735962	-0.000692	1.000000	0.999997	7.358334	0.032891	0.109638
Mn 257.610 {131}	05/13/2020 12:05:58	05/06/2020 09:28:00	Linear	1/Conc	-0.000001	0.000011	0.000000	1.000000	0.998878	0.000001	0.090459	0.301529
Mn 259.373 {130}	05/13/2020 12:05:58	05/06/2020 09:34:47	Linear	1/Conc	-0.000000	0.000006	0.000000	1.000000	0.999995	0.000009	0.527667	1.758891
Mo 202.030 {466}	05/13/2020 12:05:58	05/06/2020 09:21:24	Linear	1/Conc	0.000000	0.000008	0.000000	1.000000	0.999158	0.000001	0.512162	1.707206
Mo 203.844 {465}	05/13/2020 12:05:58	05/06/2020 09:21:24	Linear	1/Var	0.000007	0.000005	0.000000	1.000000	0.999895	0.000010	0.973300	3.244335
Mo 204.598 {464}	05/13/2020 12:05:58	05/06/2020 09:28:01	Linear	1/Conc	-0.000007	0.000005	0.000000	1.000000	0.999819	0.000001	0.896414	2.988047
Ni 221.647 {452}	05/13/2020 12:05:58	05/06/2020 09:28:01	Linear	1/Conc	-0.000003	0.000014	0.000000	1.000000	0.999884	0.000010	0.534875	1.782916
Ni 231.604 {445}	05/13/2020 12:05:58	05/06/2020 09:28:01	Linear	1/Conc	-0.000015	0.000015	0.000000	1.000000	0.999286	0.000001	0.494597	1.648658
Pb 216.999 {455}	05/13/2020 12:05:58	05/06/2020 09:34:47	Linear	1/Conc	0.000008	0.000001	0.000000	1.000000	0.999940	0.000001	4.629717	15.432389
Pb 216.999 {456}	05/13/2020 12:05:58	05/06/2020 09:34:47	Linear	1/Conc	-0.000000	0.000000	0.000000	1.000000	0.999872	0.000000	24.024851	80.082837
Pb 220.353 {453}	05/13/2020 12:05:58	05/06/2020 09:21:25	Linear	None	0.000026	0.000003	0.000000	1.000000	0.999989	0.000006	2.697840	8.992802
Pb 220.353 {153}	05/13/2020 12:05:58	05/06/2020 09:34:48	Linear	1/Conc	-0.000001	0.000000	0.000000	1.000000	0.999938	0.000000	5.018325	16.727749
Sb 206.833 {463}	05/13/2020 12:05:58	05/06/2020 09:28:02	Curvili	1/Conc	-0.000005	0.000002	-0.000000	1.000000	0.999936	0.000000	2.448869	8.162898

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Ag 338.289 {100}	OK.	1.000000	0.000000	1	0
	Al 167.079 {501}	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 197.262 {471}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 223.008 {451}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 203.844 {465}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {456}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Sb 217.581 {455}	05/13/2020 12:05:58	05/06/2020 09:28:02	Linear	1/Conc	0.000001	0.000002	0.000000	1.000000	0.999806	0.000000	2.670342	8.901139
	Se 196.090 {472}	05/13/2020 12:05:58	05/06/2020 09:21:26	Linear	None	0.000002	0.000001	0.000000	1.000000	0.999977	0.000003	4.533805	15.112682
	Se 203.985 {465}	05/13/2020 12:05:58	05/06/2020 09:21:26	Linear	1/Var	-0.000004	0.000001	0.000000	1.000000	0.999678	0.000004	12.763658	42.545525
	Se 206.279 {463}	05/13/2020 12:05:58	05/06/2020 09:28:02	Linear	1/Conc	-0.000002	0.000000	0.000000	1.000000	0.999911	0.000000	34.868188	116.22729
	Tl 190.856 {476}	05/13/2020 12:05:58	05/06/2020 09:21:27	Linear	1/Conc	0.000006	0.000002	0.000000	1.000000	0.999641	0.000000	2.887726	9.625753
	Tl 190.856 {477}	05/13/2020 12:05:58	05/06/2020 09:28:02	Linear	1/Var	0.000004	0.000001	0.000000	1.000000	0.999704	0.000016	4.339328	14.464426
	V 290.882 {116}	05/13/2020 12:05:58	05/06/2020 09:28:03	Linear	1/Conc	0.000016	0.000001	0.000000	1.000000	0.999986	0.000000	3.551985	11.839952
	V 292.402 {115}	05/13/2020 12:05:58	05/06/2020 09:28:03	Linear	1/Conc	-0.000006	0.000006	0.000000	1.000000	0.999875	0.000001	0.576100	1.920333
	Zn 206.200 {463}	05/13/2020 12:05:58	05/06/2020 09:34:48	Curvili	1/Conc	0.000012	0.000017	-0.000000	1.000000	0.999973	0.000005	0.305481	1.018272
	Zn 213.856 {457}	05/13/2020 12:05:58	05/06/2020 09:21:28	Linear	None	0.000067	0.000028	0.000000	1.000000	0.999986	0.000088	0.176161	0.587203
	Y 224.306 {450}*	05/13/2020 12:05:58	05/06/2020 08:31:00	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 324.228 {104}*	05/13/2020 12:05:58	05/06/2020 08:31:00	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	05/13/2020 12:05:58	05/06/2020 08:31:01	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	05/13/2020 12:05:58	05/06/2020 09:41:06	Linear	None	0.003637	0.000004	0.000000	1.000000	0.999999	0.000296	7.007187	23.357289
	Na 589.592 { 57}	05/13/2020 12:05:58	05/06/2020 09:56:02	Linear	1/Conc	0.000049	0.000002	0.000000	1.000000	0.999980	0.000021	7.643658	25.478858
	Si 251.611 {134}	05/13/2020 12:05:58	05/06/2020 09:41:06	Linear	1/Conc	2.474657	0.230664	0.000000	1.000000	0.999990	0.498125	5.912642	19.708806
	Ti 323.452 {104}	05/13/2020 12:05:58	05/06/2020 09:28:04	Linear	1/Conc	0.000179	0.000006	0.000000	1.000000	0.999934	0.000001	1.187596	3.958652
	Ti 334.941 {101}	05/13/2020 12:05:58	05/06/2020 09:28:04	Linear	1/Conc	-0.000000	0.000005	0.000000	1.000000	0.999927	0.000001	1.036467	3.454891
	Sr 407.771 { 83}	05/13/2020 12:05:58	05/06/2020 09:28:04	Linear	1/Conc	0.000013	0.000078	0.000000	1.000000	0.999898	0.000004	0.139657	0.465524
	Sr 421.552 { 80}	05/13/2020 12:05:58	05/06/2020 09:28:04	Linear	1/Conc	-0.000002	0.000085	0.000000	1.000000	0.999929	0.000004	0.112766	0.375887
	Sn 189.989 {477}	05/13/2020 12:05:58	05/06/2020 09:28:05	Linear	1/Conc	0.000003	0.000003	0.000000	1.000000	0.999788	0.000001	1.321371	4.404569
	B 249.678 {135}	05/13/2020 12:05:58	05/06/2020 09:28:05	Linear	None	0.000012	0.000002	0.000000	1.000000	0.999998	0.000019	0.956993	3.189978
	B 249.773 {135}	05/13/2020 12:05:58	05/06/2020 09:28:05	Linear	1/Var	0.000004	0.000003	0.000000	1.000000	0.999485	0.000006	0.604744	2.015812
	Li 670.784 { 50}	05/13/2020 12:05:58	05/06/2020 09:28:05	Linear	1/Conc	-0.000051	0.000028	0.000000	1.000000	0.999851	0.000007	0.815527	2.718423
	K 766.490 { 44}	05/13/2020 12:05:58	05/06/2020 09:56:03	Linear	1/Conc	-0.000062	0.000001	0.000000	1.000000	0.999739	0.000022	29.459624	98.198746
	K 769.896 { 44}	05/13/2020 12:05:58	05/06/2020 09:56:03	Linear	1/Conc	0.000040	0.000000	0.000000	1.000000	0.999523	0.000013	48.780089	162.60029
	P 213.618 {457}	05/13/2020 12:05:58	05/06/2020 09:56:03	Linear	1/Conc	-0.000010	0.000001	0.000000	1.000000	0.999438	0.000048	4.937433	16.458111
	S 182.034 {485}	05/13/2020 12:05:58	05/06/2020 09:56:03	Linear	1/Conc	0.000006	0.000000	0.000000	1.000000	0.999575	0.000014	9.077314	30.257714
	Hg 184.950 {482}	05/13/2020 12:05:58	05/06/2020 09:21:31	Linear	1/Conc	0.000002	0.000000	0.000000	1.000000	0.999986	0.000000	1.440724	4.802414
	Ce 404.076 { 83}	05/13/2020 12:05:58	05/06/2020 09:21:31	Linear	1/Conc	0.000016	0.000000	0.000000	1.000000	1.000000	0.000000	19.723876	65.746253

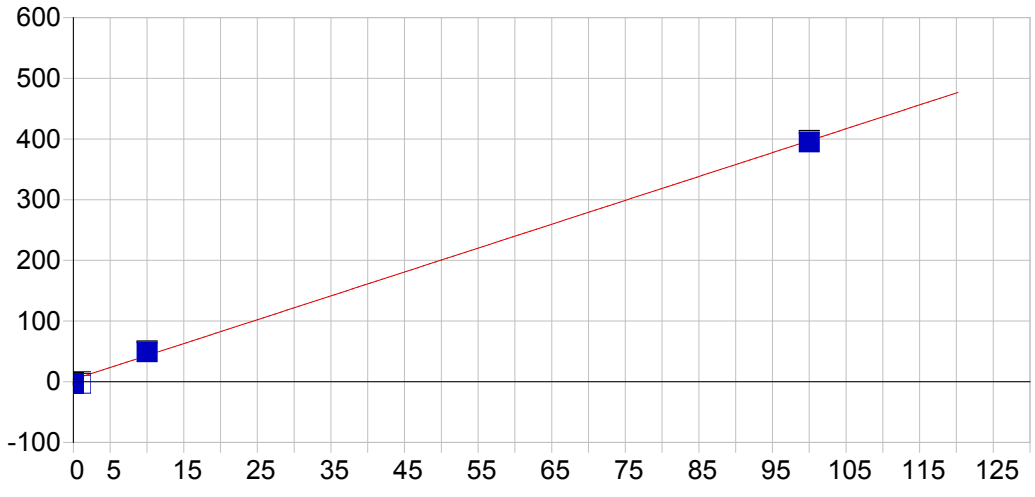
	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 203.985 {465}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {457}	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	Warnin	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 323.452 {104}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sr 421.552 { 80}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	4	Fe	-0.000168	0.000000	No
			Ce	0.000272	0.000000	No
			Mn	0.000066	0.000000	No
			V	0.000053	0.000000	No
Ag 338.289 {100}	☒	3	Fe	0.000196	0.000000	No
			Ti	0.002000	0.000000	No
			Ce	-0.000298	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	4	Al	0.000941	0.000000	No
			Mn	-0.000003	0.000000	No
			Ni	-0.000722	0.000000	No
			Cr	0.000734	0.000000	No
As 197.262 {471}	☒	1	Al	0.000112	0.000000	No
Ba 233.527 {445}	☒	1	Fe	0.000028	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000009	0.000000	No
Be 313.042 {108}	☒	2	Fe	0.000004	0.000000	No
			Ni	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000013	0.000000	No
Ca 315.887 {107}	☒	1	Fe	0.000000	0.000000	No
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	1	Fe	0.000179	0.000000	No
Cd 228.802 {447}	☒	1	Fe	-0.000005	0.000000	No
Co 228.616 {447}	☒	3	Fe	-0.000006	0.000000	No
			Ba	-0.001175	0.000000	No
			Ti	0.001700	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000226	0.000000	No
Cr 205.560 {464}	☒	1	Fe	0.000000	0.000000	No
Cr 267.716 {126}	☒	4	Fe	0.000005	0.000000	No
			Mn	0.000157	0.000000	No
			Ti	0.000100	0.000000	No
			V	-0.000002	0.000000	No
Cu 223.008 {451}	☒	2	Fe	-0.000048	0.000000	No
			Mo	0.010000	0.000000	No
Cu 224.700 {450}	☒	2	Fe	0.003134	0.000000	No
			Ni	-0.007040	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000081	0.000000	No
Cu 327.396 {103}	☒	2	Fe	-0.000012	0.000000	No
			Mo	-0.000319	0.000000	No
Fe 234.349 {144}	☒	None				

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	0.000004	0.000000	No
Mn 259.373 {130}	☒	1	Mg	0.001477	0.000000	No
Mo 202.030 {466}	☒	3	Fe	-0.000016	0.000000	No
			Ti	0.001417	0.000000	No
			V	-0.000077	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000019	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000044	0.000000	No
Ni 221.647 {452}	☒	2	Ca	-0.000003	0.000000	No
			Mg	-0.000003	0.000000	No
Ni 231.604 {445}	☒	6	Fe	-0.000054	0.000000	No
			Co	-0.000134	0.000000	No
			Mo	0.000840	0.000000	No
			Al	0.000003	0.000000	No
			Mn	0.000019	0.000000	No
			Be	-0.000294	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.001289	0.000000	No
			Na	0.000000	0.000000	No
Pb 216.999 {456}	☒	1	Al	0.001093	0.000000	No
Pb 220.353 {453}	☒	7	Si	0.000000	0.000000	No
			Al	0.000051	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	-0.001644	0.000000	No
			V	-0.000018	0.000000	No
			Cu	0.000367	0.000000	No
			Mn	0.000094	0.000000	No
Pb 220.353 {153}	☒	1	Fe	-0.000002	0.000000	No
Sb 206.833 {463}	☒	2	Fe	-0.000097	0.000000	No
			Cr	0.000000	0.000000	No
Sb 217.581 {455}	☒	2	Fe	-0.000019	0.000000	No
			Ni	0.000133	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000193	0.000000	No
Se 203.985 {465}	☒	1	Fe	-0.000160	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.000965	0.000000	No
Tl 190.856 {476}	☒	7	Fe	-0.000073	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000000	0.000000	No
			Mn	0.000000	0.000000	No
			Ni	0.000000	0.000000	No
			Co	0.002495	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cr	0.000220	0.000000	No
Tl 190.856 {477}	☒	2	Fe	-0.000350	0.000000	No
			Cr	0.000000	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000207	0.000000	No
V 292.402 {115}	☒	5	Fe	0.000045	0.000000	No
			Cr	-0.000051	0.000000	No
			Al	0.000000	0.000000	No
			Ti	0.000420	0.000000	No
			Mo	-0.000481	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000024	0.000000	No
Zn 213.856 {457}	☒	9	Fe	0.000178	0.000000	No
			Cu	0.001765	0.000000	No
			Al	0.000000	0.000000	No
			Mn	0.000094	0.000000	No
			Ni	0.004500	0.000000	No
			Ti	-0.000307	0.000000	No
			Mg	0.000026	0.000000	No
			Mo	0.000034	0.000000	No
			Ca	0.000000	0.000000	No
Y 224.306 {450}*	☒	None				
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000324	0.000000	No
Si 251.611 {134}	☒	4	Fe	-0.000024	0.000000	No
			Mo	0.042672	0.000000	No
			Ti	0.028118	0.000000	No
			Sn	0.019943	0.000000	No
Ti 323.452 {104}	☒	6	Fe	-0.000028	0.000000	No
			Ce	-0.000795	0.000000	No
			Mn	0.000074	0.000000	No
			Ni	0.000273	0.000000	No
			Cr	0.000009	0.000000	No
			V	0.000477	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000017	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000015	0.000000	No
Sr 421.552 { 80}	☒	1	Ca	0.000013	0.000000	No
Sn 189.989 {477}	☒	1	Fe	0.000034	0.000000	No
B 249.678 {135}	☒	1	Fe	-0.000005	0.000000	No
B 249.773 {135}	☒	1	Fe	0.001143	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000016	0.000000	No
K 766.490 { 44}	☒	1	Fe	-0.000191	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000201	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000011	0.000000	No

	Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
	S 182.034 {485}	☒	2	Mn	0.002145	0.000000	No
				Fe	0.001405	0.000000	No
	Hg 184.950 {482}	☒	1	Fe	0.000009	0.000000	No
	Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

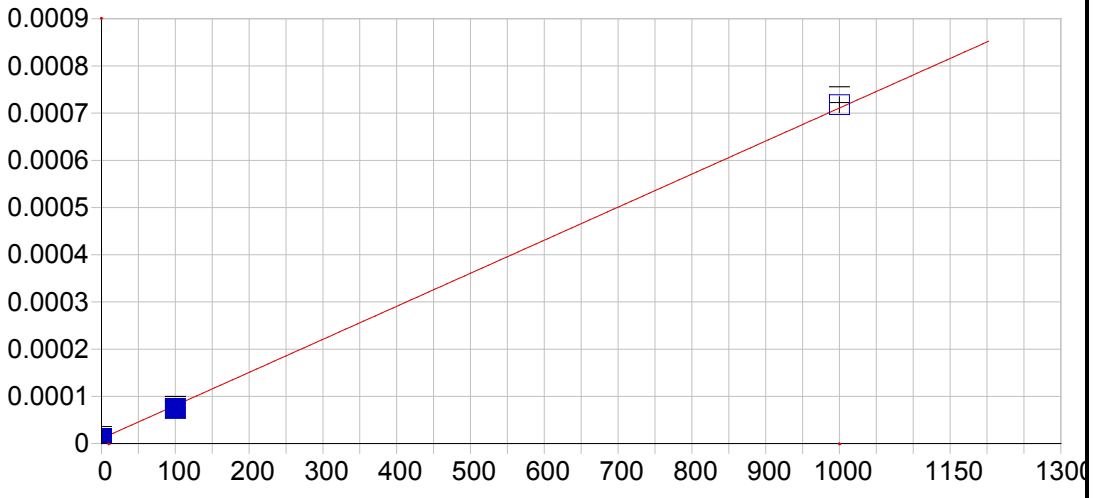


Ag 328.068 {103}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	3.848436	Re-Slope:	1.000000
A1 (Gain):	3.933632	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998626	Status:	OK.
Std Error of Est:	9.489005		
Predicted MDL:	0.858108		
Predicted MQL:	2.860362		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.9228	-1.92	.000	-3.7150	2.05	1
CalStd5=10	10.000	11.509	1.51	15.1	49.125	1.29	1
CalStd8=100	100.00	99.436	-.564	-.564	395.04	2.54	1
CalStd3=1	1.0000	-1.7054	-2.71	-271.	-2.8600	2.72	1

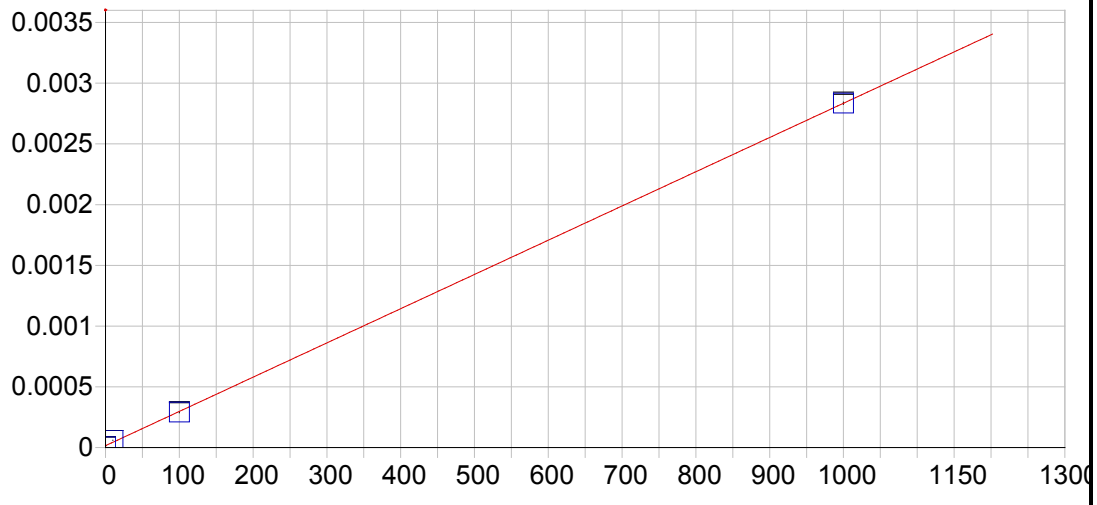


Ag 338.289 {100}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999513	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	6.956579		
Predicted MQL:	23.188596		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00888	.009	.000	.00001	.000	1
CalStd8=100	100.00	90.132	-9.87	-9.87	.00007	.000	1
Ag Ba 1000,	1000.0	1009.9	9.89	.989	.00072	.000	1

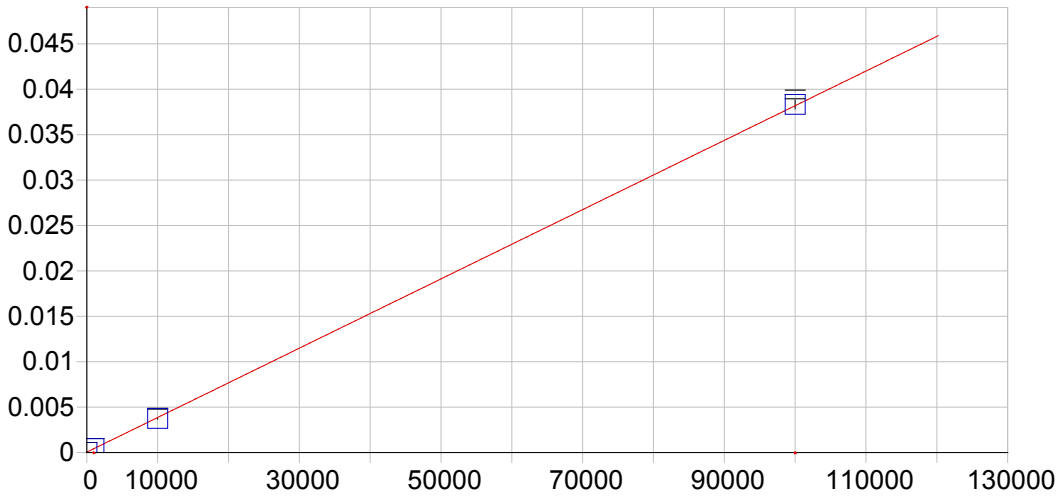


Al 167.079 {501}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999964	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	0.801619		
Predicted MQL:	2.672063		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.4910	-3.49	.000	.00001	.000	1
CalStd9=100	1000.0	1000.2	.183	.018	.00284	.000	1
CalStd5=10	10.000	15.714	5.71	57.1	.00006	.000	1
CalStd8=100	100.00	97.594	-2.41	-2.41	.00029	.000	1

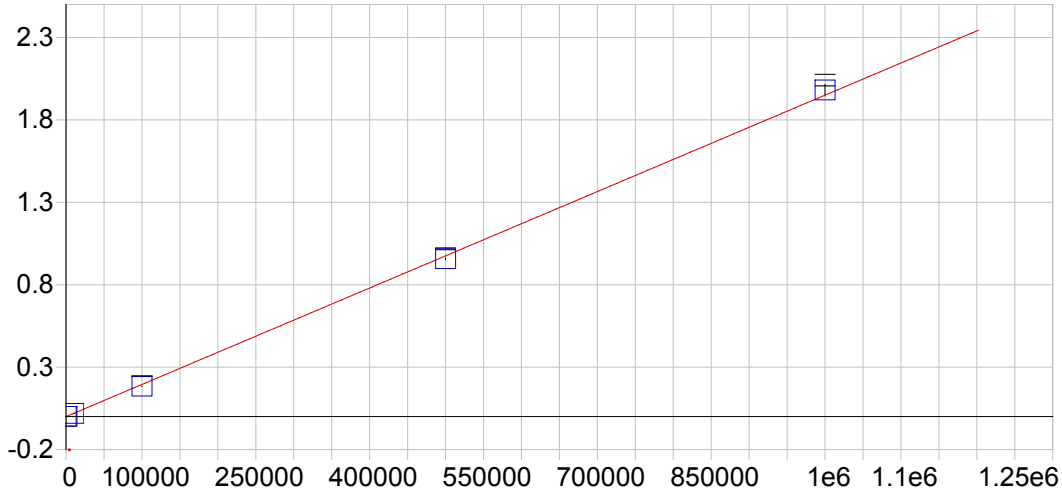


Al 308.215 {109}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000045	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999943	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	19.704917		
Predicted MQL:	65.683057		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.03015	.030	.000	.00004	.000	1
CalStd10=10	10000.	9660.0	-340.	-3.40	.00373	.000	1
CalStd9=100	1000.0	1000.5	.458	.046	.00043	.000	1
CalStd13=10	100000.	100340.	340.	.340	.03832	.000	1

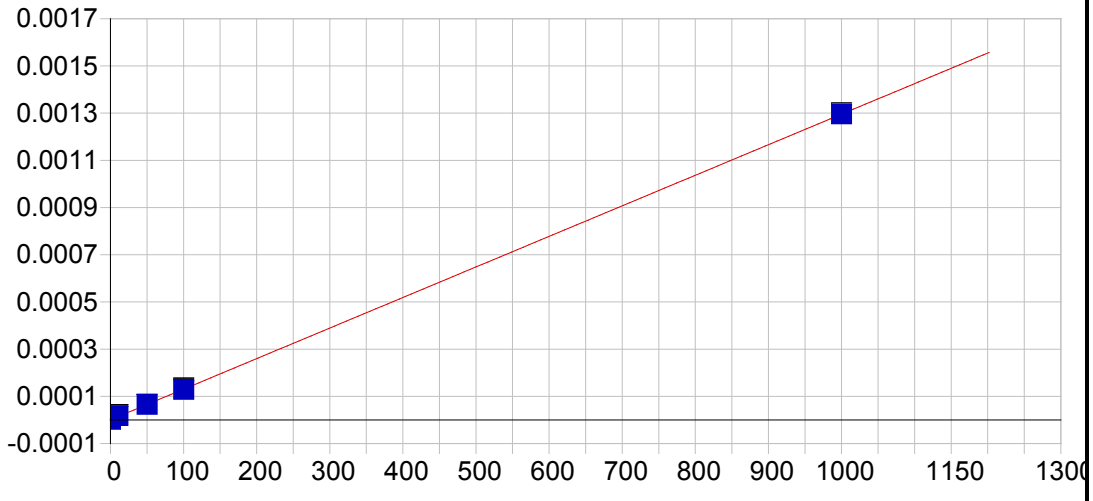


Al 396.152 { 85}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999760	Status:	OK.
Std Error of Est:	0.000066		
Predicted MDL:	6.198982		
Predicted MQL:	20.663272		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.16897	.169	.000	-.00004	.000	1
CalStd14=50	500000.	490660.	-9340.	-1.87	.95678	.005	1
CalStd13=10	100000.	94327.	-5670.	-5.67	.18390	.002	1
CalStd10=10	10000.	9447.2	-553.	-5.53	.01839	.000	1
CalStd9=100	1000.0	946.10	-53.9	-5.39	.00181	.000	1
CalibStd15=	1000000.	1015600.	15600.	1.56	1.9805	.035	1

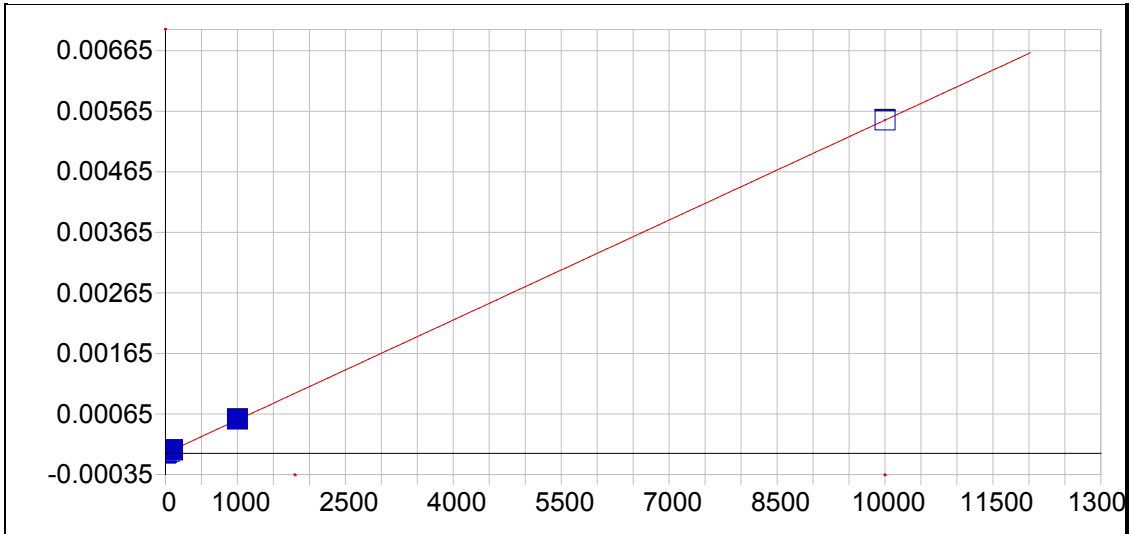


As 193.759 {474}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.099974		
Predicted MQL:	13.666579		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.99364	.994	.000	.00000	.000	1
CalStd9=100	1000.0	1000.2	.241	.024	.00130	.000	1
CalStd7=50	50.000	49.891	-.109	-.218	.00007	.000	1
CalStd5=10	10.000	13.378	3.38	33.8	.00002	.000	1
CalStd8=100	100.00	99.002	-.998	-.998	.00013	.000	1

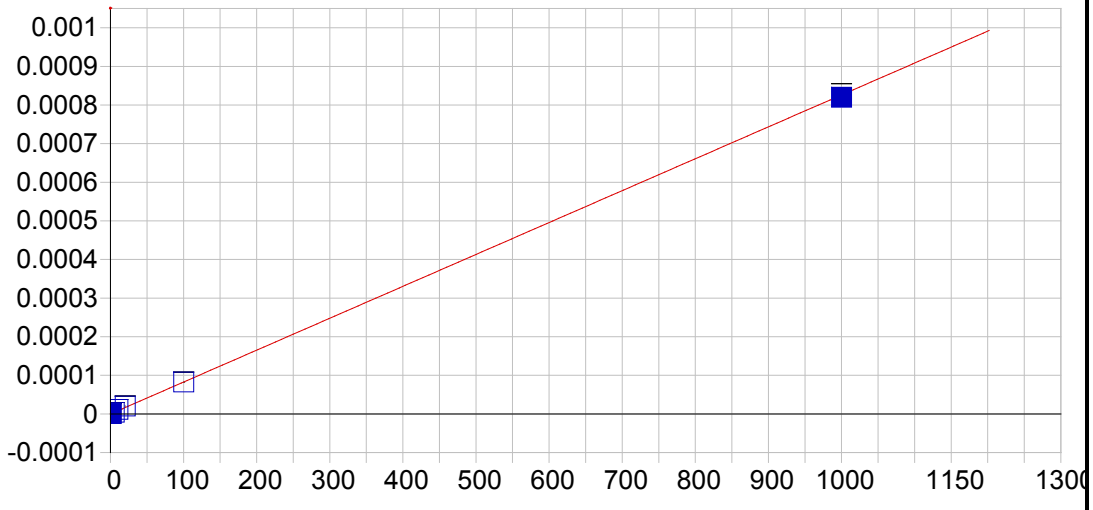


As 197.262 {471}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	6.973852		
Predicted MQL:	23.246175		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.3465	-2.35	.000	.00000	.000	1
CalStd9=100	1000.0	1019.0	19.0	1.90	.00056	.000	1
CalStd7=50	50.000	46.586	-3.41	-6.83	.00003	.000	1
CalStd5=10	10.000	5.8479	-4.15	-41.5	.00001	.000	1
CalStd8=100	100.00	92.694	-7.31	-7.31	.00005	.000	1
CalStd10=10	10000.	9998.2	-1.81	-.018	.00550	.000	1

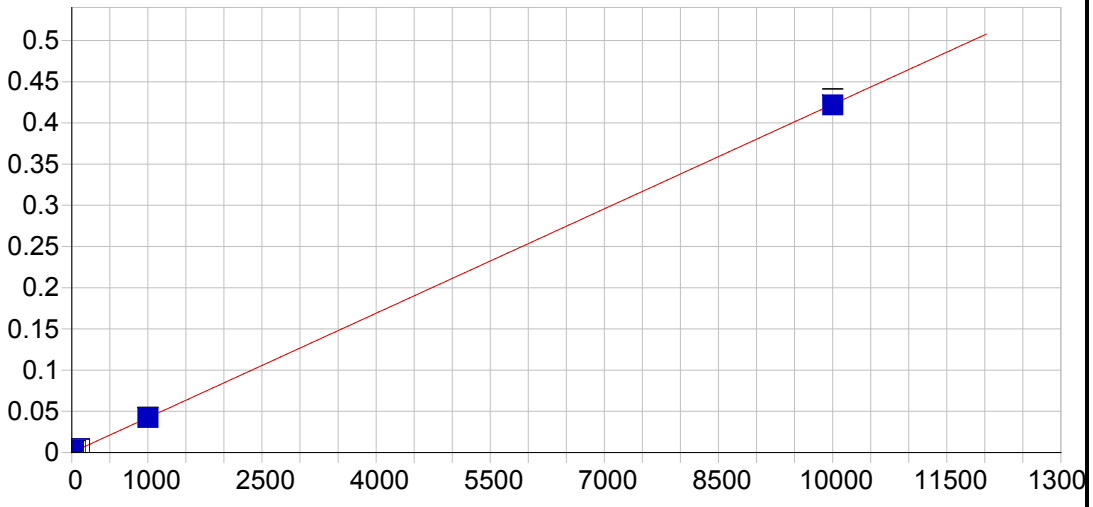


Ba 233.527 {445}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998914	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.443468		
Predicted MQL:	1.478227		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00041	-.000	.000	-.00000	.000	1
CalStd5=10	10.000	13.706	3.71	37.1	.00001	.000	1
CalStd6=20	20.000	24.444	4.44	22.2	.00002	.000	1
CalStd8=100	100.00	99.752	-.248	-.248	.00008	.000	1
CalStd4=5	5.0000	5.1641	.164	3.28	.00000	.000	1
CalStd9=100	1000.0	992.14	-7.86	-.786	.00082	.000	1
CalStd3=1	1.0000	.79383	-.206	-20.6	.00000	.000	1

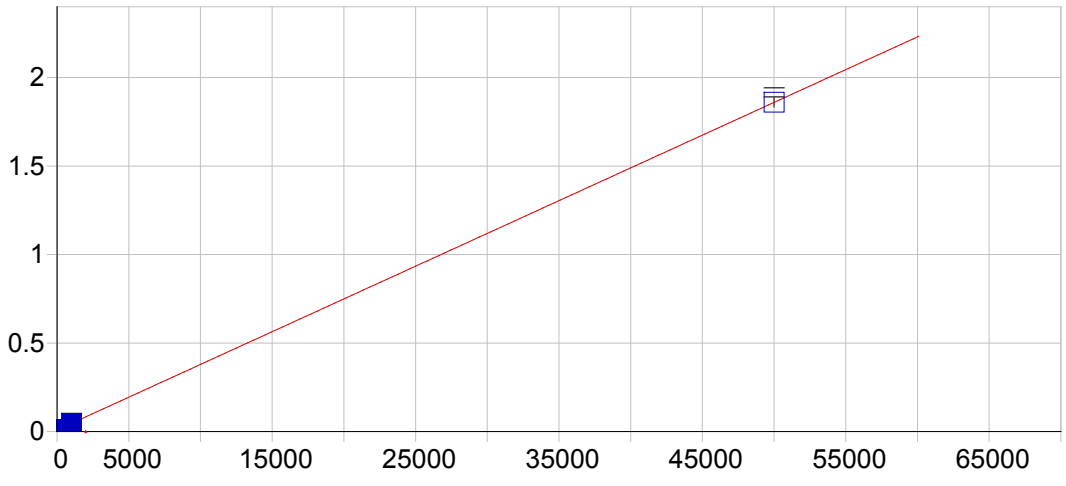


Ba 455.403 { 74}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000089	Re-Slope:	1.000000
A1 (Gain):	0.000042	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999841	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.224036		
Predicted MQL:	0.746785		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00104	-.001	.000	.00009	.000	1
CalStd7=50	50.000	51.877	1.88	3.75	.00228	.000	1
CalStd5=10	10.000	14.571	4.57	45.7	.00070	.000	1
CalStd6=20	20.000	24.985	4.98	24.9	.00114	.000	1
CalStd8=100	100.00	101.56	1.56	1.56	.00438	.000	1
CalStd4=5	5.0000	5.5893	.589	11.8	.00033	.000	1
CalStd9=100	1000.0	1002.0	2.01	.201	.04241	.000	1
CalStd3=1	1.0000	1.1633	.163	16.3	.00014	.000	1
CalStd10=10	10000.	9984.2	-15.8	-.158	.42177	.007	1

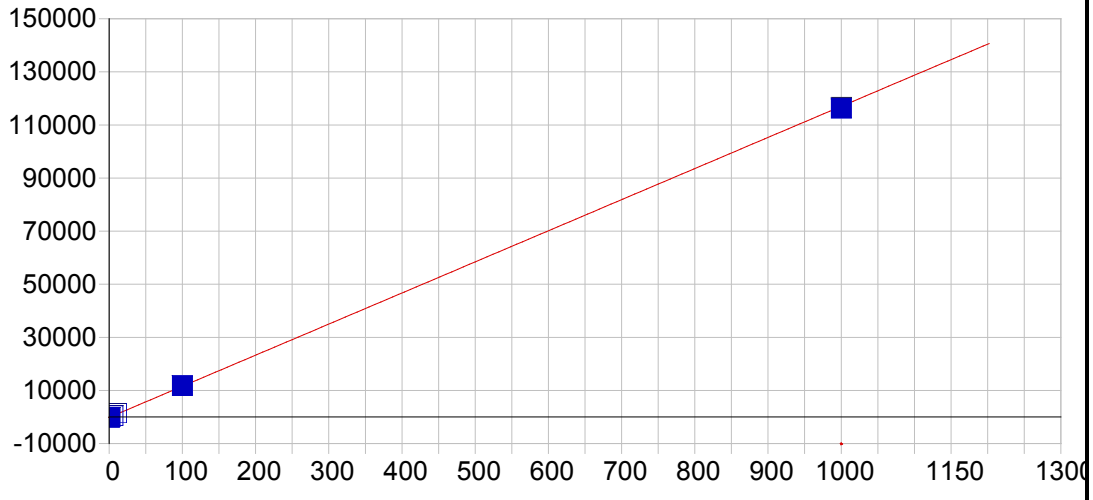


Ba 493.409 { 68}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.009052	Re-Slope:	1.000000
A1 (Gain):	0.000037	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000343		
Predicted MDL:	0.728387		
Predicted MQL:	2.427957		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.1749	2.17	.000	.00913	.000	1
CalStd9=100	1000.0	989.77	-10.2	-1.02	.04569	.000	1
CalStd8=100	100.00	107.87	7.87	7.87	.01304	.000	1
Ag Ba 1000,	50000.	50000.	.189	.000	1.8596	.026	1

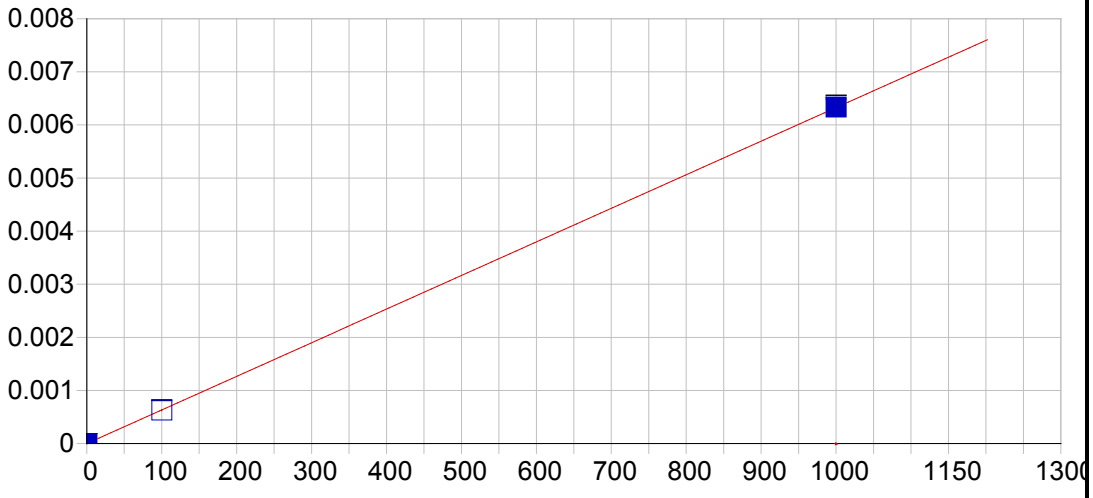


Be 313.042 {108}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-153.120142	Re-Slope:	1.000000
A1 (Gain):	117.161100	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999293	Status:	OK.
Std Error of Est:	3.893152		
Predicted MDL:	0.034457		
Predicted MQL:	0.114857		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00029	-.000	.000	-153.15	4.80	1
CalStd5=10	10.000	13.852	3.85	38.5	1469.8	4.50	1
CalStd8=100	100.00	102.09	2.09	2.09	11808.	26.2	1
CalStd2=0.5	.50000	.55109	.051	10.2	-88.553	3.27	1
CalStd4=5	5.0000	5.1658	.166	3.32	452.11	6.19	1
CalStd9=100	1000.0	993.78	-6.22	-.622	116280.	310.	1
CalStd3=1	1.0000	1.0520	.052	5.20	-29.867	4.32	1

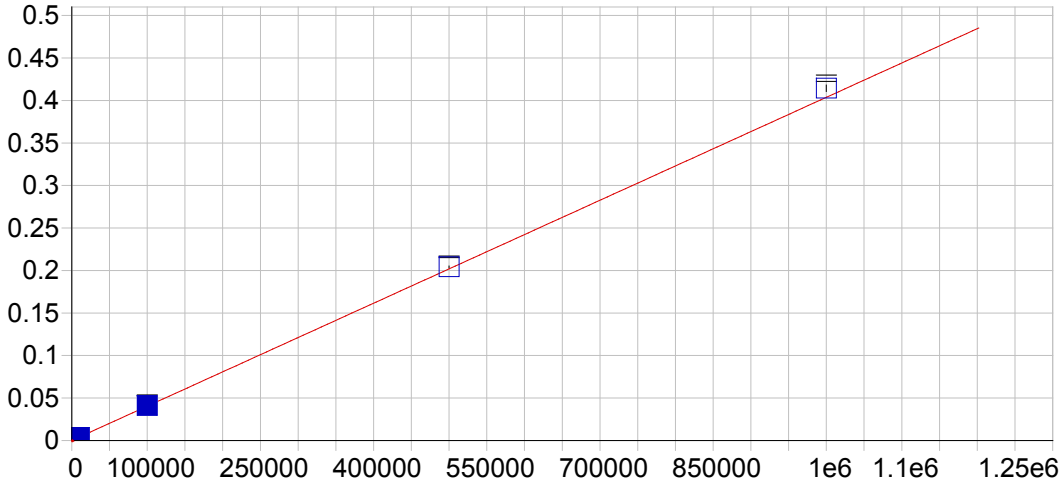


Be 234.861 {144}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.285406		
Predicted MQL:	0.951352		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00103	.001	.000	.00000	.000	1
CalStd9=100	1000.0	1001.1	1.14	.114	.00633	.000	1
CalStd8=100	100.00	98.859	-1.14	-1.14	.00063	.000	1

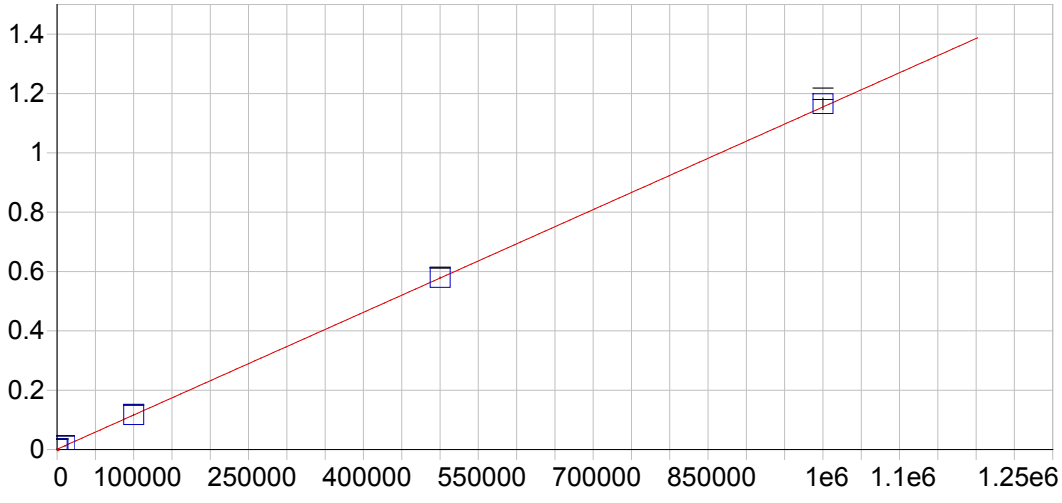


Ca 315.887 {107}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999976	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	7.188284		
Predicted MQL:	23.960947		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.2540	-1.25	.000	.00005	.000	1
CalStd10=10	10000.	9921.1	-78.9	-.789	.00406	.000	1
CalStd13=10	100000.	101610.	1610.	1.61	.04108	.000	1
CalStd14=50	500000.	505810.	5810.	1.16	.20425	.001	1
CalStd9=100	1000.0	1018.1	18.1	1.81	.00047	.000	1
CalibStd15=	1000000.	1026400.	26400.	2.64	.41442	.004	1

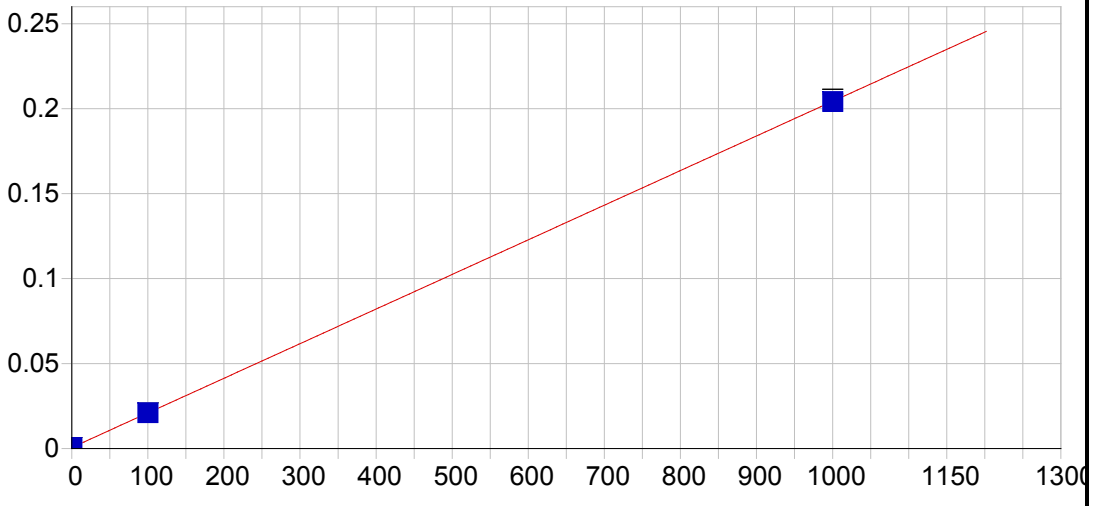


Ca 317.933 {106}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.001102	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999918	Status:	OK.
Std Error of Est:	0.000044		
Predicted MDL:	3.183062		
Predicted MQL:	10.610205		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	13.544	13.5	.000	.00112	.000	1
CalStd10=10	10000.	9780.8	-219.	-2.19	.01238	.000	1
CalStd13=10	100000.	100550.	550.	.550	.11710	.002	1
CalStd14=50	500000.	501510.	1510.	.303	.57965	.002	1
CalStd9=100	1000.0	943.21	-56.8	-5.68	.00219	.000	1
CalibStd15=	1000000.	1009300.	9290.	.929	1.1654	.019	1

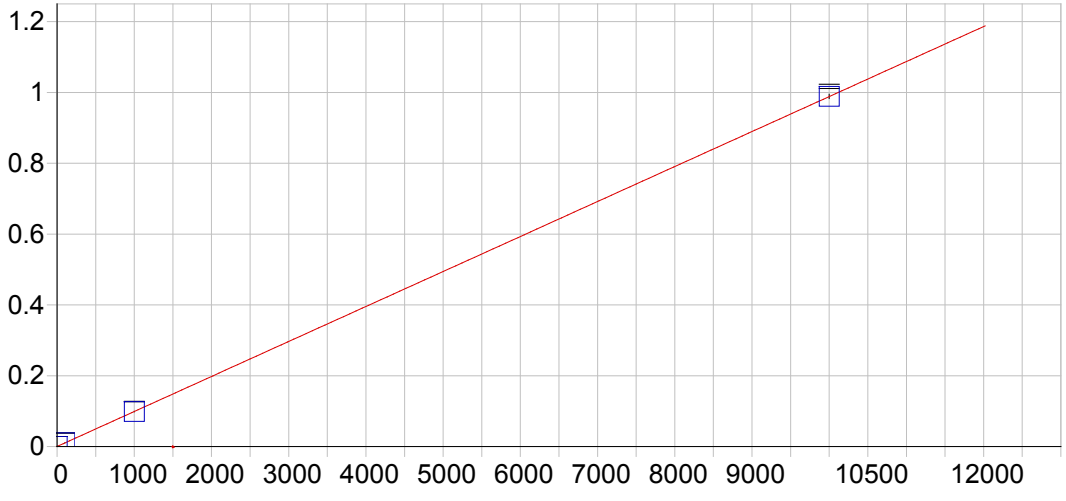


Ca 393.366 { 86}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000589	Re-Slope:	1.000000
A1 (Gain):	0.000204	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000036		
Predicted MDL:	0.040653		
Predicted MQL:	0.135509		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03086	-.031	.000	.00058	.000	1
CalStd9=100	1000.0	998.93	-1.07	-.107	.20410	.001	1
CalStd8=100	100.00	100.22	.218	.218	.02101	.000	1

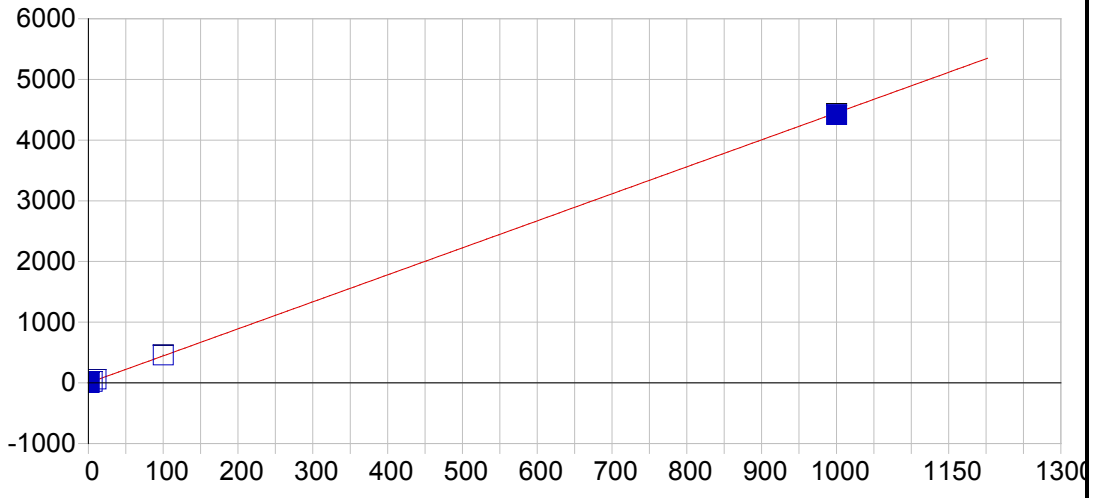


Ca 396.847 { 85}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000256	Re-Slope:	1.000000
A1 (Gain):	0.000099	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.083493		
Predicted MQL:	0.278309		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00054	-.001	.000	.00026	.000	1
CalStd10=10	10000.	10003.	2.68	.027	.98867	.006	1
CalStd8=100	100.00	100.86	.863	.863	.01022	.000	1
CalStd9=100	1000.0	996.46	-3.54	-.354	.09872	.001	1

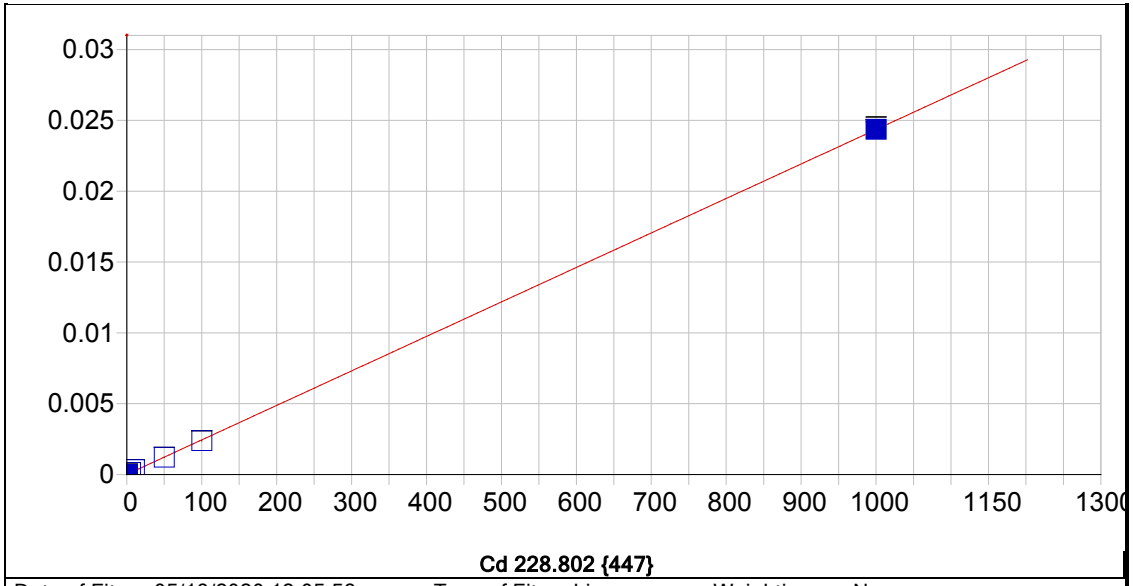


Cd 226.502 {449}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.285764	Re-Slope:	1.000000
A1 (Gain):	4.450143	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999294	Status:	OK.
Std Error of Est:	0.147850		
Predicted MDL:	0.228455		
Predicted MQL:	0.761517		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00039	-.000	.000	-.28748	.572	1
CalStd3=1	1.0000	1.2743	.274	27.4	5.3850	.808	1
CalStd2=0.5	.50000	.54525	.045	9.05	2.1407	.875	1
CalStd4=5	5.0000	5.0719	.072	1.44	22.285	.666	1
CalStd8=100	100.00	102.57	2.57	2.57	456.15	2.29	1
CalStd5=10	10.000	13.726	3.73	37.3	60.797	.456	1
CalStd9=100	1000.0	993.32	-6.68	-.668	4420.9	14.3	1

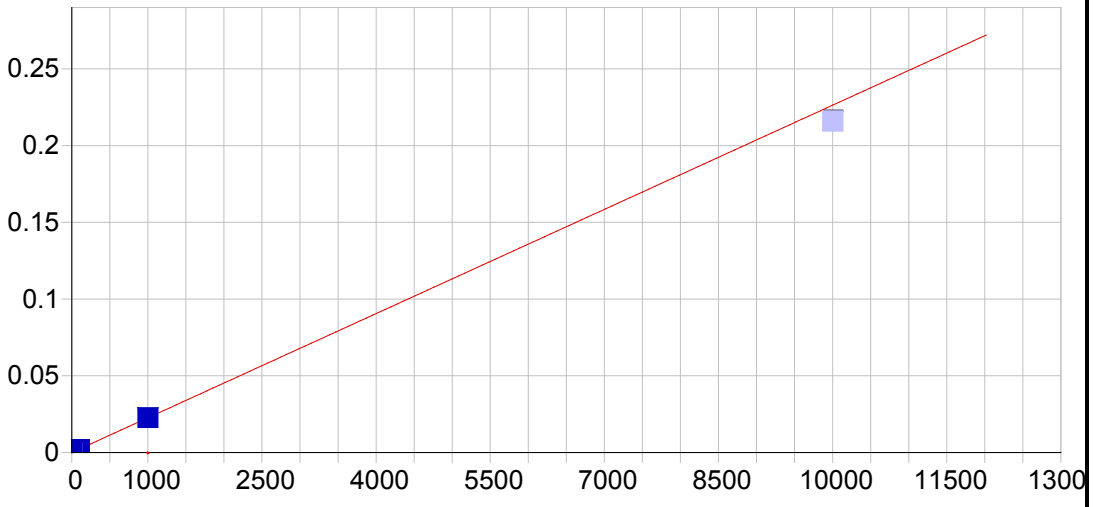


Cd 228.802 {447}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000011	Re-Slope:	1.000000
A1 (Gain):	0.000024	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.000042		
Predicted MDL:	0.296862		
Predicted MQL:	0.989538		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.18866	-.189	.000	.00001	.000	1
CalStd7=50	50.000	49.312	-.688	-1.38	.00121	.000	1
CalStd3=1	1.0000	1.0349	.035	3.49	.00004	.000	1
CalStd2=0.5	.50000	.43776	-.062	-12.4	.00002	.000	1
CalStd4=5	5.0000	4.9143	-.086	-1.71	.00013	.000	1
CalStd8=100	100.00	97.472	-2.53	-2.53	.00238	.000	1
CalStd5=10	10.000	13.263	3.26	32.6	.00033	.000	1
CalStd9=100	1000.0	1000.3	.255	.025	.02437	.000	1

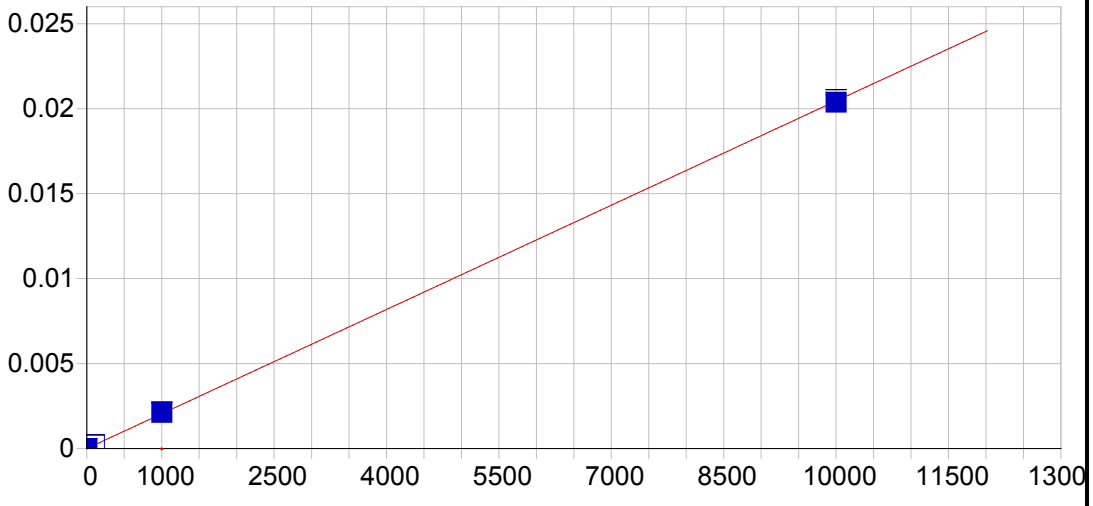


Co 228.616 {447}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999447	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.283152		
Predicted MQL:	0.943841		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00006	-.000	.000	.00001	.000	1
CalStd7=50	50.000	50.092	.092	.184	.00114	.000	1
CalStd5=10	10.000	13.477	3.48	34.8	.00031	.000	1
CalStd4=5	5.0000	4.9272	-.073	-1.46	.00012	.000	1
CalStd8=100	100.00	99.059	-.941	-.941	.00225	.000	1
CalStd9=100	1000.0	997.71	-2.29	-.229	.02260	.000	1
CalStd3=1	1.0000	.73918	-.261	-26.1	.00003	.000	1
CalStd10=10	10000.	9534.0	-466.	-4.66	.21618	.000	0

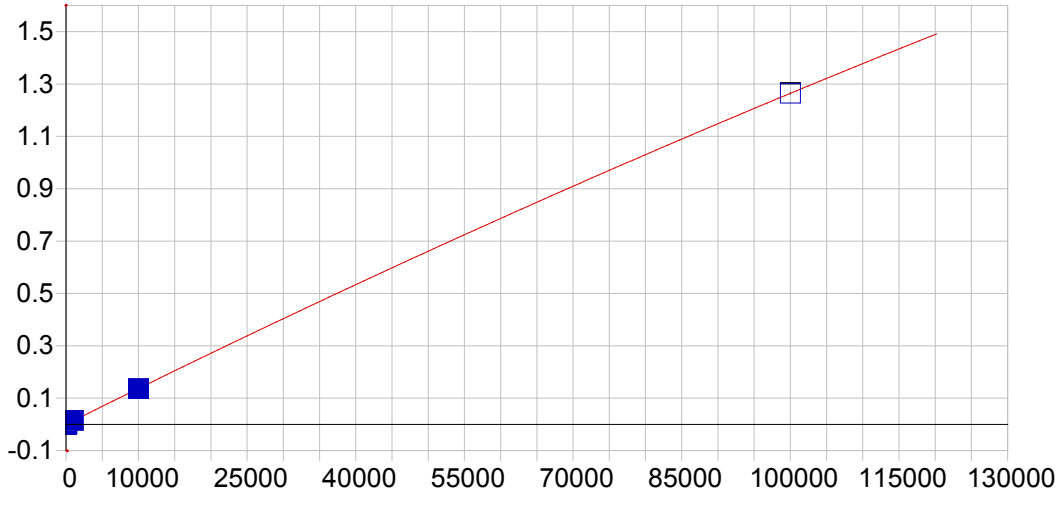


Co 238.892 {141}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999924	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.713936		
Predicted MQL:	2.379788		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00758	-.008	.000	.00000	.000	1
CalStd9=100	1000.0	1036.6	36.6	3.66	.00212	.000	1
CalStd10=10	10000.	9959.0	-41.0	-.410	.02038	.000	1
CalStd8=100	100.00	104.32	4.32	4.32	.00022	.000	1

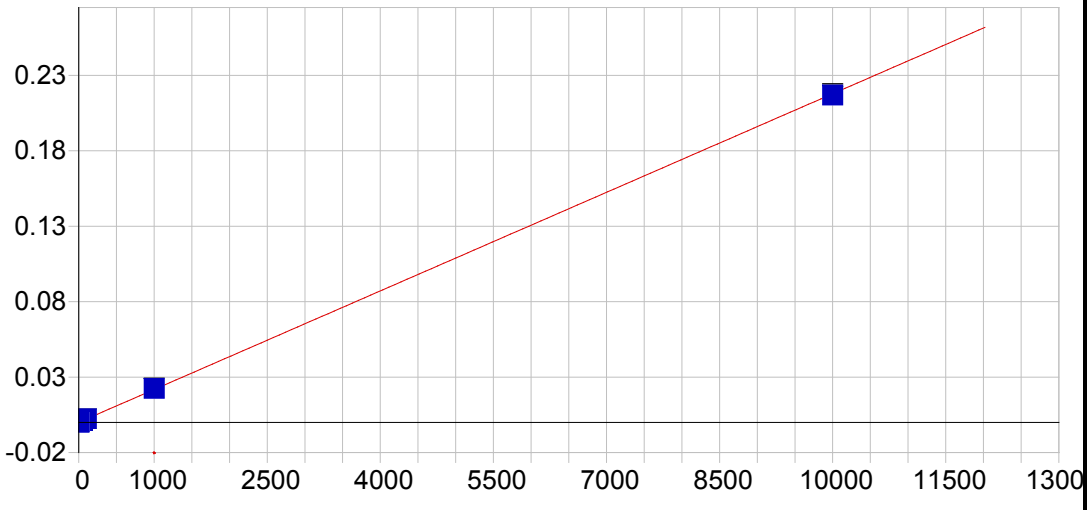


Cr 205.560 {464}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999984	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.328390		
Predicted MQL:	1.094633		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00052	-.001	.000	-.00000	.000	1
CalStd5=10	10.000	13.955	3.95	39.5	.00019	.000	1
CalStd7=50	50.000	52.314	2.31	4.63	.00072	.000	1
CalStd9=100	1000.0	1032.6	32.6	3.26	.01424	.000	1
CalStd8=100	100.00	103.09	3.09	3.09	.00142	.000	1
CalStd4=5	5.0000	5.4408	.441	8.82	.00007	.000	1
CalStd3=1	1.0000	.93316	-.067	-6.68	.00001	.000	1
CalStd10=10	10000.	9952.6	-47.4	-.474	.13628	.000	1
CalStd12=10	100000.	100010.	5.21	.005	1.2645	.002	1

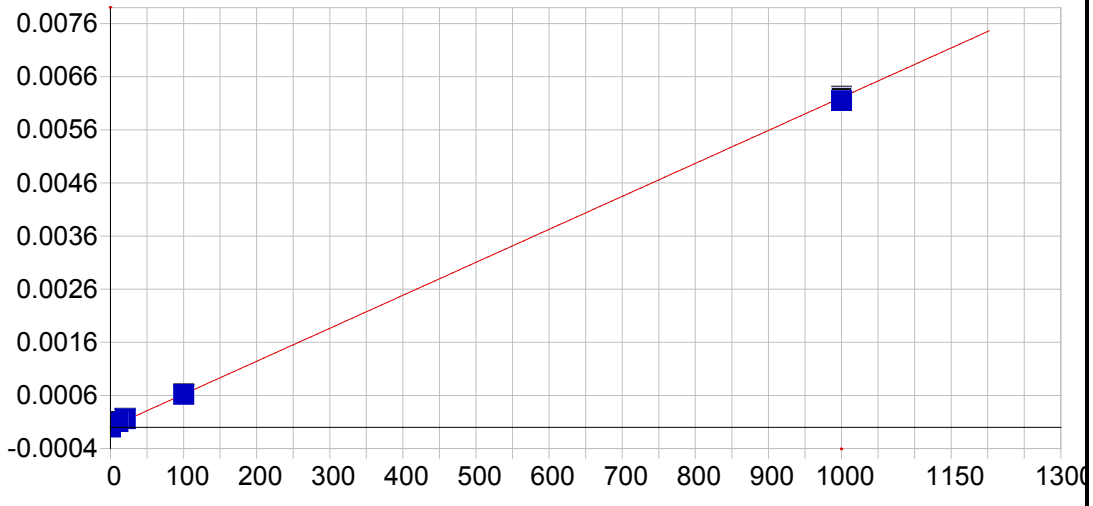


Cr 267.716 {126}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000022	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999841	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.764073		
Predicted MQL:	2.546911		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00271	-.003	.000	.00000	.000	1
CalStd5=10	10.000	14.495	4.49	44.9	.00032	.000	1
CalStd7=50	50.000	52.809	2.81	5.62	.00115	.000	1
CalStd9=100	1000.0	1032.8	32.8	3.28	.02250	.000	1
CalStd8=100	100.00	103.28	3.28	3.28	.00225	.000	1
CalStd4=5	5.0000	4.8746	-.125	-2.51	.00011	.000	1
CalStd10=10	10000.	9956.7	-43.3	-.433	.21694	.001	1

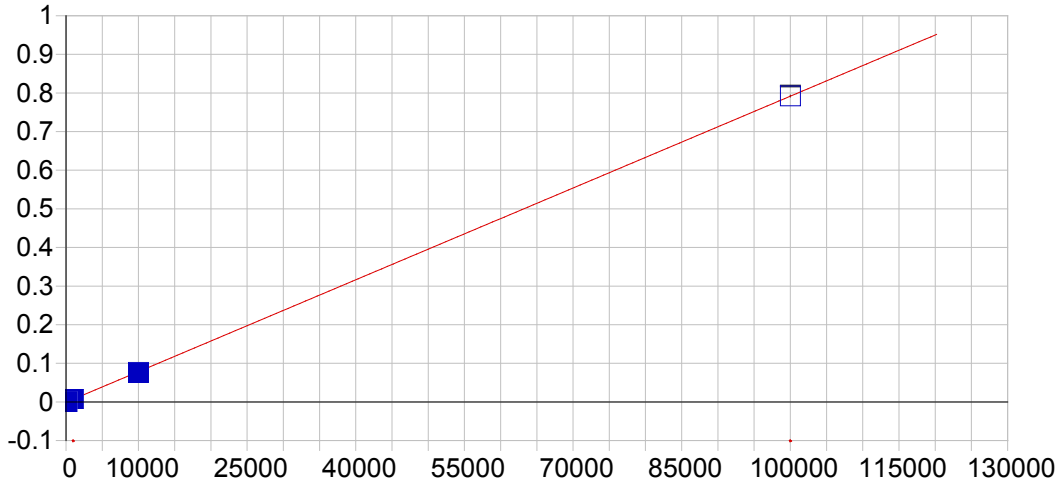


Cu 223.008 {451}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998051	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.050170		
Predicted MQL:	3.500568		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00794	-.008	.000	.00000	.000	1
CalStd9=100	1000.0	990.08	-9.92	-.992	.00621	.000	1
CalStd8=100	100.00	99.236	-.764	-.764	.00062	.000	1
CalStd6=20	20.000	25.146	5.15	25.7	.00016	.000	1
CalStd5=10	10.000	15.542	5.54	55.4	.00010	.000	1

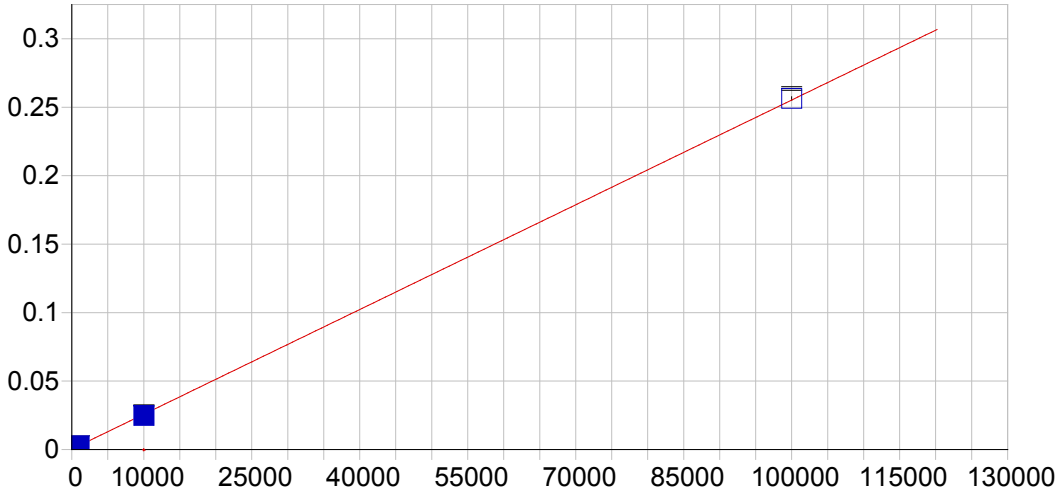


Cu 224.700 {450}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000770	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.001245		
Predicted MDL:	0.376058		
Predicted MQL:	1.253527		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	97.124	97.1	.000	-.00000	.000	1
CalStd9=100	1000.0	1031.8	31.8	3.18	.00738	.000	1
CalStd7=50	50.000	103.03	53.0	106.	.00005	.000	1
CalStd8=100	100.00	126.49	26.5	26.5	.00023	.000	1
CalStd6=20	20.000	99.729	79.7	399.	.00002	.000	1
CalStd12=10	100000.	100030.	31.5	.031	.79194	.002	1
CalStd10=10	10000.	9680.3	-320.	-3.20	.07563	.000	1

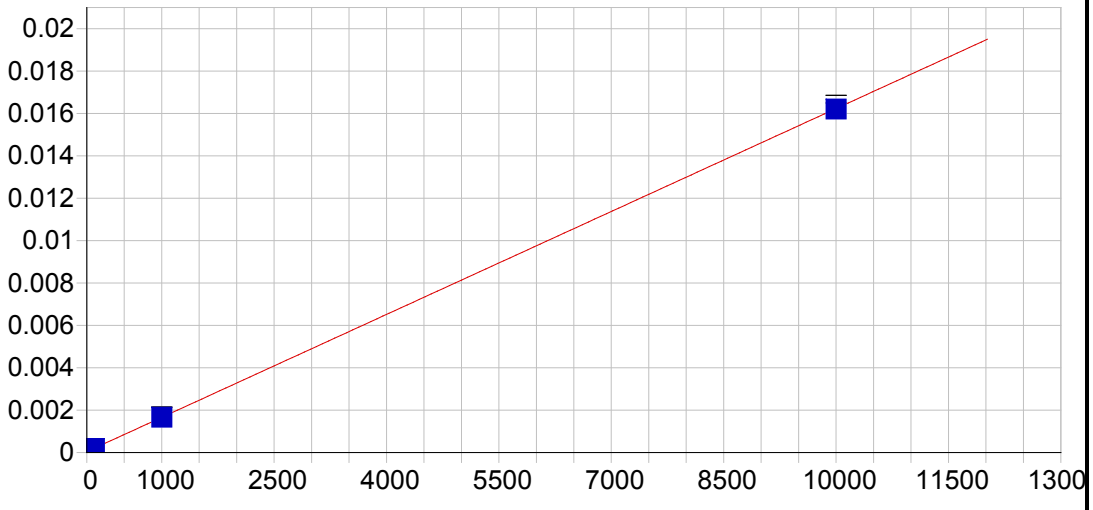


Cu 324.754 {104}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000268	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999908	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.191391		
Predicted MQL:	7.304638		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00060	-.001	.000	.00027	.000	1
CalStd9=100	1000.0	953.18	-46.8	-4.68	.00270	.000	1
CalStd8=100	100.00	96.103	-3.90	-3.90	.00051	.000	1
CalStd10=10	10000.	9605.8	-394.	-3.94	.02476	.000	1
CalStd12=10	100000.	100450.	445.	.445	.25639	.001	1
CalStd5=10	10.000	12.130	2.13	21.3	.00030	.000	1
CalStd6=20	20.000	20.606	.606	3.03	.00032	.000	1
CalStd7=50	50.000	46.858	-3.14	-6.28	.00039	.000	1

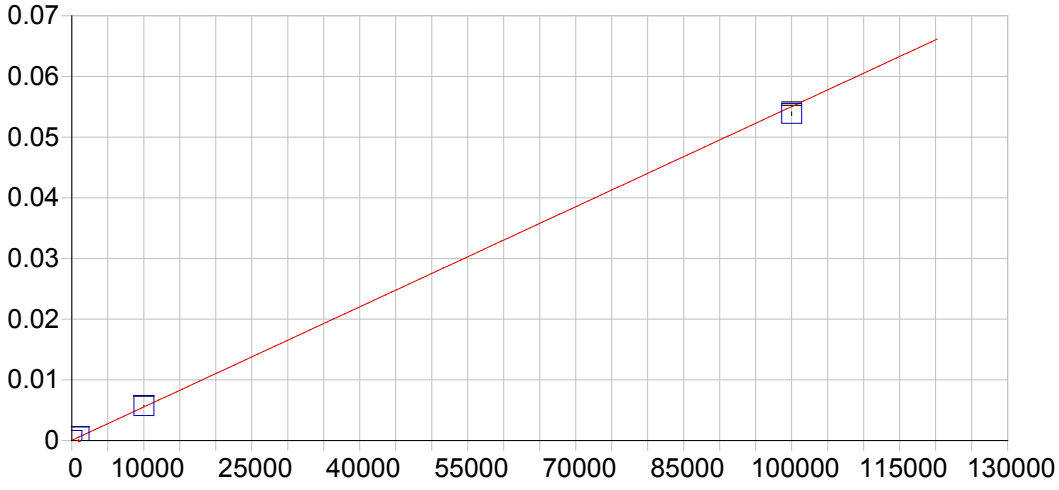


Cu 327.396 {103}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999572	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.996209		
Predicted MQL:	16.654029		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00884	-.009	.000	.00004	.000	1
CalStd6=20	20.000	24.645	4.64	23.2	.00008	.000	1
CalStd7=50	50.000	49.077	-.923	-1.85	.00012	.000	1
CalStd8=100	100.00	102.41	2.41	2.41	.00021	.000	1
CalStd9=100	1000.0	1001.6	1.65	.165	.00166	.000	1
CalStd10=10	10000.	9981.0	-19.0	-.190	.01620	.000	1
CalStd4=5	5.0000	9.1265	4.13	82.5	.00006	.000	1
CalStd5=10	10.000	17.050	7.05	70.5	.00007	.000	1

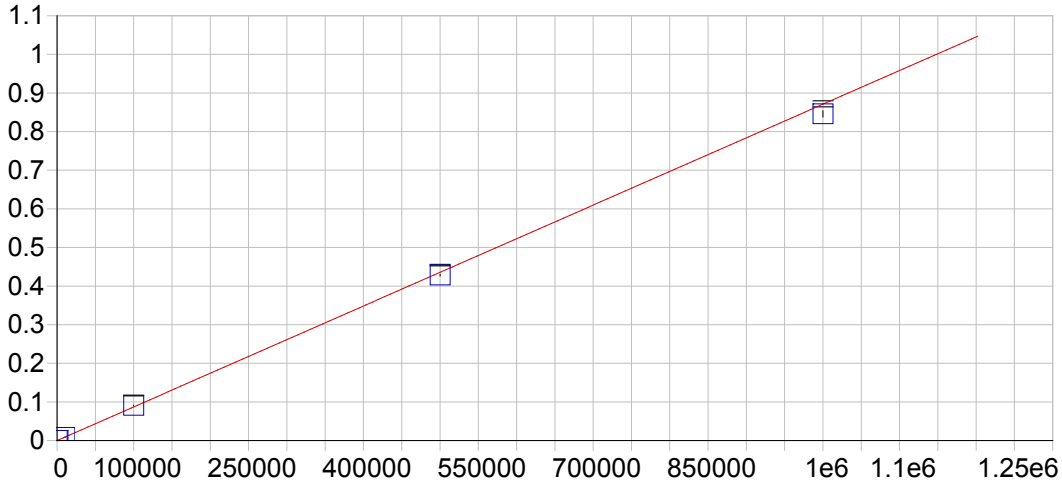


Fe 234.349 {144}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000029	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999498	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	1.462761		
Predicted MQL:	4.875870		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.88628	-.886	.000	.00003	.000	1
CalStd10=10	10000.	10352.	352.	3.52	.00572	.000	1
CalStd13=10	100000.	97901.	-2100.	-2.10	.05388	.000	1
CalStd9=100	1000.0	1075.2	75.2	7.52	.00062	.000	1

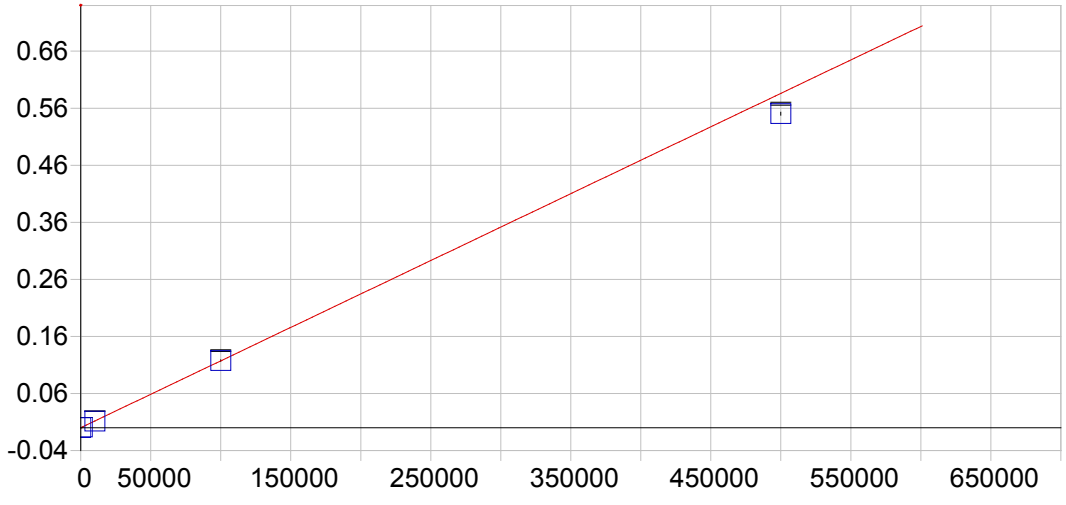


Fe 239.562 {140}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999569	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	3.249606		
Predicted MQL:	10.832019		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.1959	-2.20	.000	.00000	.000	1
CalStd10=10	10000.	10283.	283.	2.83	.00896	.000	1
CalStd13=10	100000.	104120.	4120.	4.12	.09069	.001	1
CalStd14=50	500000.	491610.	-8390.	-1.68	.42820	.002	1
CalStd9=100	1000.0	1058.2	58.2	5.82	.00093	.000	1
CalibStd15=	1000000.	971210.	-28800.	-2.88	.84593	.008	1

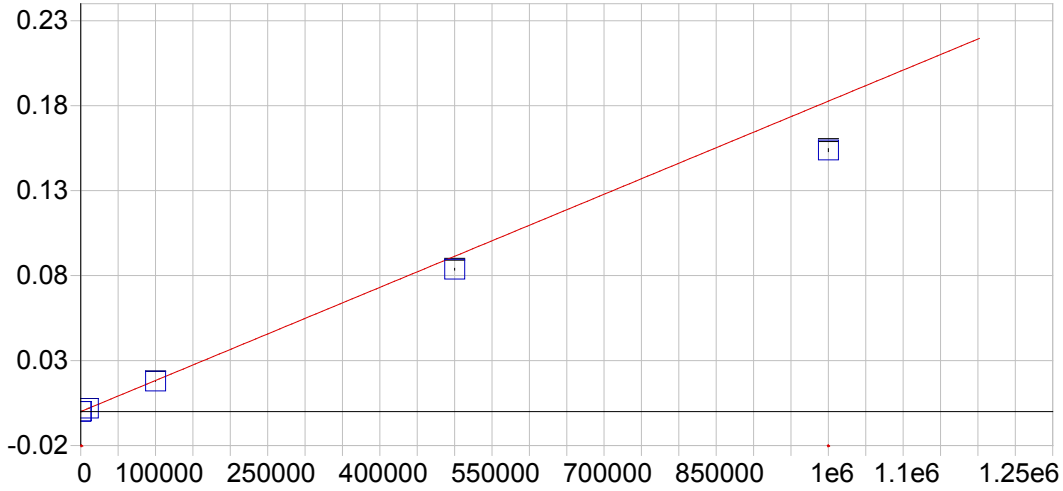


Fe 259.940 {129}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	2.676144		
Predicted MQL:	8.920479		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.55040	-.550	.000	-.00000	.000	1
CalStd10=10	10000.	9819.0	-181.	-1.81	.01151	.000	1
CalStd13=10	100000.	100230.	232.	.232	.11747	.001	1
CalStd14=50	500000.	469580.	-30400.	-6.08	.55037	.003	1
CalStd9=100	1000.0	1002.5	2.48	.248	.00117	.000	1

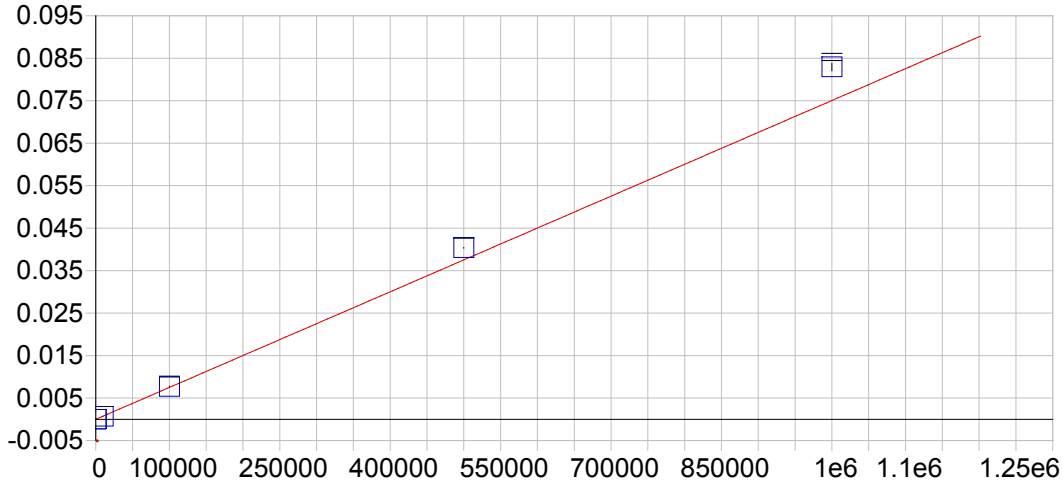


Mg 202.582 {466}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999726	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	2.821261		
Predicted MQL:	9.404203		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.4912	-5.49	.000	-.00000	.000	1
CalStd13=10	100000.	97695.	-2300.	-2.30	.01785	.000	1
CalStd10=10	10000.	10592.	592.	5.92	.00193	.000	1
CalStd14=50	500000.	458390.	-41600.	-8.32	.08373	.001	1
CalStd9=100	1000.0	1144.8	145.	14.5	.00021	.000	1
CalibStd15=	1000000.	842150.	-158000.	-15.8	.15383	.001	1

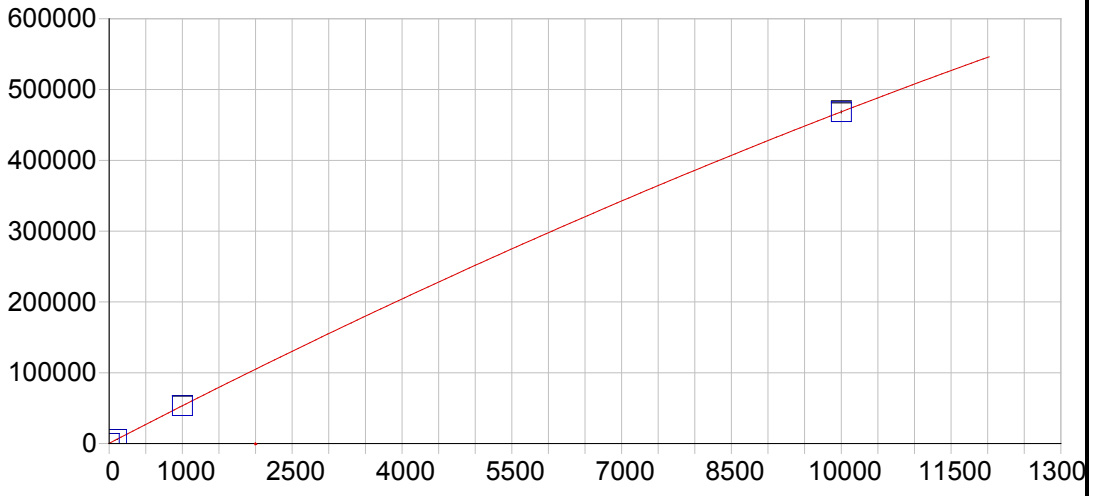


Mg 279.079 {121}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999961	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	23.386822		
Predicted MQL:	77.956075		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.0725	1.07	.000	-.00000	.000	1
CalStd13=10	100000.	102680.	2680.	2.68	.00770	.000	1
CalStd10=10	10000.	9611.3	-389.	-3.89	.00072	.000	1
CalStd14=50	500000.	537990.	38000.	7.60	.04037	.000	1
CalStd9=100	1000.0	1003.9	3.89	.389	.00007	.000	1
CalibStd15=	1000000.	1105400.	105000.	10.5	.08295	.001	1

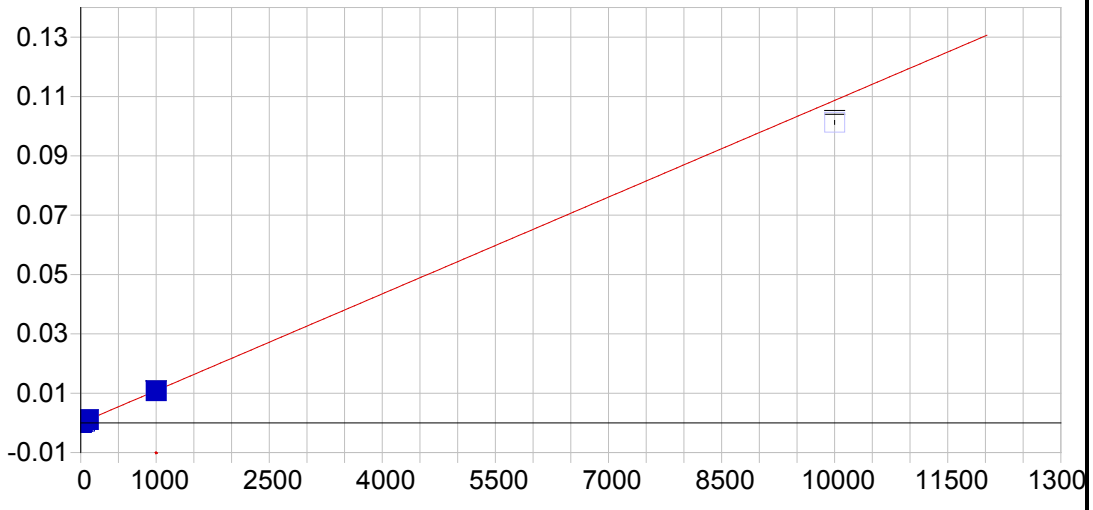


Mg 280.270 {120}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	311.906258	Re-Slope:	1.000000
A1 (Gain):	53.735962	Y-int:	0.000000
A2 (Curvature):	-0.000692		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	7.358334		
Predicted MDL:	0.032891		
Predicted MQL:	0.109638		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00182	-.002	.000	311.81	7.31	1
CalStd9=100	1000.0	997.69	-2.31	-.231	53235.	209.	1
CalStd10=10	10000.	10000.	.275	.003	468530.	1500.	1
CalStd8=100	100.00	102.05	2.05	2.05	5788.5	12.3	1

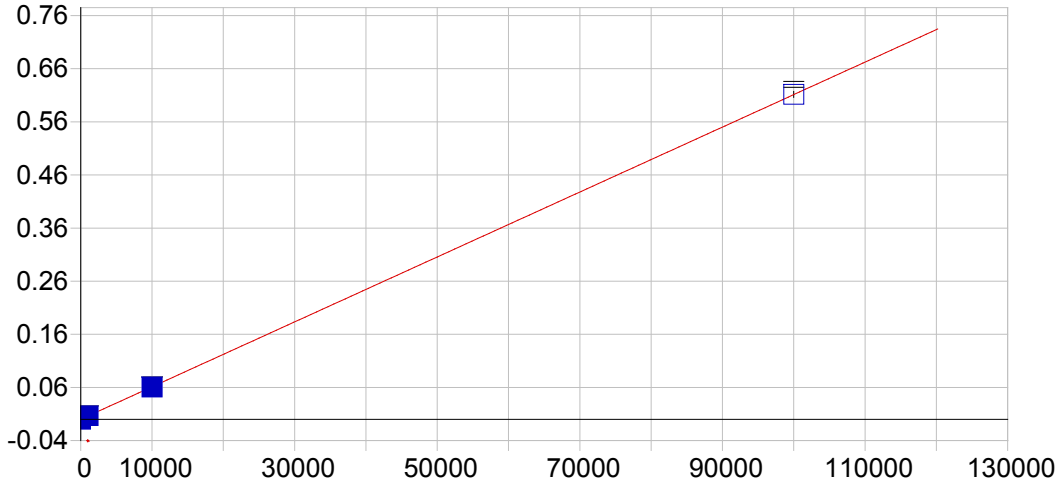


Mn 257.610 {131}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998878	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.090459		
Predicted MQL:	0.301529		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00327	-.003	.000	-.00000	.000	1
CalStd5=10	10.000	14.099	4.10	41.0	.00015	.000	1
CalStd7=50	50.000	50.961	.961	1.92	.00055	.000	1
CalStd6=20	20.000	24.155	4.16	20.8	.00026	.000	1
CalStd8=100	100.00	100.39	.385	.385	.00109	.000	1
CalStd4=5	5.0000	5.1152	.115	2.30	.00005	.000	1
CalStd9=100	1000.0	990.28	-9.72	-.972	.01076	.000	1
CalStd10=10	10000.	9316.1	-684.	-6.84	.10127	.001	0

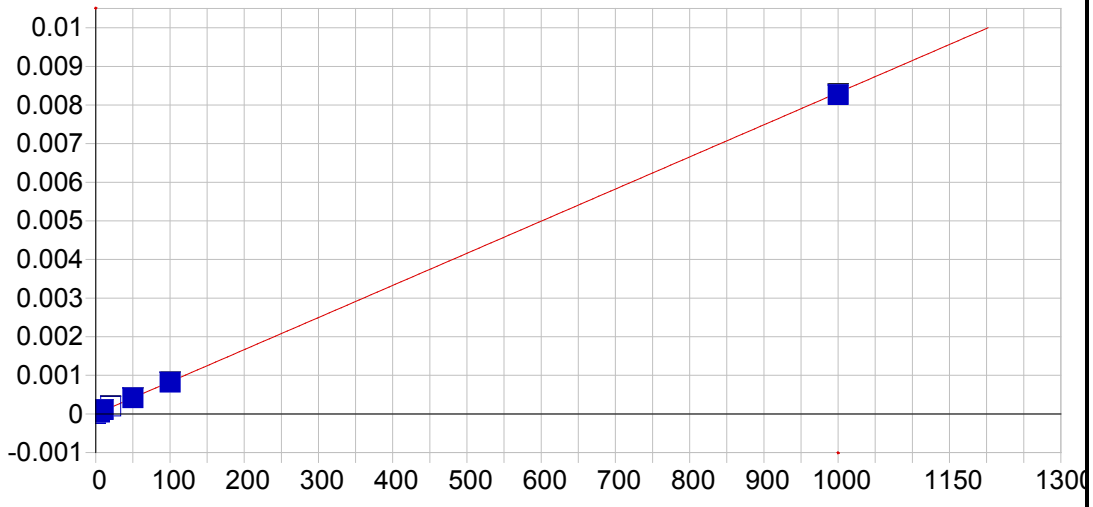


Mn 259.373 {130}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.527667		
Predicted MQL:	1.758891		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01144	-.011	.000	-.00000	.000	1
CalStd10=10	10000.	9920.2	-79.8	-.798	.06073	.001	1
CalStd9=100	1000.0	1018.8	18.8	1.88	.00624	.000	1
CalStd12=10	100000.	100060.	61.1	.061	.61162	.006	1

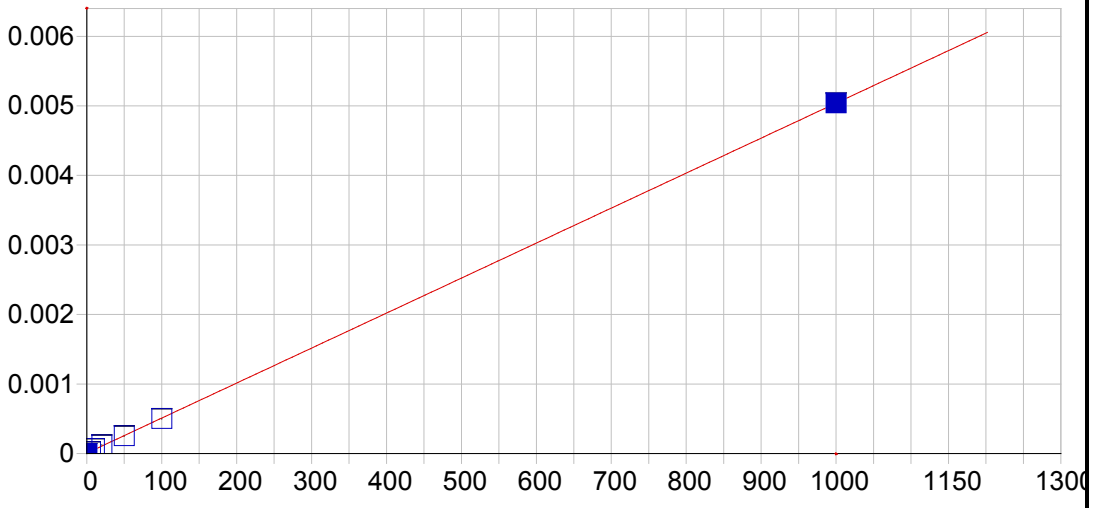


Mo 202.030 {466}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999158	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.512162		
Predicted MQL:	1.707206		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00298	-.003	.000	.00000	.000	1
CalStd7=50	50.000	50.065	.065	.129	.00042	.000	1
CalStd6=20	20.000	23.998	4.00	20.0	.00020	.000	1
CalStd5=10	10.000	13.331	3.33	33.3	.00011	.000	1
CalStd8=100	100.00	98.635	-1.37	-1.37	.00082	.000	1
CalStd4=5	5.0000	5.4087	.409	8.17	.00005	.000	1
CalStd9=100	1000.0	993.57	-6.43	-.643	.00828	.000	1

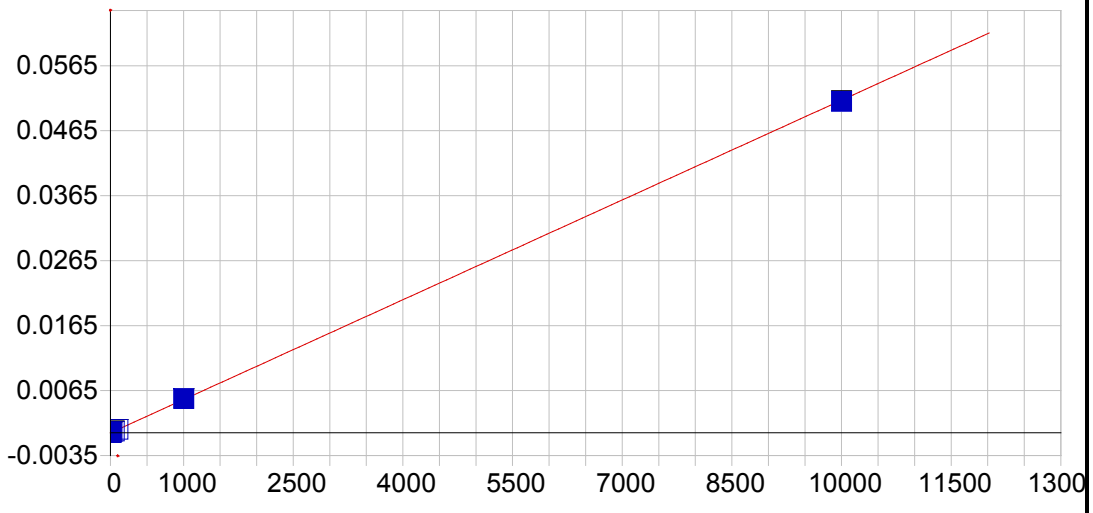


Mo 203.844 {465}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999895	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.973300		
Predicted MQL:	3.244335		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.91669	-.917	.000	.00000	.000	1
CalStd7=50	50.000	49.157	-.843	-1.69	.00025	.000	1
CalStd6=20	20.000	23.055	3.05	15.3	.00012	.000	1
CalStd5=10	10.000	12.692	2.69	26.9	.00007	.000	1
CalStd8=100	100.00	98.220	-1.78	-1.78	.00050	.000	1
CalStd4=5	5.0000	3.7940	-1.21	-24.1	.00003	.000	1
CalStd9=100	1000.0	1000.2	.241	.024	.00504	.000	1

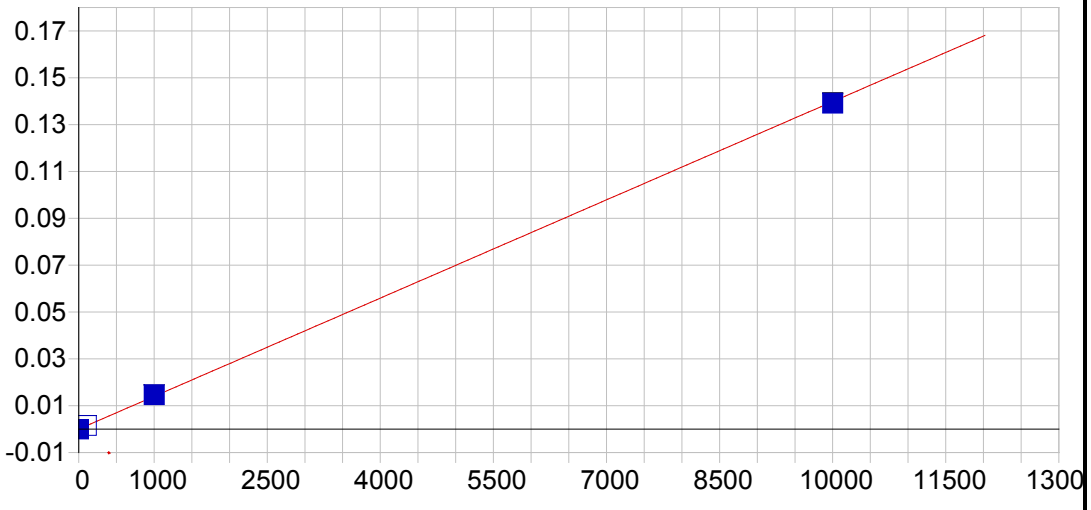


Mo 204.598 {464}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999819	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.896414		
Predicted MQL:	2.988047		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00438	-.004	.000	-.00001	.000	1
CalStd7=50	50.000	52.547	2.55	5.09	.00026	.000	1
CalStd6=20	20.000	25.174	5.17	25.9	.00012	.000	1
CalStd5=10	10.000	14.092	4.09	40.9	.00007	.000	1
CalStd8=100	100.00	101.37	1.37	1.37	.00051	.000	1
CalStd4=5	5.0000	5.6116	.612	12.2	.00002	.000	1
CalStd9=100	1000.0	1025.5	25.5	2.55	.00524	.000	1
CalStd10=10	10000.	9960.7	-39.3	-.393	.05100	.000	1

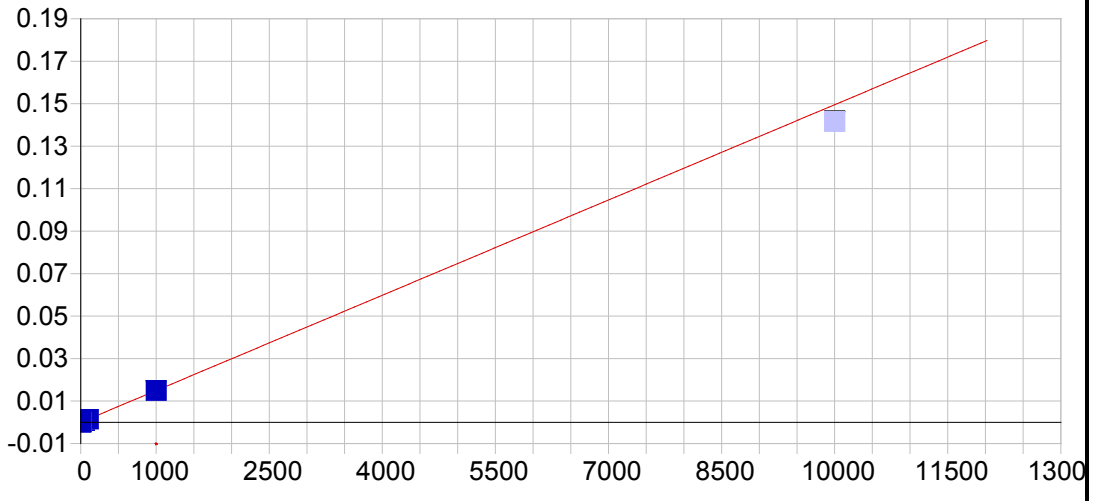


Ni 221.647 {452}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999884	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.534875		
Predicted MQL:	1.782916		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00901	-.009	.000	-.00000	.000	1
CalStd10=10	10000.	9949.4	-50.6	-.506	.13912	.000	1
CalStd8=100	100.00	104.95	4.95	4.95	.00146	.000	1
CalStd9=100	1000.0	1045.6	45.6	4.56	.01462	.000	1

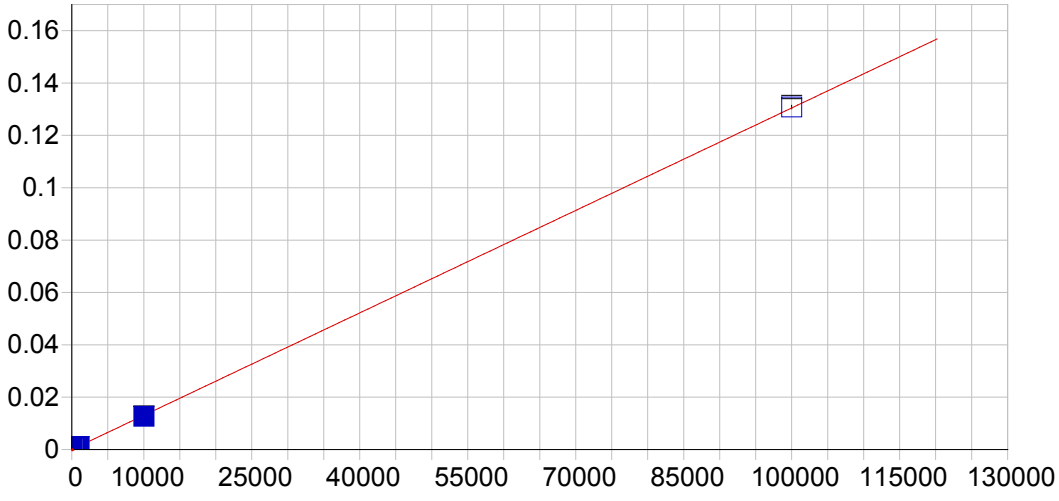


Ni 231.604 {445}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999286	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.494597		
Predicted MQL:	1.648658		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00070	-.001	.000	-.00001	.000	1
CalStd7=50	50.000	50.259	.259	.518	.00074	.000	1
CalStd5=10	10.000	13.958	3.96	39.6	.00019	.000	1
CalStd8=100	100.00	99.537	-.463	-.463	.00147	.000	1
CalStd4=5	5.0000	5.2234	.223	4.47	.00006	.000	1
CalStd9=100	1000.0	995.76	-4.24	-.424	.01488	.000	1
CalStd3=1	1.0000	1.2621	.262	26.2	.00000	.000	1
CalStd10=10	10000.	9473.1	-527.	-5.27	.14162	.000	0

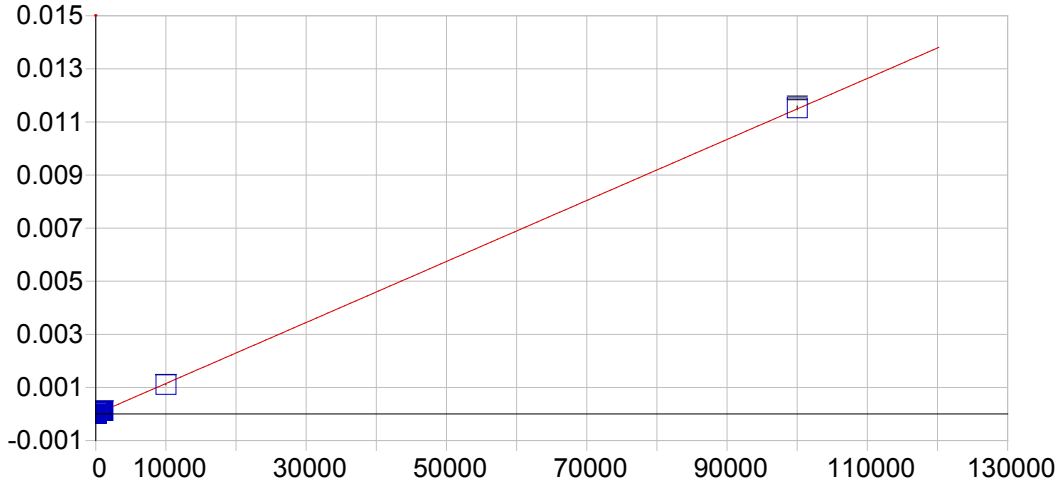


Pb 216.999 {455}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999940	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.629717		
Predicted MQL:	15.432389		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00533	-.005	.000	.00001	.000	1
CalStd9=100	1000.0	1030.5	30.5	3.05	.00135	.000	1
CalStd10=10	10000.	9704.8	-295.	-2.95	.01267	.000	1
CalStd8=100	100.00	98.336	-1.66	-1.66	.00014	.000	1
CalStd5=10	10.000	15.456	5.46	54.6	.00003	.000	1
CalStd12=10	100000.	100260.	261.	.261	.13082	.001	1

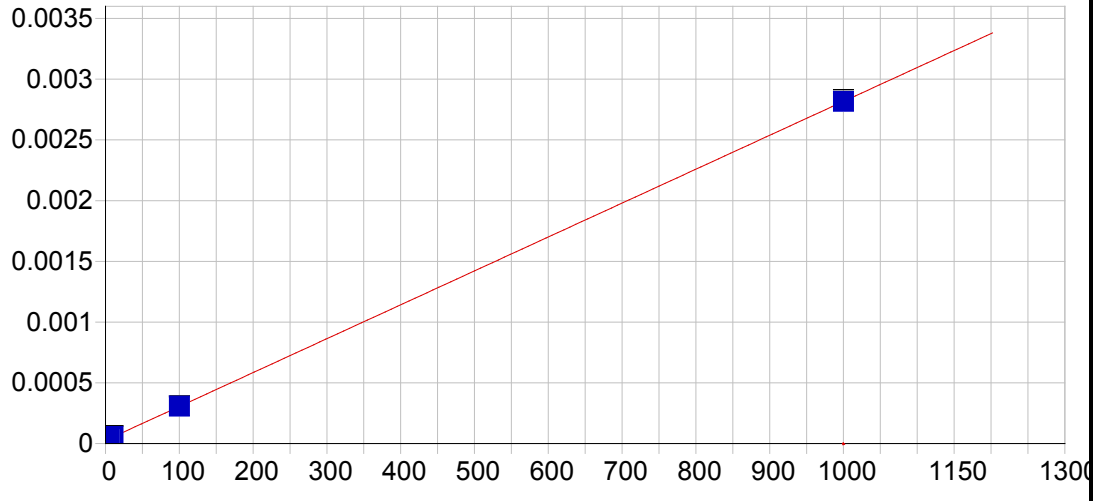


Pb 216.999 {456}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999872	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	24.024851		
Predicted MQL:	80.082837		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01240	-.012	.000	-.00000	.000	1
CalStd9=100	1000.0	1008.2	8.18	.818	.00012	.000	1
CalStd10=10	10000.	9645.9	-354.	-3.54	.00111	.000	1
CalStd8=100	100.00	106.02	6.02	6.02	.00001	.000	1
CalStd5=10	10.000	22.040	12.0	120.	.00000	.000	1
CalStd12=10	100000.	100330.	328.	.328	.01153	.000	1

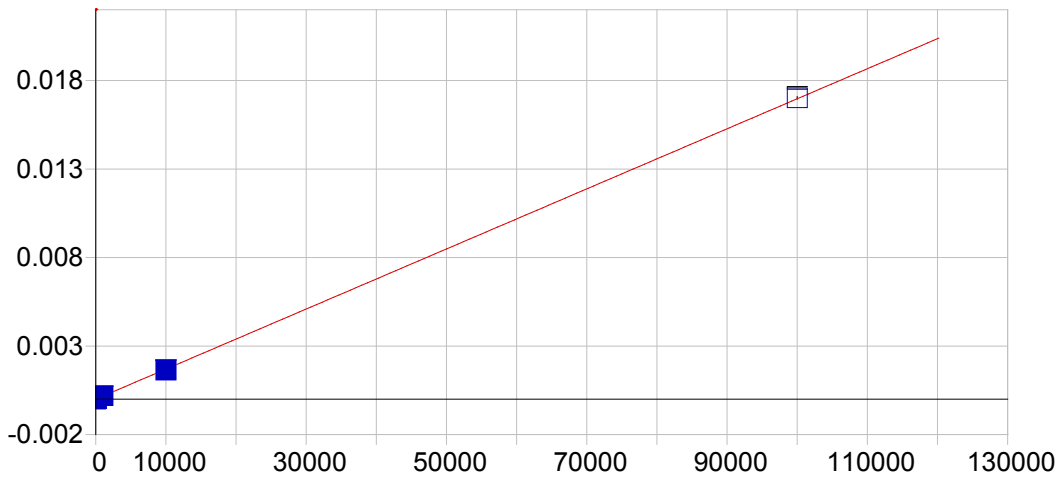


Pb 220.353 {453}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000026	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999989	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	2.697840		
Predicted MQL:	8.992802		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.2059	-2.21	.000	.00002	.000	1
CalStd5=10	10.000	13.008	3.01	30.1	.00006	.000	1
CalStd8=100	100.00	100.65	.653	.653	.00031	.000	1
CalStd4=5	5.0000	3.6329	-1.37	-27.3	.00004	.000	1
CalStd9=100	1000.0	999.91	-.089	-.009	.00281	.000	1

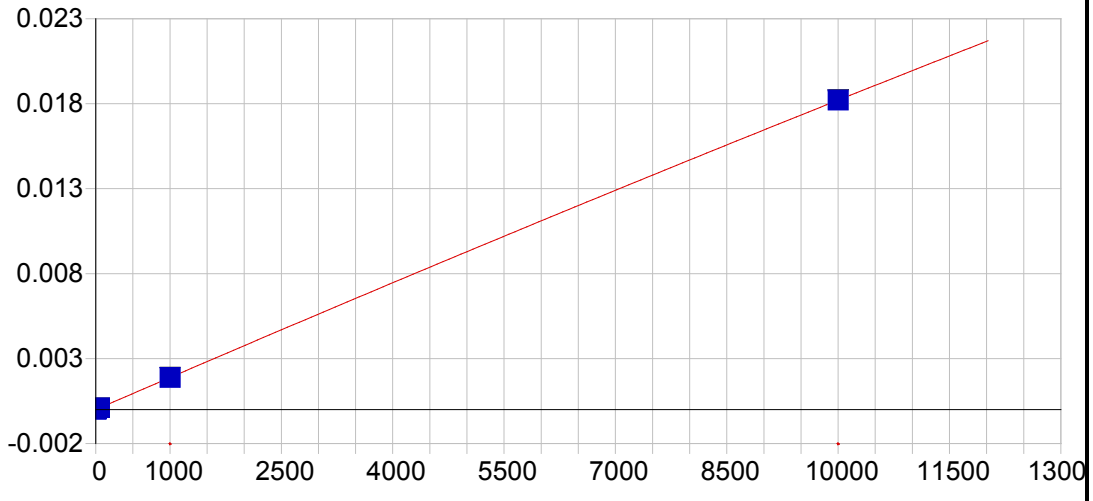


Pb 220.353 {153}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999938	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	5.018325		
Predicted MQL:	16.727749		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01076	-.011	.000	-.00000	.000	1
CalStd9=100	1000.0	1035.6	35.6	3.56	.00018	.000	1
CalStd10=10	10000.	9673.7	-326.	-3.26	.00164	.000	1
CalStd8=100	100.00	110.18	10.2	10.2	.00002	.000	1
CalStd12=10	100000.	100280.	281.	.281	.01702	.000	1

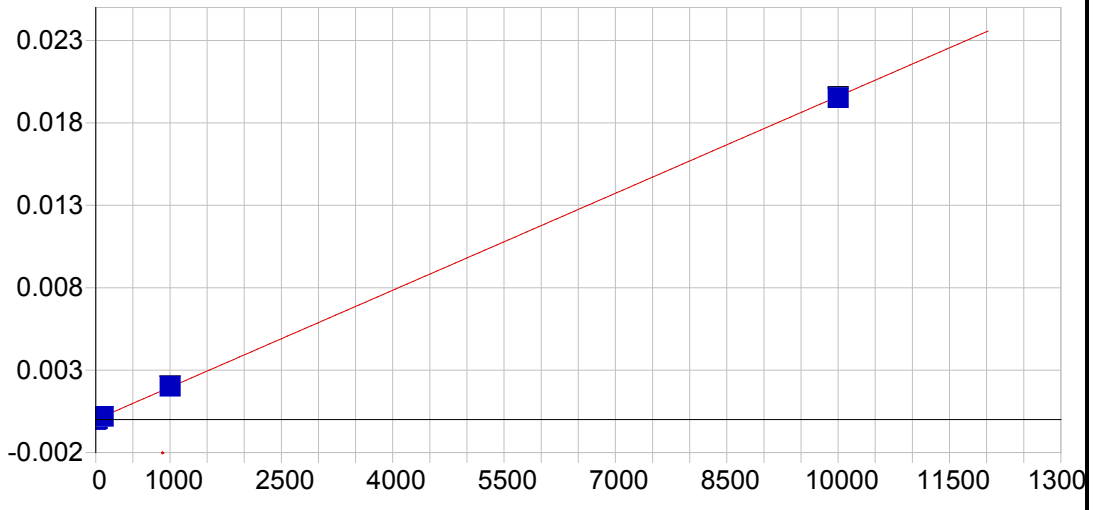


Sb 206.833 {463}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999936	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.448869		
Predicted MQL:	8.162898		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00311	-.003	.000	-.00000	.000	1
CalStd9=100	1000.0	998.24	-1.76	-.176	.00188	.000	1
CalStd5=10	10.000	13.514	3.51	35.1	.00002	.000	1
CalStd7=50	50.000	48.055	-1.95	-3.89	.00009	.000	1
CalStd10=10	10000.	10000.	.197	.002	.01821	.000	1

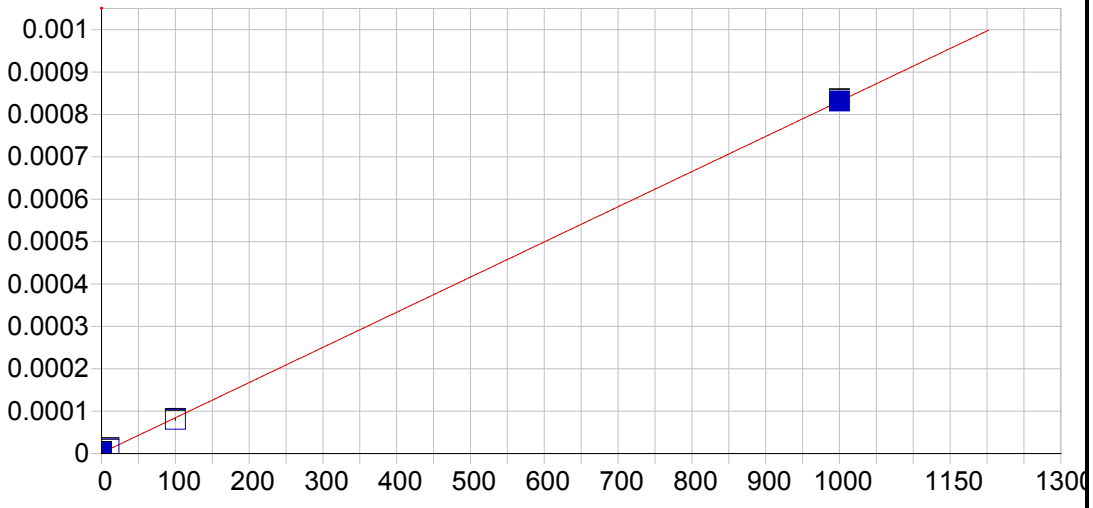


Sb 217.581 {455}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999806	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.670342		
Predicted MQL:	8.901139		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00465	-.005	.000	.00000	.000	1
CalStd9=100	1000.0	1032.0	32.0	3.20	.00202	.000	1
CalStd6=20	20.000	26.071	6.07	30.4	.00005	.000	1
CalStd5=10	10.000	12.672	2.67	26.7	.00003	.000	1
CalStd8=100	100.00	99.862	-.138	-.138	.00020	.000	1
CalStd4=5	5.0000	6.6612	1.66	33.2	.00001	.000	1
CalStd10=10	10000.	9957.8	-42.2	-.422	.01953	.000	1

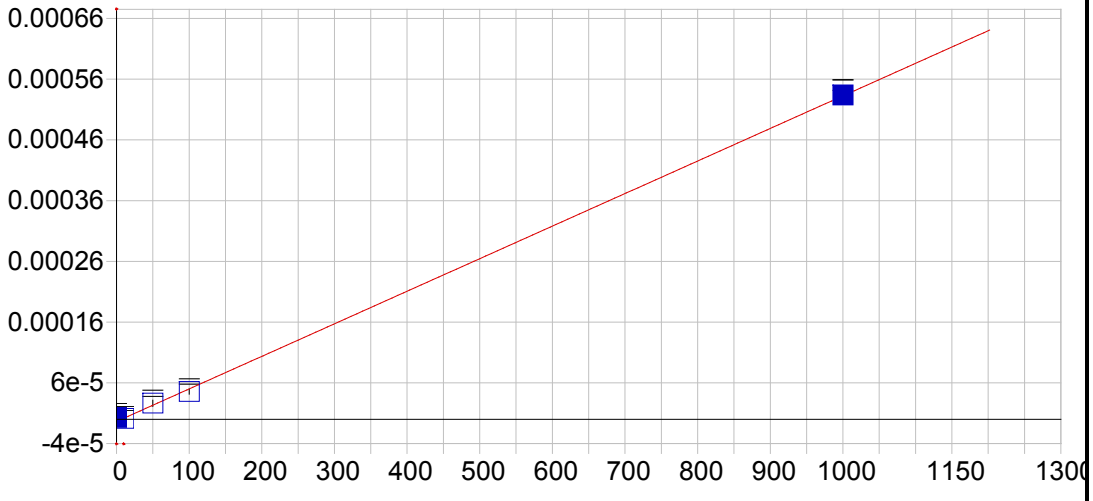


Se 196.090 {472}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999977	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	4.533805		
Predicted MQL:	15.112682		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.2596	1.26	.000	.00000	.000	1
CalStd9=100	1000.0	1000.4	.437	.044	.00083	.000	1
CalStd5=10	10.000	12.968	2.97	29.7	.00001	.000	1
CalStd8=100	100.00	95.336	-4.66	-4.66	.00008	.000	1

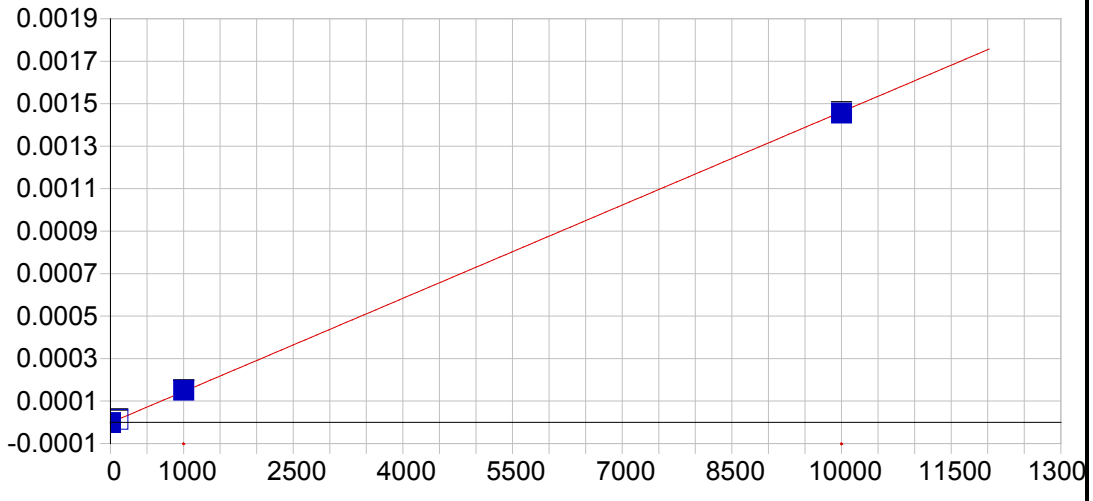


Se 203.985 {465}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999678	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	12.763658		
Predicted MQL:	42.545525		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	12.004	12.0	.000	.00000	.000	1
CalStd7=50	50.000	55.930	5.93	11.9	.00003	.000	1
CalStd9=100	1000.0	1002.3	2.32	.232	.00053	.000	1
CalStd5=10	10.000	9.1986	-.801	-8.01	.00000	.000	1
CalStd8=100	100.00	92.024	-7.98	-7.98	.00005	.000	1

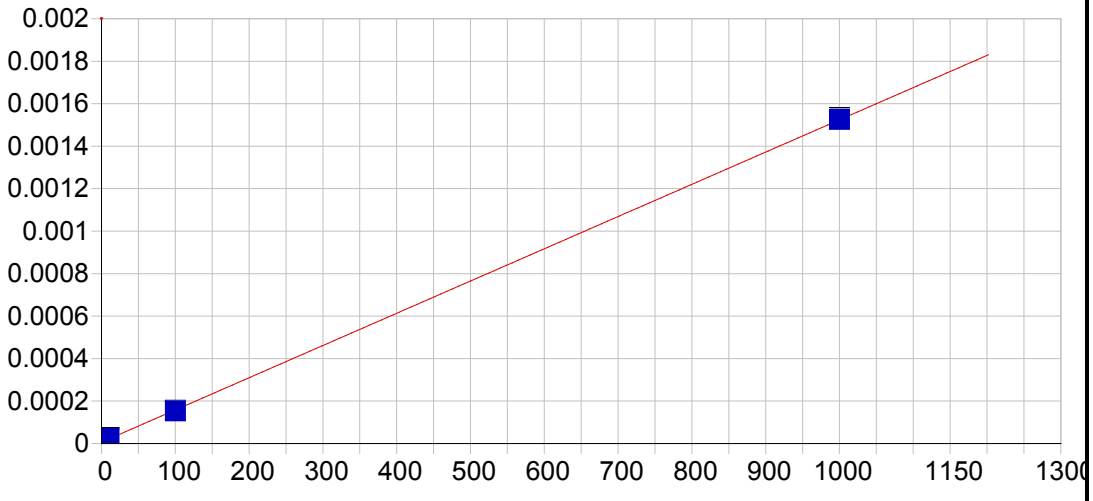


Se 206.279 {463}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999911	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	34.868188		
Predicted MQL:	116.227293		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00657	-.007	.000	-.00000	.000	1
CalStd9=100	1000.0	1041.3	41.3	4.13	.00015	.000	1
CalStd10=10	10000.	9955.9	-44.1	-.441	.00146	.000	1
CalStd8=100	100.00	102.89	2.89	2.89	.00001	.000	1

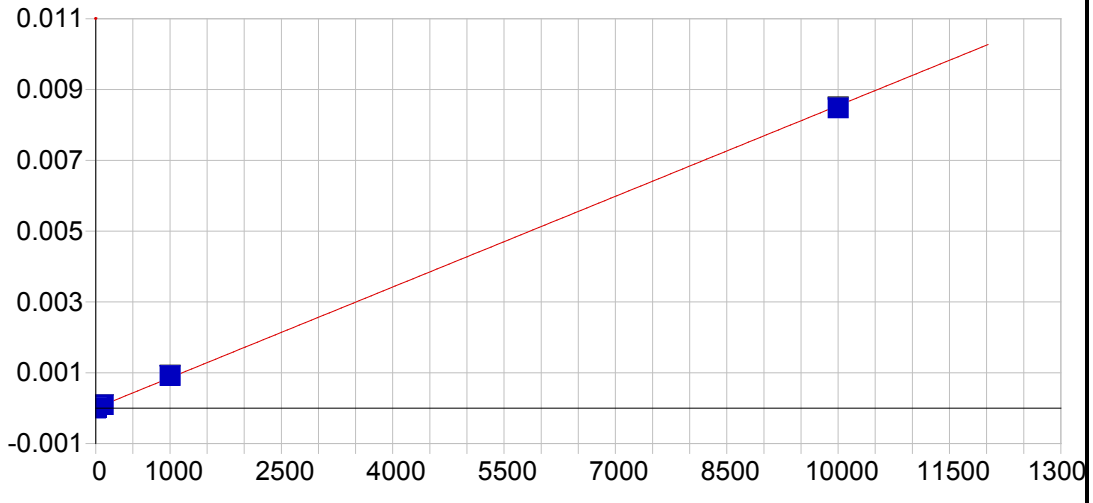


Tl 190.856 {476}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999641	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.887726		
Predicted MQL:	9.625753		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00228	-.002	.000	.00001	.000	1
CalStd9=100	1000.0	1000.8	.790	.079	.00153	.000	1
CalStd8=100	100.00	96.593	-3.41	-3.41	.00015	.000	1
CalStd5=10	10.000	12.616	2.62	26.2	.00003	.000	1

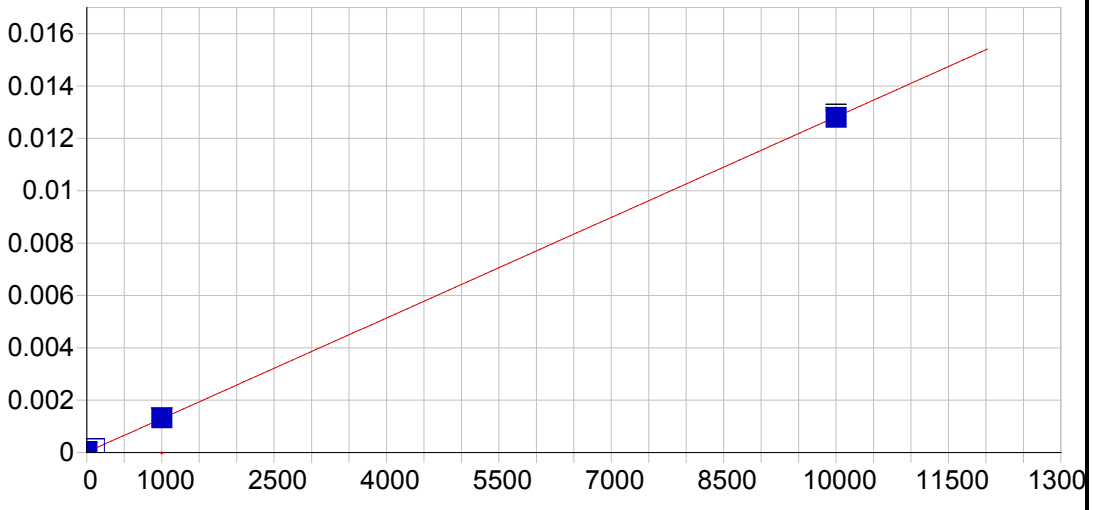


Tl 190.856 {477}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999704	Status:	OK.
Std Error of Est:	0.000016		
Predicted MDL:	4.339328		
Predicted MQL:	14.464426		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.7542	-3.75	.000	.00000	.000	1
CalStd9=100	1000.0	1069.6	69.6	6.96	.00092	.000	1
CalStd8=100	100.00	98.878	-1.12	-1.12	.00009	.000	1
CalStd5=10	10.000	8.9094	-1.09	-10.9	.00001	.000	1
CalStd10=10	10000.	9919.6	-80.4	-.804	.00847	.000	1

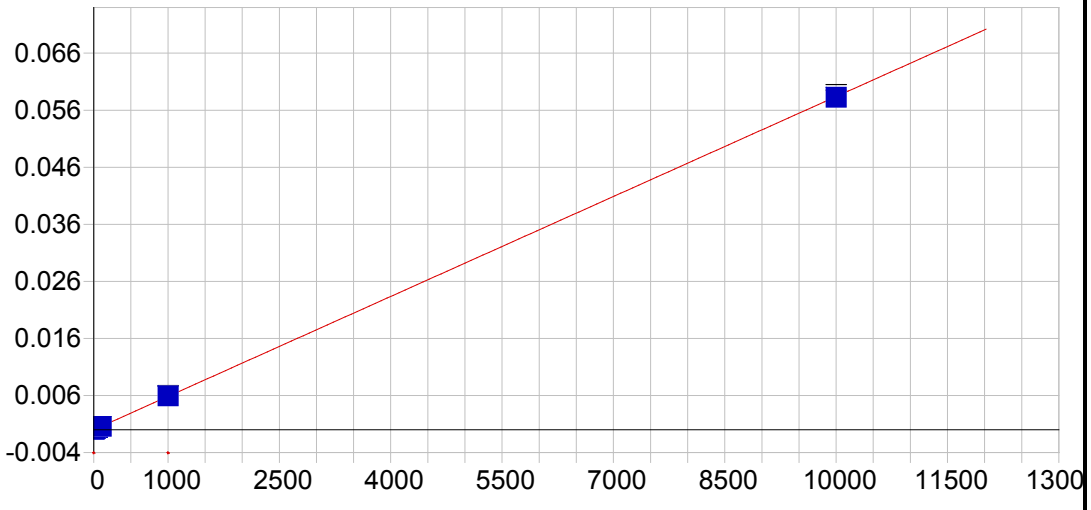


V 290.882 {116}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.551985		
Predicted MQL:	11.839952		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00133	-.001	.000	.00002	.000	1
CalStd9=100	1000.0	1017.0	17.0	1.70	.00132	.000	1
CalStd10=10	10000.	9983.2	-16.8	-.168	.01281	.000	1
CalStd8=100	100.00	99.797	-.203	-.203	.00014	.000	1

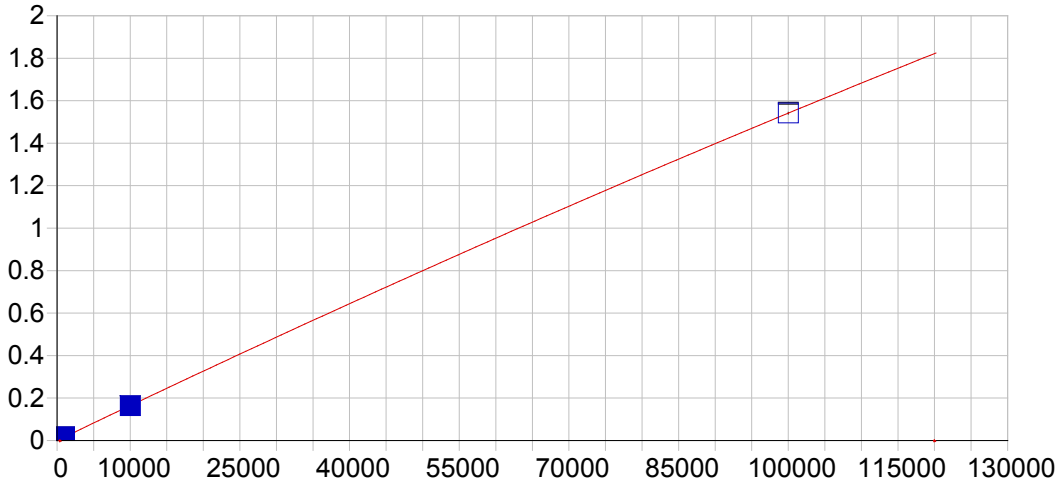


V 292.402 {115}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999875	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.576100		
Predicted MQL:	1.920333		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00661	-.007	.000	-.00001	.000	1
CalStd7=50	50.000	51.758	1.76	3.52	.00030	.000	1
CalStd9=100	1000.0	1015.6	15.6	1.56	.00592	.000	1
CalStd6=20	20.000	24.217	4.22	21.1	.00014	.000	1
CalStd5=10	10.000	13.895	3.90	39.0	.00007	.000	1
CalStd8=100	100.00	101.25	1.25	1.25	.00058	.000	1
CalStd10=10	10000.	9973.3	-26.7	-.267	.05826	.000	1

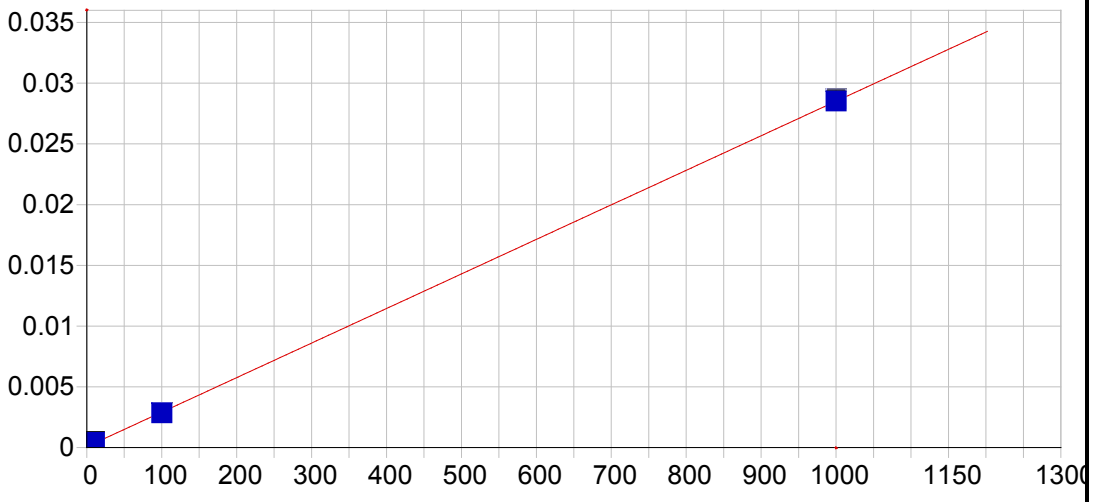


Zn 206.200 {463}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999973	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.305481		
Predicted MQL:	1.018272		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9947.4	-52.6	-.526	.16369	.000	1
Blank	.00000	-.00680	-.007	.000	.00001	.000	1
CalStd9=100	1000.0	1034.4	34.4	3.44	.01714	.000	1
CalStd12=10	100000.	100010.	5.61	.006	1.5415	.004	1
CalStd5=10	10.000	15.829	5.83	58.3	.00027	.000	1
CalStd8=100	100.00	106.83	6.83	6.83	.00178	.000	1

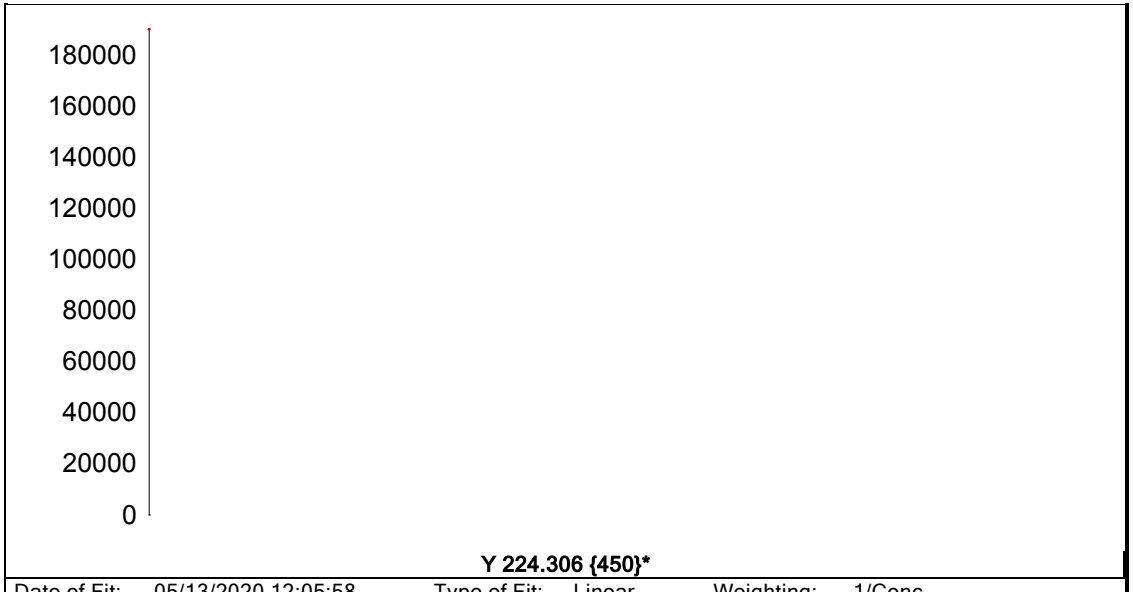


Zn 213.856 {457}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000067	Re-Slope:	1.000000
A1 (Gain):	0.000028	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000088		
Predicted MDL:	0.176161		
Predicted MQL:	0.587203		

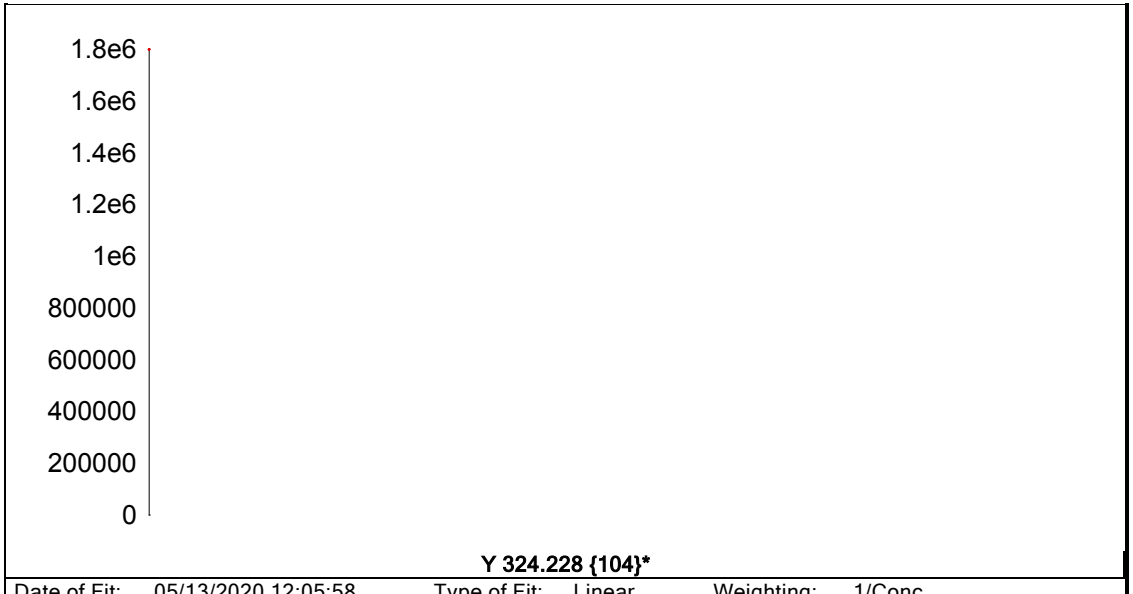
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.5108	-1.51	.000	.00002	.000	1
CalStd9=100	1000.0	1000.2	.182	.018	.02870	.000	1
CalStd5=10	10.000	13.499	3.50	35.0	.00045	.000	1
CalStd8=100	100.00	97.830	-2.17	-2.17	.00287	.000	1



Y 224.306 {450}*

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

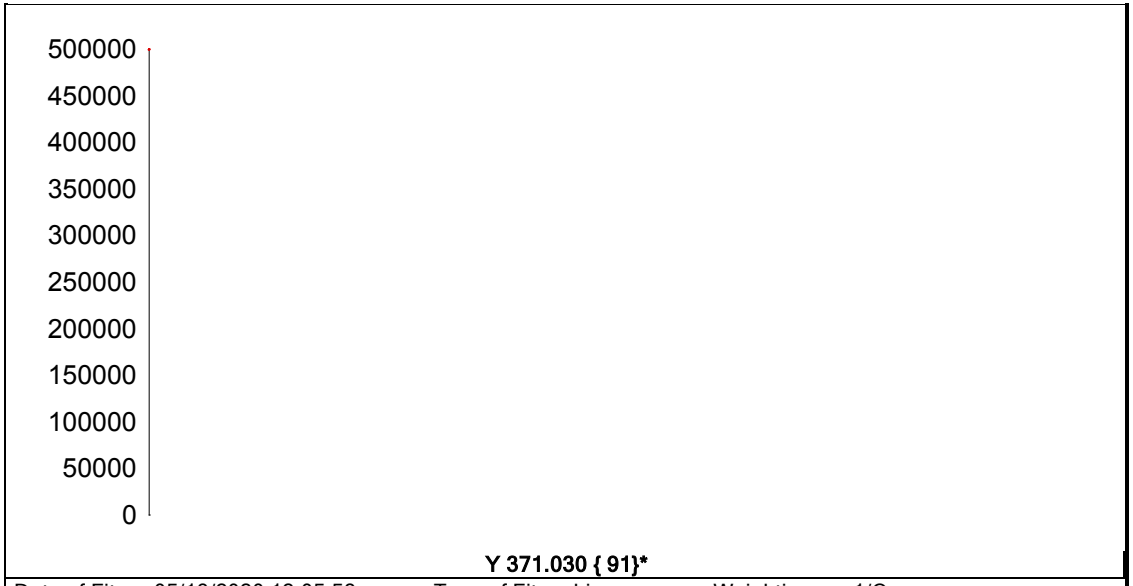
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	179600.	517.	1



Y 324.228 {104}*

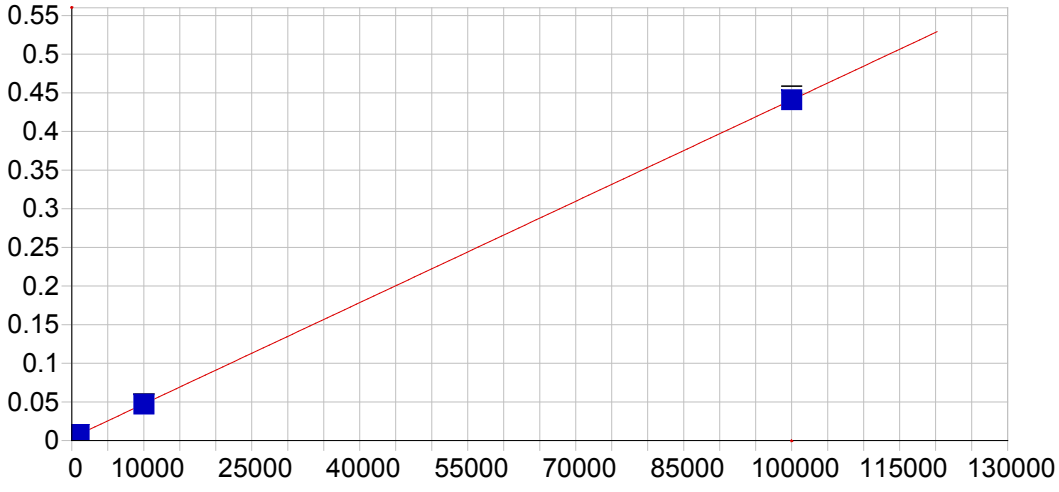
Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1674100.	3580.	1



Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	413170.	3760.	1

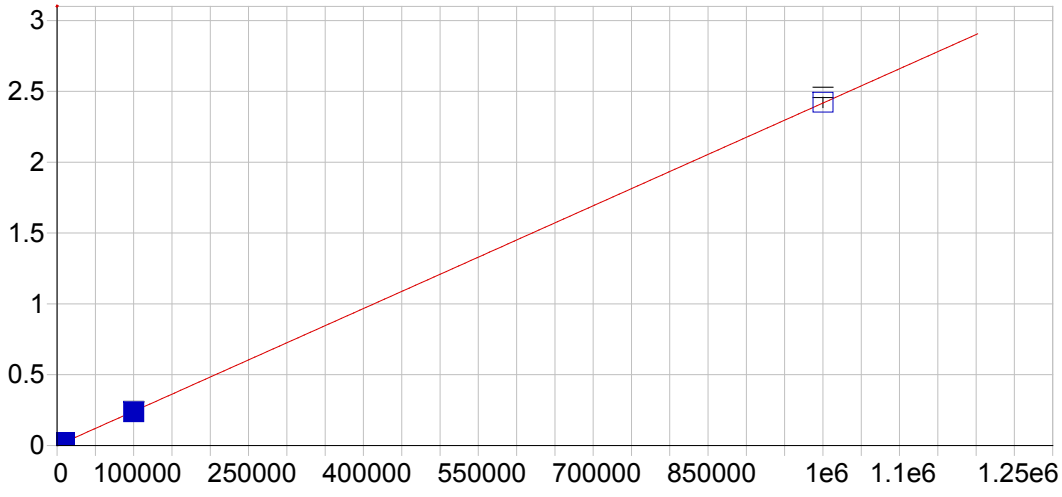


Na 588.995 { 57}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.003637	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000296		
Predicted MDL:	7.007187		
Predicted MQL:	23.357289		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	38.233	38.2	.000	.00380	.000	1
CalStd9=100	1000.0	1034.4	34.4	3.44	.00816	.000	1
CalStd10=10	10000.	9919.7	-80.3	-.803	.04700	.001	1
CalStd13=10	100000.	100010.	7.69	.008	.44082	.005	1

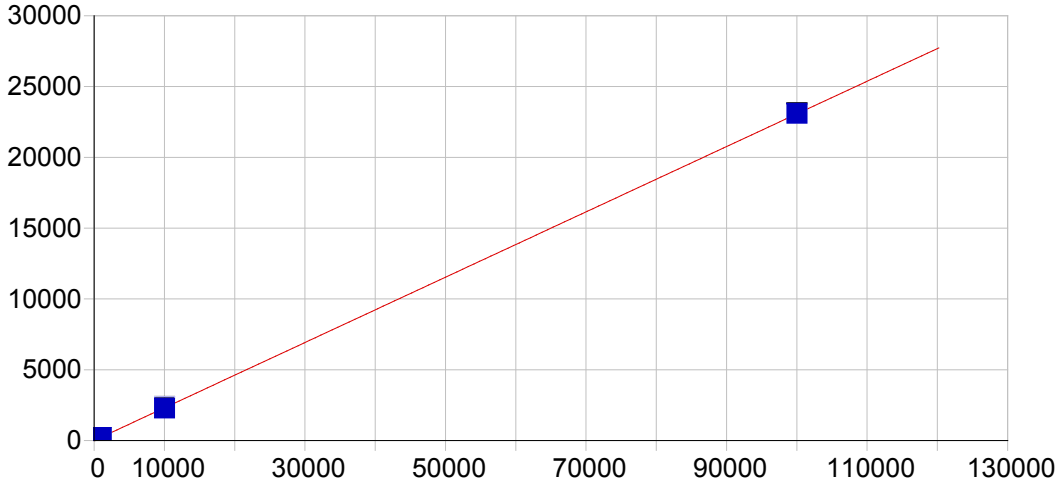


Na 589.592 { 57}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000049	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999980	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	7.643658		
Predicted MQL:	25.478858		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.11428	.114	.000	.00005	.000	1
CalStd9=100	1000.0	929.93	-70.1	-7.01	.00230	.000	1
CalStd10=10	10000.	9702.8	-297.	-2.97	.02352	.000	1
CalibStd15=	1000000.	1002000.	2020.	.202	2.4228	.037	1
CalStd13=10	100000.	98348.	-1650.	-1.65	.23792	.003	1

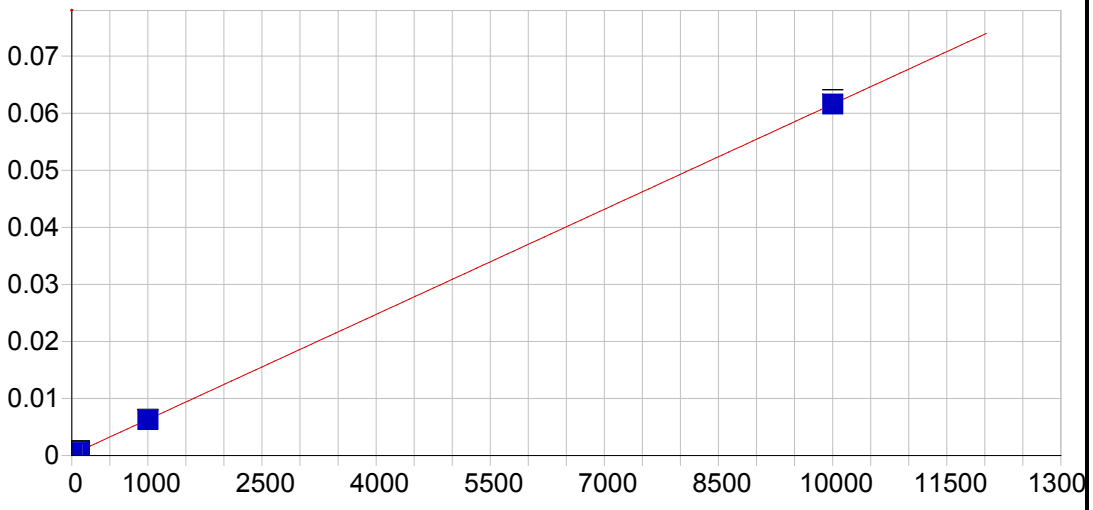


Si 251.611 {134}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	2.474657	Re-Slope:	1.000000
A1 (Gain):	0.230664	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999990	Status:	OK.
Std Error of Est:	0.498125		
Predicted MDL:	5.912642		
Predicted MQL:	19.708806		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.04373	.044	.000	2.4847	.584	1
CalStd9=100	1000.0	964.20	-35.8	-3.58	245.80	1.01	1
CalStd10=10	10000.	9907.0	-93.0	-.930	2398.5	4.74	1
CalStd13=10	100000.	100140.	137.	.137	23100.	39.0	1

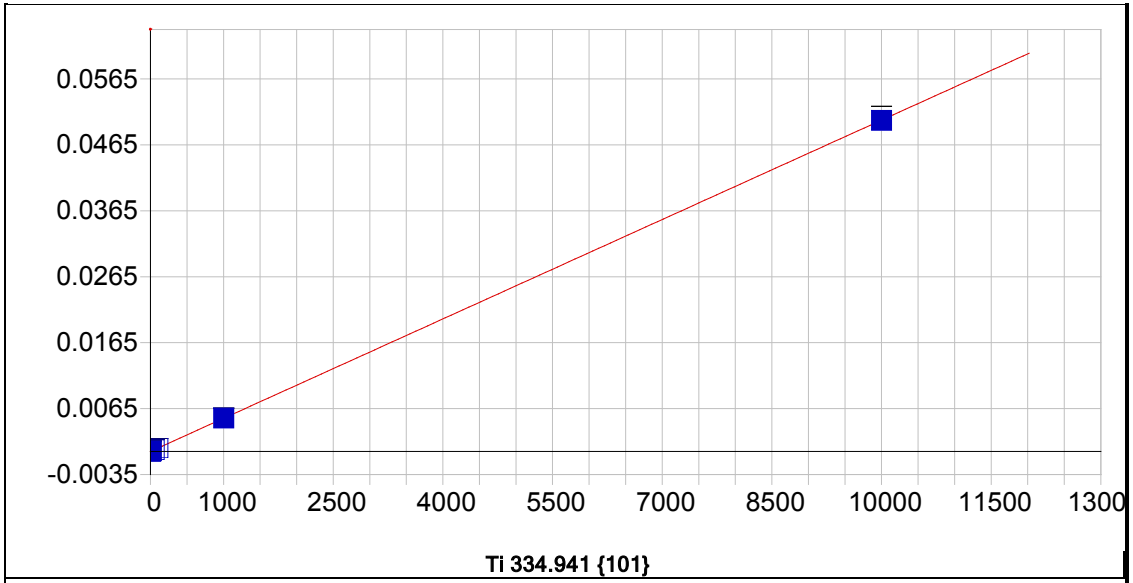


Ti 323.452 {104}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000179	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999934	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.187596		
Predicted MQL:	3.958652		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00187	-.002	.000	.00018	.000	1
CalStd5=10	10.000	13.770	3.77	37.7	.00026	.000	1
CalStd8=100	100.00	99.862	-.138	-.138	.00079	.000	1
CalStd9=100	1000.0	994.40	-5.60	-.560	.00628	.000	1
CalStd10=10	10000.	10001.	1.10	.011	.06163	.001	1
CalStd7=50	50.000	50.938	.938	1.88	.00049	.000	1
CalStd4=5	5.0000	4.9254	-.075	-1.49	.00021	.000	1

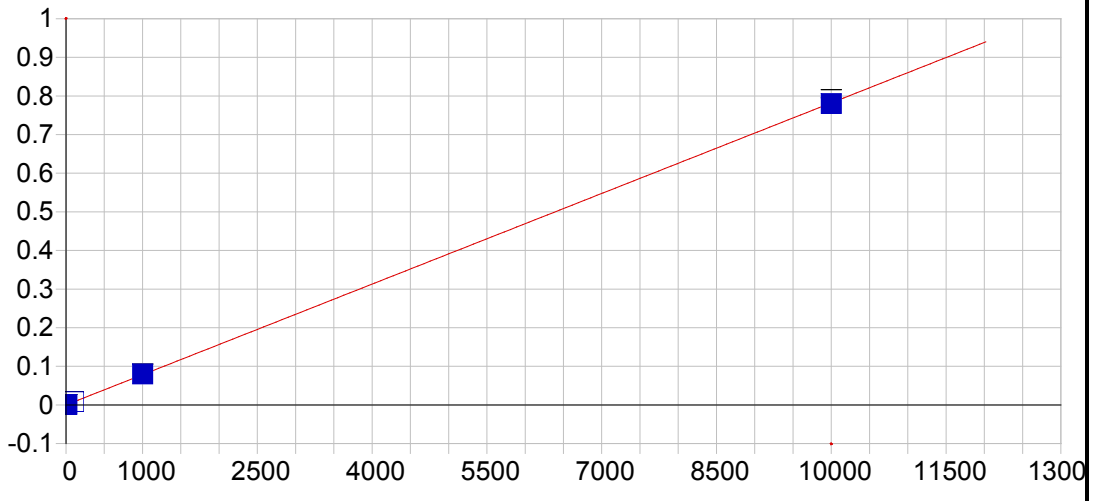


Ti 334.941 {101}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999927	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.036467		
Predicted MQL:	3.454891		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00216	-.002	.000	-.00000	.000	1
CalStd5=10	10.000	13.960	3.96	39.6	.00007	.000	1
CalStd8=100	100.00	100.63	.631	.631	.00051	.000	1
CalStd9=100	1000.0	1005.7	5.67	.567	.00505	.000	1
CalStd10=10	10000.	9988.8	-11.2	-.112	.05020	.001	1
CalStd7=50	50.000	50.895	.895	1.79	.00026	.000	1
CalStd4=5	5.0000	5.0317	.032	.633	.00003	.000	1

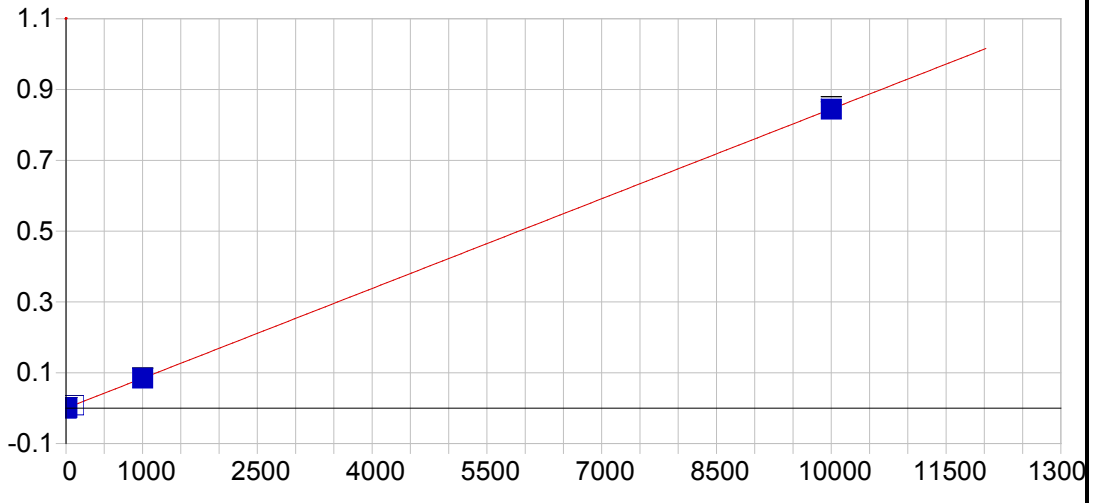


Sr 407.771 { 83}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000078	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999898	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.139657		
Predicted MQL:	0.465524		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00050	-.000	.000	.00001	.000	1
CalStd3=1	1.0000	1.0223	.022	2.23	.00009	.000	1
CalStd4=5	5.0000	5.0891	.089	1.78	.00041	.000	1
CalStd5=10	10.000	14.078	4.08	40.8	.00111	.000	1
CalStd8=100	100.00	102.96	2.96	2.96	.00807	.000	1
CalStd9=100	1000.0	1021.0	21.0	2.10	.07987	.001	1
CalStd10=10	10000.	9971.9	-28.1	-.281	.78000	.011	1

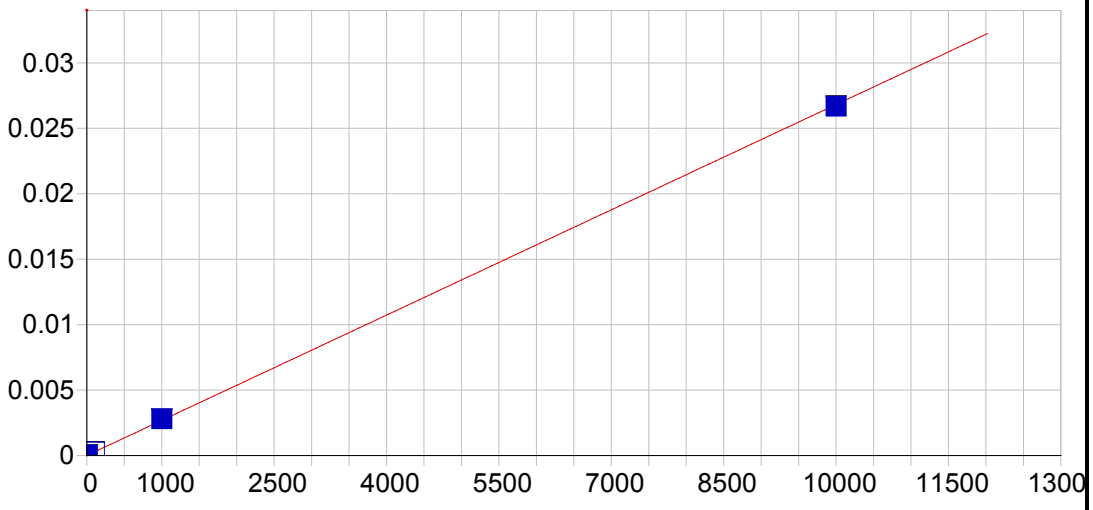


Sr 421.552 { 80}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000085	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999929	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.112766		
Predicted MQL:	0.375887		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00054	-.001	.000	-.00000	.000	1
CalStd3=1	1.0000	1.0738	.074	7.38	.00009	.000	1
CalStd4=5	5.0000	5.3033	.303	6.07	.00045	.000	1
CalStd5=10	10.000	13.903	3.90	39.0	.00117	.000	1
CalStd8=100	100.00	101.17	1.17	1.17	.00855	.000	1
CalStd9=100	1000.0	1001.6	1.56	.156	.08464	.001	1
CalStd10=10	10000.	9993.0	-7.01	-.070	.84449	.007	1

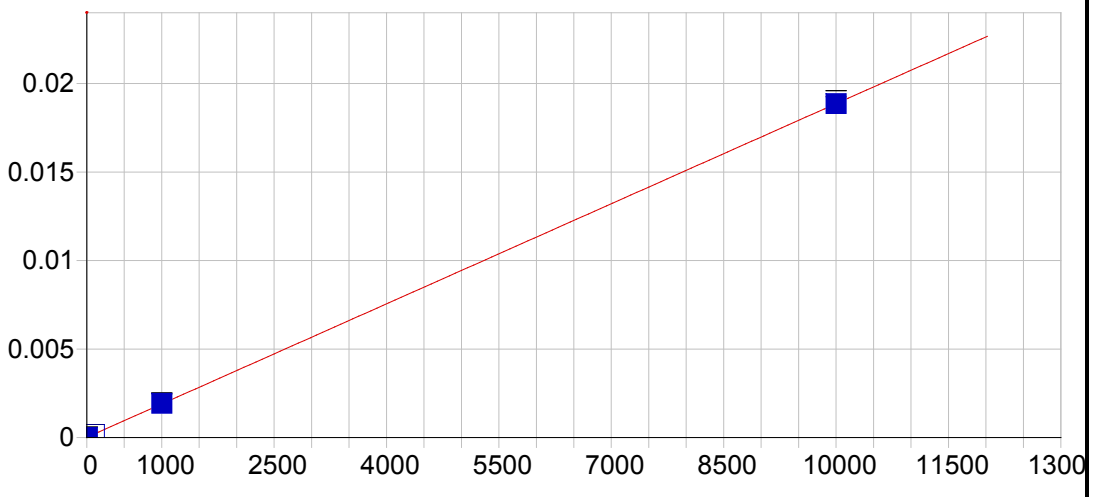


Sn 189.989 {477}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999788	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.321371		
Predicted MQL:	4.404569		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00570	-.006	.000	.00000	.000	1
CalStd10=10	10000.	9948.6	-51.4	-.514	.02668	.000	1
CalStd9=100	1000.0	1043.0	43.0	4.30	.00280	.000	1
CalStd8=100	100.00	103.48	3.48	3.48	.00028	.000	1
CalStd5=10	10.000	14.975	4.97	49.7	.00004	.000	1

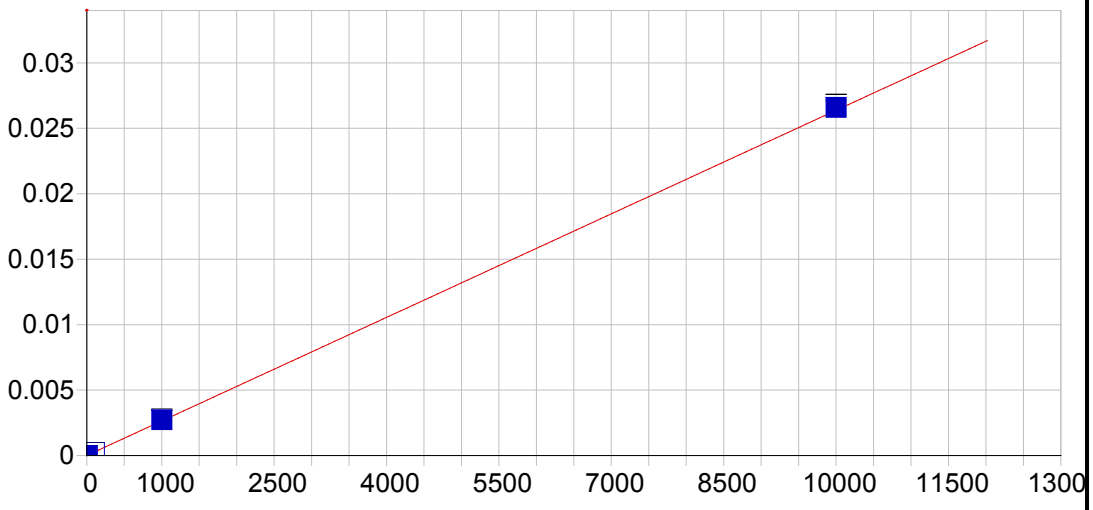


B 249.678 {135}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	0.956993		
Predicted MQL:	3.189978		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.7421	-4.74	.000	.00000	.000	1
CalStd8=100	100.00	92.149	-7.85	-7.85	.00019	.000	1
CalStd5=10	10.000	9.5609	-.439	-4.39	.00003	.000	1
CalStd9=100	1000.0	1014.4	14.4	1.44	.00192	.000	1
CalStd10=10	10000.	9998.6	-1.36	-.014	.01886	.000	1

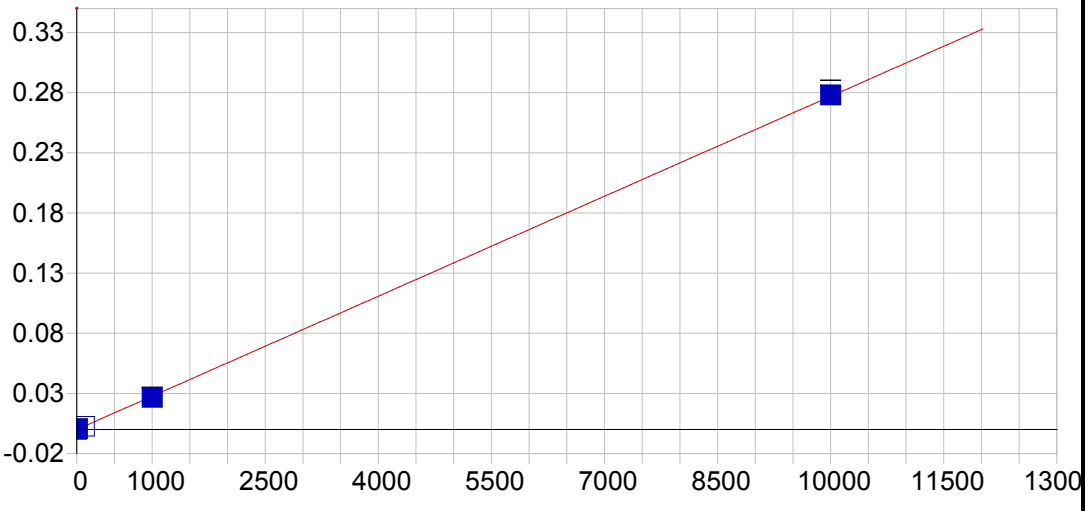


B 249.773 {135}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999485	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.604744		
Predicted MQL:	2.015812		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.43054	-.431	.000	.00000	.000	1
CalStd8=100	100.00	98.467	-1.53	-1.53	.00026	.000	1
CalStd5=10	10.000	13.794	3.79	37.9	.00004	.000	1
CalStd9=100	1000.0	1034.5	34.5	3.45	.00273	.000	1
CalStd10=10	10000.	10079.	78.7	.787	.02661	.000	1

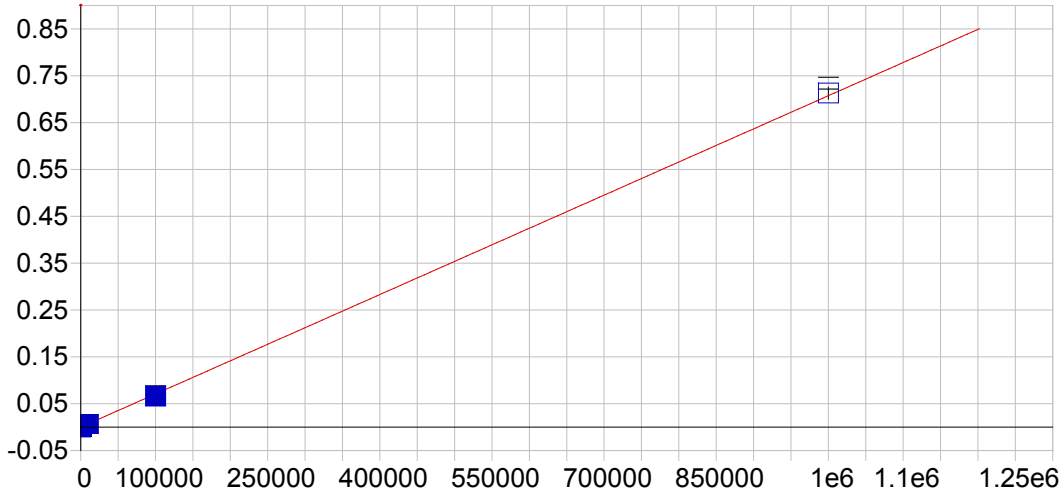


Li 670.784 { 50}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000051	Re-Slope:	1.000000
A1 (Gain):	0.000028	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999851	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	0.815527		
Predicted MQL:	2.718423		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00357	-.004	.000	-.00005	.000	1
CalStd5=10	10.000	14.149	4.15	41.5	.00034	.000	1
CalStd8=100	100.00	97.646	-2.35	-2.35	.00265	.000	1
CalStd9=100	1000.0	962.38	-37.6	-3.76	.02662	.000	1
CalStd10=10	10000.	10036.	35.8	.358	.27804	.004	1

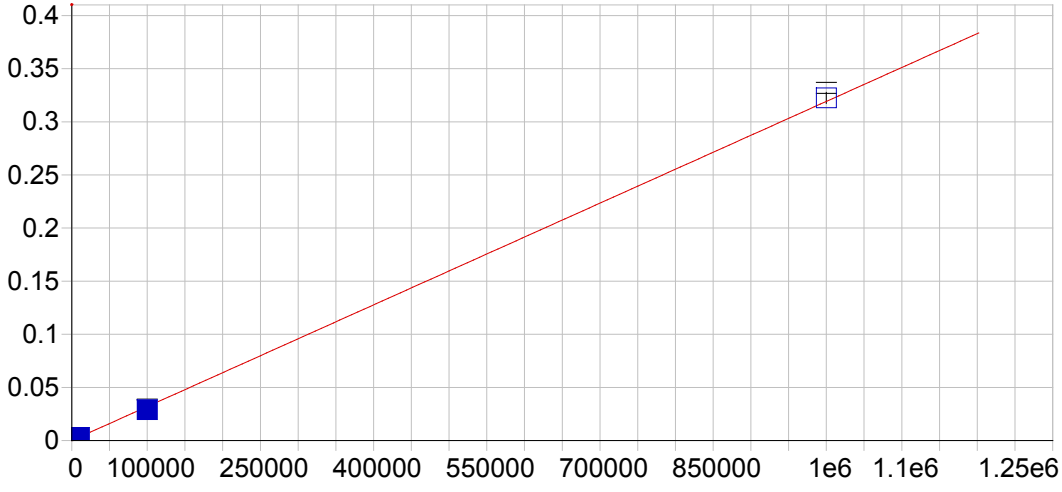


K 766.490 { 44}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000062	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999739	Status:	OK.
Std Error of Est:	0.000022		
Predicted MDL:	29.459624		
Predicted MQL:	98.198746		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.24664	.247	.000	-.00006	.000	1
CalStd9=100	1000.0	884.64	-115.	-11.5	.00056	.000	1
CalStd10=10	10000.	9288.9	-711.	-7.11	.00651	.000	1
CalibStd15=	1000000.	1007600.	7600.	.760	.71287	.012	1
CalStd13=10	100000.	93223.	-6780.	-6.78	.06588	.001	1

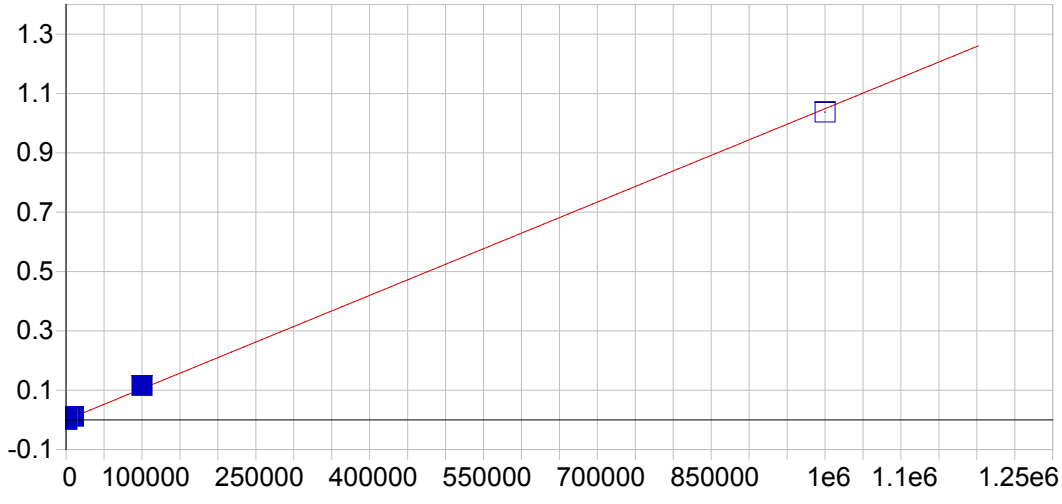


K 769.896 { 44}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000040	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999523	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	48.780089		
Predicted MQL:	162.600296		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.24925	.249	.000	.00004	.000	1
CalStd9=100	1000.0	931.32	-68.7	-6.87	.00034	.000	1
CalStd10=10	10000.	9015.5	-985.	-9.85	.00292	.000	1
CalibStd15=	1000000.	1010300.	10300.	1.03	.32247	.005	1
CalStd13=10	100000.	90759.	-9240.	-9.24	.02901	.000	1

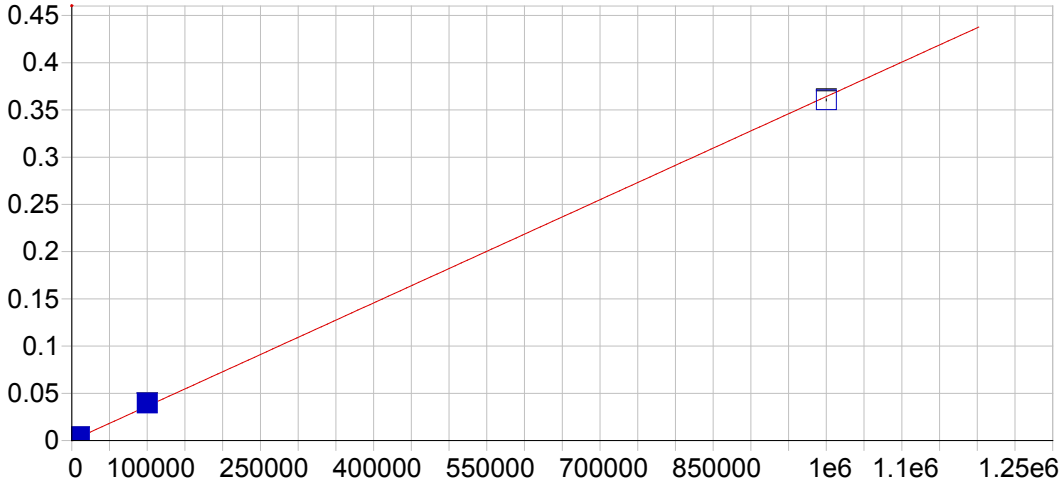


P 213.618 {457}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000010	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999438	Status:	OK.
Std Error of Est:	0.000048		
Predicted MDL:	4.937433		
Predicted MQL:	16.458111		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.31446	-.314	.000	-.00001	.000	1
CalStd10=10	10000.	11213.	1210.	12.1	.01175	.000	1
CalStd9=100	1000.0	1105.9	106.	10.6	.00115	.000	1
CalStd13=10	100000.	109840.	9840.	9.84	.11519	.000	1
CalibStd15=	1000000.	988840.	-11200.	-1.12	1.0371	.001	1

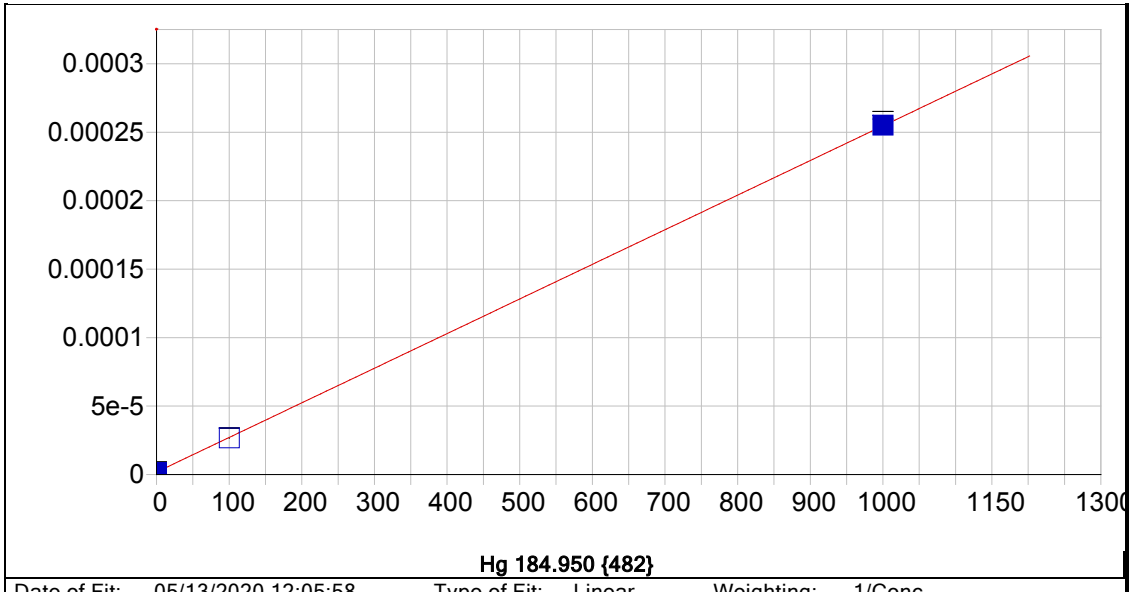


S 182.034 {485}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999575	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	9.077314		
Predicted MQL:	30.257714		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.21581	-.216	.000	.00001	.000	1
CalStd9=100	1000.0	1065.8	65.8	6.58	.00039	.000	1
CalStd10=10	10000.	10705.	705.	7.05	.00392	.000	1
CalibStd15=	1000000.	990290.	-9710.	-.971	.36064	.001	1
CalStd13=10	100000.	108920.	8920.	8.92	.03972	.000	1

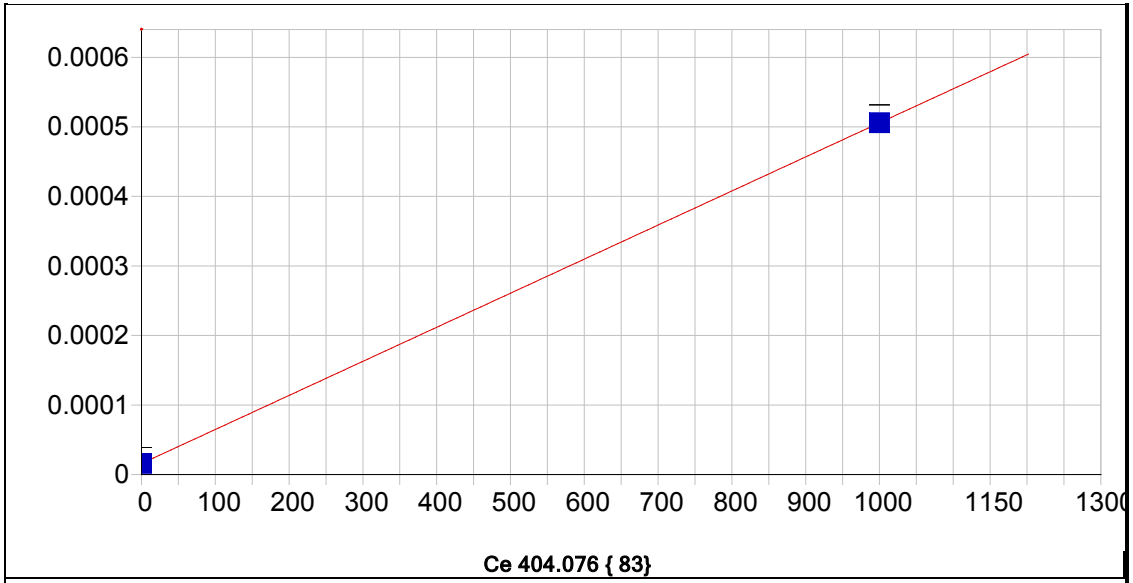


Hg 184.950 {482}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999986	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.440724		
Predicted MQL:	4.802414		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00150	.001	.000	.00000	.000	1
CalStd8=100	100.00	98.339	-1.66	-1.66	.00003	.000	1
CalStd9=100	1000.0	1001.7	1.66	.166	.00026	.000	1



Ce 404.076 { 83}

Date of Fit:	05/13/2020 12:05:58	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	19.723876		
Predicted MQL:	65.746253		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00002	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00051	.000	1

Sample Name: Blank Acquired: 05/06/2020 08:24:40 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3968
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-3.71**	**.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.009**	**-153.**	**.000**	**.000**	**.000**
Stddev	2.05	.000	.000	.000	.000	.000	.000	.000	5.	.000	.000	.000
%RSD	55.1	39.1	12.6	30.4	128.	453.	20.4	1.09	3.14	58.4	3.06	15.6

Elem	Cd2265	Co2286	Co2388	Cr2055	Cr2677	Cu2230	Cu2247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.287**	**.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**-.000**	**-.000**	**312.**	**-.000**	**-.000**
Stddev	.572	.000	.000	.000	.000	.000	.000	.000	.000	7.	.000	.000
%RSD	199.	88.2	76.1	73.7	660.	356.	351.	126.	17.5	2.34	14.9	214.

Elem	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**-.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2120.	63.8	132.	40.5	37.6	35.4	112.	582.	55.3	134.	30.0	34.0

Elem	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	53.5	31.8	16.1

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**179600.**	**1674100.**	**413170.**
Stddev	517.	3578.	3763.
%RSD	.28780	.21369	.91070

Sample Name: CalStd2=0.5 Acquired: 05/06/2020 08:31:06 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265
Units	Cts/S	Cts/S
Avg	**-88.6**	**2.14**
Stddev	3.3	.88
%RSD	3.70	40.9

Int. Std.	Y_2243
Units	Cts/S
Avg	**177020.**
Stddev	305.
%RSD	.17203

Sample Name: CalStd3=1 Acquired: 05/06/2020 08:37:58 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-2.86**	**.000**	**-29.9**	**5.38**	**.000**	**.000**	**.000**
Stddev	2.72	.000	4.3	.81	.000	.000	.000
%RSD	95.2	49.9	14.5	15.0	33.2	40.7	206.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**177000.**	**1647200.**	**402100.**
Stddev	330.	7567.	1736.
%RSD	.18652	.45939	.43179

Sample Name: CalStd4=5 Acquired: 05/06/2020 08:44:14 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**452.**	**22.3**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	6.	.7	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	12.7	1.37	2.99	3.76	6.46	22.2	1.06	6.68	19.5	5.10	11.6	41.3

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**177370.**	**1645900.**	**408020.**
Stddev	247.	6253.	3802.
%RSD	.13917	.37990	.93189

Sample Name: CalStd5=10 Acquired: 05/06/2020 08:50:36 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3130	Cd2265	Co2286	Cr2055	Cr2677	Cu2230	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**49.1**	**.000**	**.000**	**.000**	**.000**	**1470.**	**60.8**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	1.3	.000	.000	.000	.000	5.	.5	.000	.000	.000	.000	.000
%RSD	2.62	1.80	23.0	59.4	4.34	.306	.750	.903	1.94	7.90	3.09	.719

Elem	Mo2020	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.59	4.59	2.47	9.87	3.00	12.7	14.7	18.5	14.5	2.56	2.75	.569

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**177810.**	**1647200.**	**407210.**
Stddev	334.	2470.	3491.
%RSD	.18805	.14995	.85727

Sample Name: CalStd6=20 Acquired: 05/06/2020 08:56:59 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2230	Cu2247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.06	5.25	17.9	1.17	1.75	3.04	3.77	3.15

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**178620.**	**1647500.**	**406280.**
Stddev	349.	5454.	2126.
%RSD	.19515	.33105	.52320

Sample Name: CalStd7=50 Acquired: 05/06/2020 09:03:17 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	As1937	As1972	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Mo2045	Ni2316	Sb2068	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.001**	**.001**	**.001**	**.000**	**.001**	**.000**	**.000**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.902	12.8	.600	.473	1.12	3.35	.393	.982	2.04	1.29	4.70	.769

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**178430.**	**1637600.**	**402800.**
Stddev	190.	4295.	3387.
%RSD	.10631	.26229	.84079

Sample Name: CalStd8=100 Acquired: 05/06/2020 09:09:32 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3968	Cd2265	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**395.**	**.000**	**.000**	**.000**	**.000**	**.013**	**11800.**	**.001**	**.010**	**456.**	**.002**
Stddev	3.	.000	.000	.000	.000	.000	26.	.000	.000	2.	.000
%RSD	.643	1.51	4.45	3.13	.164	.992	.222	1.47	1.09	.501	.326

Elem	Co2388	Cr2055	Cr2677	Cu2230	Cu2247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.001**	**.002**	**.001**	**.000**	**5790.**	**.001**	**.001**	**.001**	**.001**	**.001**
Stddev	.000	.000	.000	.000	.000	12.	.000	.000	.000	.000	.000
%RSD	.807	.675	.960	.884	4.56	.212	.376	.681	.778	.299	.551

Elem	Pb2169	Pb2203	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.002**	**.003**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.45	1.81	1.28	2.70	21.3	2.01	1.98	.547	.369	.235

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**179310.**	**1644500.**	**405240.**
Stddev	395.	4552.	3788.
%RSD	.22053	.27681	.93473

Sample Name: CalStd9=1000 Acquired: 05/06/2020 09:15:52 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3158
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.000**	**.002**	**.001**	**.001**	**.001**	**.046**	**116000.**	**.006**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	310.	.000	.000
%RSD	.314	1.24	.697	.293	1.34	1.19	.622	.267	.559	1.26

Elem	Ca3968	Cd2265	Co2286	Co2388	Cr2055	Cr2677	Cu2230	Cu2247	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.099**	**4420.**	**.023**	**.002**	**.014**	**.023**	**.006**	**.007**	**.001**	**.000**
Stddev	.001	14.	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.646	.324	.206	1.21	.288	.202	.377	.689	.387	1.45

Elem	Mg2802	Mn2576	Mn2593	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**53200.**	**.011**	**.006**	**.008**	**.005**	**.015**	**.015**	**.001**	**.003**	**.002**
Stddev	209.	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.392	1.12	.768	.250	.242	.140	.167	.817	.574	.534

Elem	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.001**	**.000**	**.002**	**.001**	**.006**	**.017**	**.029**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.382	.573	1.74	.385	1.000	1.35	.295	.103

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**174420.**	**1607700.**	**404770.**
Stddev	467.	21312.	3139.
%RSD	.26794	1.3256	.77538

Sample Name: CalStd10=10000 Acquired: 05/06/2020 09:21:35 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1972	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.018**	**.006**	**.004**	**.989**	**.216**	**.020**	**.136**	**.217**	**.076**
Stddev	.000	.000	.000	.000	.006	.000	.000	.000	.001	.000
%RSD	1.21	1.26	.218	.740	.614	.189	.763	.205	.366	.205

Elem	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.012**	**.001**	**469000.**	**.101**	**.061**	**.051**	**.139**	**.142**	**.013**	**.018**
Stddev	.000	.000	1500.	.001	.001	.000	.000	.000	.000	.000
%RSD	.815	1.02	.320	.642	.974	.145	.141	.116	.231	.203

Elem	Sb2175	Se2062	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.020**	**.001**	**.013**	**.058**	**.164**
Stddev	.000	.000	.000	.000	.000
%RSD	.245	.374	.928	.851	.211

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**171600.**	**1570400.**	**400370.**
Stddev	460.	12508.	3234.
%RSD	.26780	.79649	.80781

Sample Name: CalStd12=100K Acquired: 05/06/2020 09:28:10 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu2247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.26**	**.792**	**.612**	**.131**	**1.54**
Stddev	.00	.002	.006	.001	.00
%RSD	.183	.262	.902	.486	.271

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**171790.**	**1589100.**	**402380.**
Stddev	556.	1587.	2157.
%RSD	.32382	.09987	.53608

Sample Name: CalStd13=100000 Acquired: 05/06/2020 09:34:52 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.038**	**.184**	**.041**	**.117**	**.008**
Stddev	.000	.002	.000	.001	.000
%RSD	1.26	1.25	1.21	1.16	1.34

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**165520.**	**1524200.**	**392750.**
Stddev	179.	3973.	4969.
%RSD	.10839	.26070	1.2651

Sample Name: CalStd14=500000 Acquired: 05/06/2020 09:41:12 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.957**	**.204**	**.550**	**.040**
Stddev	.005	.001	.003	.000
%RSD	.554	.479	.463	.156

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1443700.**	**376520.**
Stddev	5148.	452.
%RSD	.35658	.12015

Sample Name: CalibStd15=1000k Acquired: 05/06/2020 09:48:20 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Mg2790
Units	Cts/S	Cts/S	Cts/S
Avg	**1.98**	**.414**	**.083**
Stddev	.04	.004	.001
%RSD	1.76	.919	1.01

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**140560.**	**1296000.**	**342710.**
Stddev	224.	5588.	4079.
%RSD	.15957	.43114	1.1903

Sample Name: Ag Ba 1000, 50000 Acquired: 05/06/2020 09:56:07 Type: Cal
Method: DOD Calibration Updated 060614(v3861) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba4934
Units	Cts/S
Avg	**1.86**
Stddev	.03
%RSD	1.39

Int. Std.	Y_3710
Units	Cts/S
Avg	**410370.**
Stddev	4534.
%RSD	1.1047

Sample Name: icv Acquired: 05/06/2020 10:16:57 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Ca3158	Cd2265	Co2286	Cr2055
Avg	**50.5**	**12200.**	**11500.**	**2080.**	**2120.**	**2020.**	**2060.**	**50.6**	**10400.**	**50.3**	**518.**	**217.**
Stddev	.4	101.	105.	3.	12.	8.	24.	.3	111.	.2	1.	1.
%RSD	.735	.828	.910	.129	.585	.372	1.14	.543	1.07	.432	.102	.291
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Cr2677	Cu2230	Fe2599	Mg2790	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175
Avg	**215.**	**255.**	**5160.**	**10300.**	**506.**	**520.**	**537.**	**536.**	**512.**	**529.**	**518.**	**537.**
Stddev	2.	1.	60.	128.	4.	2.	2.	.	1.	5.	1.	1.
%RSD	.703	.508	1.16	1.24	.830	.359	.341	.081	.194	.923	.237	.158
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Se1960	Se2062	Tl1908	V_2924	Zn2062	Zn2138
Avg	**2090.**	**2130.**	**2060.**	**528.**	**547.**	**531.**
Stddev	6.	37.	8.	3.	1.	1.
%RSD	.279	1.75	.401	.644	.272	.109
Check ?	None	None	None	None	None	None
Value						
Range						

Sample Name: icv Acquired: 05/06/2020 10:16:57 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**171680.**	**1603100.**	**403580.**
Stddev	331.	6577.	3616.
%RSD	.19266	.41027	.89586

Sample Name: ICVLL Acquired: 05/06/2020 10:23:14 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	F **34.0**	**1210.**	**1200.**	**63.0**	**30.0**	**12.4**	**1520.**	**15.2**	**30.8**	**31.1**	**32.7**	**912.**
Stddev	.4	4.	24.	1.4	.4	.0	9.	.2	.1	.7	.7	3.
%RSD	1.03	.360	1.99	2.26	1.30	.213	.561	1.04	.262	2.26	2.15	.369
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1490.**	**31.9**	**32.4**	**31.3**	**29.9**	**66.3**	**60.6**	**59.5**	**31.6**	**30.5**
Stddev	3.	.1	.7	.4	3.0	2.0	1.6	1.9	.6	.2
%RSD	.186	.374	2.04	1.28	10.2	3.02	2.67	3.13	2.01	.697
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**170870.**	**1604700.**	**403990.**
Stddev	631.	6388.	3305.
%RSD	.36902	.39808	.81819

Sample Name: icb Acquired: 05/06/2020 10:35:44 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	**-2.11**	**-3.02**	**4.41**	**-.061**	**.037**	**-2.00**	**.062**	**-.166**	**-.250**	**.255**	**.957**	**-1.22**
Stddev	.28	.98	2.67	.200	.031	.15	.236	.447	.800	.434	2.66	.07
%RSD	13.1	32.3	60.5	331.	83.2	7.62	382.	270.	320.	170.	278.	5.50
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.062**	**.017**	**.149**	**-1.31**	**1.75**	**-2.95**	**-.052**	**.063**	**-1.78**
Stddev	.084	.132	.315	2.29	2.71	2.38	1.29	.151	.11
%RSD	136.	799.	211.	175.	154.	80.7	2460.	239.	6.32
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**176680.**	**1645400.**	**411950.**
Stddev	297.	5116.	2817.
%RSD	.16802	.31096	.68392

Sample Name: MRL/LLOQ Acquired: 05/06/2020 10:42:03 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	F **10.0**	**423.**	**21.9**	**10.1**	**4.22**	**529.**	**5.03**	**10.3**	**10.7**	**12.2**	**315.**	**498.**
Stddev	.3	1.	3.1	.3	.03	5.	.32	.2	.4	1.2	3.	1.
%RSD	2.88	.175	14.2	3.24	.764	1.01	6.33	1.79	4.04	9.53	.876	.143
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	20.0											
Range	-30.0%											

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**12.9**	**10.4**	**10.3**	**9.71**	**22.8**	**19.1**	**21.9**	**10.5**	**9.37**
Stddev	.2	.3	.5	1.71	2.8	4.3	1.7	.6	.12
%RSD	1.19	2.61	5.23	17.6	12.4	22.5	7.78	5.63	1.26
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**171360.**	**1609700.**	**397840.**
Stddev	541.	5782.	3548.
%RSD	.31550	.35921	.89169

Sample Name: ICSA Acquired: 05/06/2020 10:48:18 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	**-1.78**	**487000.**	**-.236**	**-.990**	**-.001**	**494000.**	**.008**	**1.44**	**1.89**	**1.81**	**455000.**
Stddev	1.97	4630.	15.1	.626	.036	4150.	.755	.37	.89	1.90	4290.
%RSD	111.	.951	6420.	63.2	2720.	.839	9480.	26.1	46.9	105.	.943
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	Zn2138
Avg	**531000.**	**.828**	**1.27**	**-2.07**	**-1.56**	**1.49**	**-6.35**	**-4.56**	**22300.**	**-11.2**
Stddev	4010.	.150	.47	.31	3.21	3.58	6.81	7.63	191.	1.0
%RSD	.756	18.1	36.8	14.8	207.	240.	107.	167.	.859	8.55
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**152580.**	**1457600.**	**374590.**
Stddev	531.	5554.	2972.
%RSD	.34797	.38101	.79330

Sample Name: ICSAB Acquired: 05/06/2020 10:55:23 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3382	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2288	Co2286	Cr2055	Cr2677	Cu2230
Avg	**464.**	**487000.**	**505.**	**457.**	**421.**	**496000.**	**514.**	**453.**	**496.**	**494.**	**490.**
Stddev	10.	3900.	10.	4.	1.	3120.	4.	1.	3.	1.	3.
%RSD	2.10	.801	1.99	.913	.145	.628	.868	.115	.568	.296	.551
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Avg	**459000.**	**533000.**	**456.**	**478.**	**492.**	**465.**	**433.**	**464.**	**412.**	**483.**	**447.**
Stddev	3390.	2300.	4.	1.	2.	1.	1.	4.	2.	5.	12.
%RSD	.737	.431	.981	.295	.388	.282	.303	.779	.578	1.08	2.69
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Tl1908	V_2924	Zn2062	Zn2138
Avg	**438.**	**472.**	**466.**	**474.**
Stddev	2.	5.	1.	1.
%RSD	.423	1.10	.290	.281
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Sample Name: ICSAB Acquired: 05/06/2020 10:55:23 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**153400.**	**1447800.**	**375360.**
Stddev	411.	12971.	1462.
%RSD	.26763	.89588	.38941

Sample Name: ICVLL Ag Acquired: 05/06/2020 11:08:23 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.4**	**-1.06**	**.833**	**1.62**	**.116**	**1.03**	**.045**	**-.135**	**.361**	**2.45**	**46.8**	**-.273**
Stddev	.5	.61	4.07	.34	.029	.11	.222	.327	.320	1.05	19.0	.097
%RSD	4.93	57.4	489.	20.7	24.6	10.7	496.	243.	88.5	43.0	40.6	35.6

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.201**	**.452**	**.228**	**.380**	**2.31**	**-.312**	**1.07**	**-.406**	**-1.23**
Stddev	.034	.183	.532	2.04	2.12	3.66	1.16	.427	.18
%RSD	17.1	40.4	233.	536.	91.6	1170.	108.	105.	14.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**171090.**	**1603600.**	**393500.**
Stddev	238.	7110.	5704.
%RSD	.13895	.44340	1.4496

Sample Name: ccv1 Acquired: 05/06/2020 23:05:04 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247
Avg	**519.**	**5320.**	**5210.**	**5340.**	**5520.**	**5360.**	**502.**	**5300.**	**492.**	**5370.**	**5480.**	**5380.**
Stddev	1.	78.	78.	17.	11.	86.	2.	94.	1.	67.	3.	4.
%RSD	.165	1.46	1.50	.310	.202	1.61	.331	1.77	.296	1.25	.051	.071
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062
Avg	**5180.**	**5220.**	**5340.**	**5440.**	**5390.**	**5250.**	**5410.**	**5350.**	**5460.**	**4960.**	**5310.**	**5430.**
Stddev	75.	79.	88.	6.	3.	19.	21.	19.	31.	17.	82.	17.
%RSD	1.45	1.51	1.64	.106	.052	.357	.385	.349	.567	.348	1.55	.315
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**163270.**	**1534700.**	**391140.**
Stddev	406.	16039.	6526.
%RSD	.24870	1.0451	1.6684

Sample Name: ccv2 Acquired: 05/06/2020 23:10:47 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2055	Cr2677	Cu2230	Fe2599
Avg	**52.6**	**551.**	**523.**	**509.**	**53.0**	**551.**	**51.9**	**525.**	**550.**	**543.**	**523.**	**523.**
Stddev	.3	2.	5.	5.	.1	4.	.2	1.	2.	2.	1.	4.
%RSD	.536	.329	1.04	.909	.095	.636	.398	.143	.312	.448	.245	.839
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**493.**	**502.**	**519.**	**540.**	**544.**	**517.**	**538.**	**534.**	**547.**	**535.**	**532.**	**530.**
Stddev	1.	2.	1.	1.	2.	1.	4.	4.	2.	9.	.	4.
%RSD	.219	.479	.246	.228	.359	.142	.664	.684	.347	1.62	.034	.709
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Zn2138
Avg	**542.**	**530.**
Stddev	1.	1.
%RSD	.265	.148
Check ?	Chk Pass	Chk Pass
Value		
Range		

Sample Name: ccv2 Acquired: 05/06/2020 23:10:47 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**167450.**	**1587800.**	**390260.**
Stddev	104.	11885.	2007.
%RSD	.06188	.74852	.51423

Sample Name: ccb Acquired: 05/06/2020 23:16:38 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	**-1.59**	**-2.90**	**-.925**	**.447**	**.122**	**-1.65**	**.030**	**-.228**	**-.237**	**.672**	**1.65**	**-.947**
Stddev	.36	.15	3.83	.136	.003	.02	.241	.132	1.46	1.57	1.23	.032
%RSD	22.9	5.04	414.	30.3	2.39	1.22	806.	57.7	615.	233.	74.7	3.34
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.068**	**1.25**	**-.145**	**.700**	**-1.47**	**3.79**	**-.448**	**.195**	**-1.83**
Stddev	.098	.59	.341	.712	.99	.78	.055	.331	.06
%RSD	145.	47.1	235.	102.	67.4	20.5	12.4	170.	3.40
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**170890.**	**1614000.**	**404200.**
Stddev	125.	941.	3128.
%RSD	.07333	.05830	.77395

Sample Name: lcsw76290 Acquired: 05/06/2020 23:42:52 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**16.8**	**827.**	**868.**	**795.**	**18.9**	**205000.**	**17.9**	**205.**	**87.2**	**99.3**	**409.**
Stddev	.6	.	13.	4.	.1	2170.	.0	1.	.2	.3	3.
%RSD	3.79	.048	1.51	.451	.324	1.06	.122	.412	.273	.324	.623

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**105000.**	**199.**	**2250.**	**200.**	**215.**	**205.**	**222.**	**851.**	**757.**	**194.**	**216.**
Stddev	1130.	1.	2.	.	3.	4.	6.	9.	6.	2.	.
%RSD	1.07	.693	.081	.083	1.23	2.01	2.89	1.10	.733	.979	.090

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**155250.**	**1479100.**	**385110.**
Stddev	457.	8252.	4021.
%RSD	.29461	.55793	1.0441

Sample Name: mbw76290 Acquired: 05/06/2020 23:49:05 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.42**	**.387**	**4.62**	**.275**	**.141**	**4.62**	**-.065**	**-.255**	**-.648**	**1.84**	**2.62**	**-.497**
Stddev	1.21	.125	1.25	.158	.014	1.70	.054	.141	.167	.42	3.35	.116
%RSD	85.3	32.4	27.1	57.5	9.64	36.8	83.4	55.2	25.7	22.9	128.	23.3

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.082**	**1.55**	**.220**	**-1.90**	**1.14**	**4.06**	**-.503**	**-.424**	**-1.46**
Stddev	.031	.78	.535	1.20	3.05	3.10	.354	.428	.04
%RSD	37.6	50.2	244.	63.1	267.	76.4	70.4	101.	2.94

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**168060.**	**1587500.**	**396550.**
Stddev	616.	1473.	1673.
%RSD	.36650	.09278	.42192

Sample Name: 413975 Acquired: 05/06/2020 23:55:26 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.08**	**6060.**	**5690.**	**7.16**	**233.**	**.425**	**103000.**	**-.037**	**5.34**	**12.6**	**19.7**
Stddev	.83	56.	39.	2.22	2.	.035	607.	.329	.16	1.1	.9
%RSD	77.5	.919	.680	31.1	.684	8.24	.590	885.	2.90	9.01	4.40

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9380.**	**55900.**	**567.**	**1.99**	**9.15**	**6.83**	**-1.65**	**.721**	**.294**	**10.0**	**35.9**
Stddev	64.	351.	3.	.36	1.10	3.19	1.11	5.84	1.90	.6	.2
%RSD	.685	.629	.605	18.1	12.0	46.7	67.4	809.	645.	5.50	.446

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**161320.**	**1529800.**	**390350.**
Stddev	78.	9526.	1875.
%RSD	.04816	.62269	.48026

Sample Name: I413975 Acquired: 05/07/2020 00:01:45 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.17**	**1260.**	**1770.**	**1.92**	**48.4**	**.177**	**30900.**	**-.159**	**1.01**	**2.51**	**5.01**	**2800.**
Stddev	.59	80.	192.	2.30	3.9	.013	3160.	.093	.08	.60	.53	284.
%RSD	50.3	6.39	10.9	119.	7.97	7.15	10.2	58.8	7.87	24.1	10.5	10.1

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**16600.**	**140.**	**.308**	**1.91**	**.477**	**1.38**	**-.455**	**-1.82**	**2.23**	**6.26**
Stddev	1690.	5.	.119	.42	3.38	1.27	2.94	1.62	.54	.47
%RSD	10.2	3.83	38.7	22.1	709.	91.7	646.	89.0	24.0	7.56

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**167610.**	**1579900.**	**395090.**
Stddev	138.	5071.	3381.
%RSD	.08207	.32094	.85577

Sample Name: dup413975 Acquired: 05/07/2020 00:08:24 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.975**	**5800.**	**5500.**	**5.37**	**225.**	**.410**	**101000.**	**-.047**	**5.56**	**12.0**	**18.8**
Stddev	.424	73.	88.	4.97	2.	.021	1240.	.325	.34	.6	1.0
%RSD	43.5	1.26	1.60	92.5	.846	5.11	1.23	686.	6.17	4.64	5.40

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9150.**	**54700.**	**559.**	**1.47**	**8.89**	**7.50**	**-.704**	**3.23**	**1.55**	**10.2**	**35.4**
Stddev	136.	726.	3.	.57	.34	.88	.401	3.62	2.87	.5	.2
%RSD	1.49	1.33	.572	38.8	3.77	11.7	56.9	112.	185.	4.45	.494

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**161780.**	**1527700.**	**392350.**
Stddev	549.	10248.	4746.
%RSD	.33940	.67081	1.2095

Sample Name: msw413975 Acquired: 05/07/2020 00:14:47 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.2**	**8850.**	**8400.**	**853.**	**987.**	**18.9**	**300000.**	**17.1**	**204.**	**99.4**	**114.**
Stddev	.2	26.	40.	9.	4.	.0	1870.	.3	.	1.2	1.
%RSD	1.06	.296	.479	1.07	.358	.160	.622	1.65	.220	1.17	.868

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**9190.**	**159000.**	**728.**	**2160.**	**201.**	**217.**	**206.**	**217.**	**818.**	**728.**	**204.**
Stddev	48.	850.	4.	6.	1.	4.	3.	2.	12.	2.	1.
%RSD	.525	.533	.490	.286	.414	1.97	1.37	1.14	1.51	.312	.311

Elem	Zn2138
Units	ug/L
Avg	**247.**
Stddev	1.
%RSD	.338

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153380.**	**1464500.**	**380910.**
Stddev	605.	4363.	1520.
%RSD	.39426	.29794	.39912

Sample Name: msdw413975 Acquired: 05/07/2020 00:20:51 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.3**	**5120.**	**4830.**	**524.**	**591.**	**11.6**	**178000.**	**10.8**	**122.**	**58.1**	**67.4**
Stddev	1.0	41.	39.	5.	2.	.1	1350.	.2	.	.6	1.2
%RSD	9.38	.806	.811	.969	.335	.895	.761	1.93	.329	1.11	1.82

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5340.**	**93000.**	**434.**	**1320.**	**121.**	**131.**	**125.**	**131.**	**523.**	**468.**	**122.**
Stddev	40.	806.	2.	2.	1.	6.	1.	2.	6.	2.	1.
%RSD	.741	.867	.549	.147	.568	4.57	.778	1.15	1.18	.398	.445

Elem	Zn2138
Units	ug/L
Avg	**145.**
Stddev	.
%RSD	.291

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157970.**	**1498600.**	**387950.**
Stddev	638.	5568.	2361.
%RSD	.40412	.37155	.60853

Sample Name: ccv1 Acquired: 05/07/2020 00:26:56 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247
Avg	**517.**	**5330.**	**5180.**	**5350.**	**5510.**	**5340.**	**505.**	**5290.**	**494.**	**5370.**	**5440.**	**5370.**
Stddev	1.	41.	41.	15.	17.	45.	1.	44.	2.	40.	1.	4.
%RSD	.169	.773	.791	.277	.316	.849	.277	.835	.376	.749	.018	.079
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062
Avg	**5190.**	**5180.**	**5320.**	**5450.**	**5390.**	**5250.**	**5410.**	**5320.**	**5510.**	**4950.**	**5370.**	**5420.**
Stddev	33.	48.	30.	10.	4.	14.	18.	18.	62.	14.	37.	2.
%RSD	.633	.924	.559	.189	.075	.272	.327	.332	1.12	.289	.693	.038
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**163800.**	**1528400.**	**393300.**
Stddev	325.	9604.	1909.
%RSD	.19838	.62840	.48537

Sample Name: ccv2 Acquired: 05/07/2020 00:32:39 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2055	Cr2677	Cu2230	Fe2599
Avg	**52.2**	**549.**	**530.**	**512.**	**53.3**	**547.**	**52.1**	**524.**	**545.**	**541.**	**524.**	**522.**
Stddev	.5	2.	5.	3.	.3	5.	.1	1.	1.	2.	2.	7.
%RSD	.995	.417	1.02	.519	.470	.992	.280	.223	.169	.369	.450	1.33
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**496.**	**508.**	**522.**	**543.**	**544.**	**518.**	**546.**	**533.**	**552.**	**539.**	**531.**	**535.**
Stddev	3.	3.	1.	2.	1.	1.	7.	5.	2.	9.	4.	3.
%RSD	.518	.635	.222	.345	.219	.126	1.21	.955	.388	1.60	.778	.644
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Zn2138
Avg	**540.**	**530.**
Stddev	1.	.
%RSD	.152	.060
Check ?	Chk Pass	Chk Pass
Value		
Range		

Sample Name: ccv2 Acquired: 05/07/2020 00:32:39 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**167810.**	**1582200.**	**392170.**
Stddev	245.	6561.	3097.
%RSD	.14602	.41467	.78969

Sample Name: ccb Acquired: 05/07/2020 00:38:31 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	**-1.92**	**-3.08**	**2.42**	**.248**	**.078**	**-1.11**	**-.008**	**.144**	**.322**	**.079**	**2.03**	**-.992**
Stddev	.37	.66	2.88	.368	.015	1.00	.139	.038	.949	.998	.44	.038
%RSD	19.3	21.5	119.	148.	19.2	90.1	1710.	26.3	295.	1260.	21.8	3.81
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.092**	**1.27**	**-.078**	**-.500**	**2.25**	**-2.22**	**.146**	**-.184**	**-1.80**
Stddev	.056	.35	.377	1.57	3.02	2.24	3.26	.530	.23
%RSD	60.8	27.6	487.	314.	134.	101.	2230.	288.	12.7
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**171790.**	**1616500.**	**404690.**
Stddev	173.	7924.	2937.
%RSD	.10045	.49020	.72574

Sample Name: pdsw413975 Acquired: 05/07/2020 00:44:53 Type: Unk
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**92.7**	**10000.**	**9560.**	**4380.**	**4540.**	**4510.**	**87.4**	**495000.**	**84.3**	**1010.**	**442.**
Stddev	.5	64.	84.	21.	13.	36.	.3	3950.	.3	9.	1.
%RSD	.541	.640	.879	.486	.282	.806	.381	.799	.330	.886	.191

Elem	Cr2677	Cu2230	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**441.**	**507.**	**10500.**	**262000.**	**1250.**	**5210.**	**1040.**	**974.**	**1070.**	**978.**	**1010.**
Stddev	1.	2.	94.	2020.	12.	7.	3.	2.	9.	5.	6.
%RSD	.253	.403	.896	.769	.976	.136	.308	.189	.826	.468	.571

Elem	Se1960	Se2062	Tl1908	V_2908	Zn2062
Units	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**4160.**	**4360.**	**3580.**	**833.**	**1070.**
Stddev	22.	23.	8.	9.	1.
%RSD	.521	.530	.221	1.11	.083

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**149990.**	**1425400.**	**380520.**
Stddev	222.	11318.	3625.
%RSD	.14773	.79402	.95272

Sample Name: ccv1 Acquired: 05/07/2020 01:49:34 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba4934	Be3130	Ca3158	Cd2265	Co2388	Cr2055	Cu2247
Avg	**517.**	**5210.**	**5040.**	**5340.**	**5510.**	**5190.**	**509.**	**5250.**	**501.**	**5390.**	**5370.**	**5320.**
Stddev	1.	44.	34.	27.	10.	36.	2.	47.	1.	29.	7.	9.
%RSD	.270	.847	.676	.505	.182	.685	.378	.888	.145	.539	.132	.163
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062
Avg	**5130.**	**5050.**	**5230.**	**5440.**	**5400.**	**5250.**	**5370.**	**5280.**	**5520.**	**4950.**	**5320.**	**5410.**
Stddev	58.	25.	37.	8.	3.	25.	11.	26.	39.	11.	38.	3.
%RSD	1.13	.489	.709	.152	.048	.474	.206	.500	.712	.222	.722	.057
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**165490.**	**1523700.**	**399490.**
Stddev	228.	5413.	2482.
%RSD	.13770	.35521	.62124

Sample Name: ccv2 Acquired: 05/07/2020 01:55:16 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2055	Cr2677	Cu2230	Fe2599
Avg	**53.3**	**547.**	**524.**	**519.**	**54.0**	**541.**	**53.1**	**520.**	**537.**	**540.**	**522.**	**525.**
Stddev	.7	4.	8.	2.	.2	9.	.2	1.	1.	2.	2.	9.
%RSD	1.24	.737	1.58	.340	.408	1.69	.337	.158	.181	.341	.292	1.77
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**505.**	**520.**	**522.**	**542.**	**545.**	**519.**	**546.**	**522.**	**543.**	**535.**	**531.**	**539.**
Stddev	1.	3.	1.	1.	2.	1.	8.	5.	4.	4.	1.	4.
%RSD	.279	.645	.280	.220	.328	.232	1.55	.893	.820	.786	.244	.808
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Zn2138
Avg	**540.**	**529.**
Stddev	1.	2.
%RSD	.199	.336
Check ?	Chk Pass	Chk Pass
Value		
Range		

Sample Name: ccv2 Acquired: 05/07/2020 01:55:16 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	170430.	1570900.	399030.
Stddev	220.	8013.	5913.
%RSD	.12916	.51010	1.4819

Sample Name: ccb Acquired: 05/07/2020 02:01:07 Type: QC
Method: DOD Calibration Updated 060614(v3861) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	**-2.20**	**-2.80**	**-.770**	**-.058**	**.005**	**-1.55**	**-.106**	**.038**	**-.454**	**.286**	**-.120**	**-1.01**
Stddev	.28	.76	4.98	.312	.010	.15	.170	.174	.946	1.14	1.43	.05
%RSD	12.7	27.0	647.	542.	209.	9.49	160.	461.	208.	398.	1190.	5.23
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.074**	**.886**	**-.003**	**-.254**	**1.97**	**-2.40**	**2.78**	**.208**	**-1.65**
Stddev	.107	.449	.248	2.90	1.86	2.53	2.40	.660	.15
%RSD	145.	50.7	8180.	1150.	94.0	105.	86.5	316.	9.27
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**174170.**	**1609600.**	**412740.**
Stddev	385.	5727.	1957.
%RSD	.22089	.35581	.47413

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	05/15/2020 12:57:56	05/14/2020 10:41:32	Linear	1/Var	-0.000005	0.000003	0.000000	1.000000	0.999916	0.000002	0.706990	2.356632
Ag 338.289 {100}	05/15/2020 12:57:56	05/14/2020 11:29:32	Linear	1/Conc	0.000008	0.000001	0.000000	1.000000	0.999579	0.000000	8.160324	27.201080
Al 167.079 {501}	05/15/2020 12:57:56	05/14/2020 10:47:10	Linear	None	0.000020	0.000003	0.000000	1.000000	0.999977	0.000013	0.793570	2.645233
Al 308.215 {109}	05/15/2020 12:57:56	05/14/2020 11:07:23	Linear	1/Var	0.000043	0.000000	0.000000	1.000000	0.999651	0.000017	15.887892	52.959639
Al 396.152 { 85}	05/15/2020 12:57:56	05/14/2020 11:22:14	Linear	1/Conc	-0.000038	0.000002	0.000000	1.000000	0.999712	0.000083	5.108819	17.029396
As 193.759 {474}	05/15/2020 12:57:56	05/14/2020 10:47:11	Linear	1/Var	0.000004	0.000002	0.000000	1.000000	0.999970	0.000004	3.697805	12.326018
As 197.262 {471}	05/15/2020 12:57:56	05/14/2020 10:54:00	Linear	None	0.000000	0.000000	0.000000	1.000000	0.999995	0.000007	7.748836	25.829453
Ba 233.527 {445}	05/15/2020 12:57:56	05/14/2020 10:47:11	Linear	1/Conc	0.000002	0.000015	0.000000	1.000000	0.999410	0.000001	0.332498	1.108327
Ba 455.403 { 74}	05/15/2020 12:57:56	05/14/2020 10:54:01	Linear	1/Conc	0.000088	0.000049	0.000000	1.000000	0.999816	0.000004	0.182862	0.609539
Ba 493.409 { 68}	05/15/2020 12:57:56	05/14/2020 11:29:32	Linear	None	0.011355	0.000023	0.000000	1.000000	0.999999	0.000913	1.091315	3.637716
Be 313.042 {108}	05/15/2020 12:57:56	05/14/2020 10:47:12	Linear	1/Conc	-0.000055	0.000064	0.000000	1.000000	0.999845	0.000001	0.033719	0.112397
Be 234.861 {144}	05/15/2020 12:57:56	05/14/2020 10:47:12	Linear	1/Conc	-0.000001	0.000007	0.000000	1.000000	0.999945	0.000001	0.245706	0.819021
Ca 315.887 {107}	05/15/2020 12:57:56	05/14/2020 11:22:14	Curvili	1/Var	0.000046	0.000000	0.000000	1.000000	0.999889	0.000014	6.269181	20.897270
Ca 317.933 {106}	05/15/2020 12:57:56	05/14/2020 11:22:14	Linear	1/Var	0.000923	0.000001	0.000000	1.000000	0.999783	0.000043	2.864411	9.548036
Ca 393.366 { 86}	05/15/2020 12:57:56	05/14/2020 10:47:12	Linear	1/Var	0.000012	0.000111	0.000000	1.000000	0.999999	0.000002	0.070206	0.234021
Ca 396.847 { 85}	05/15/2020 12:57:56	05/14/2020 10:54:01	Linear	1/Conc	0.000014	0.000056	0.000000	1.000000	0.999792	0.000054	0.139801	0.466002
Cd 226.502 {449}	05/15/2020 12:57:56	05/14/2020 10:47:12	Linear	1/Conc	-0.000007	0.000027	0.000000	1.000000	0.999855	0.000000	0.222278	0.740927
Cd 228.802 {447}	05/15/2020 12:57:56	05/14/2020 10:47:13	Linear	None	0.000002	0.000004	0.000000	1.000000	0.999998	0.000003	1.754923	5.849745
Co 228.616 {447}	05/15/2020 12:57:56	05/14/2020 10:54:01	Linear	1/Conc	0.000008	0.000014	0.000000	1.000000	0.999727	0.000001	0.485561	1.618535
Co 238.892 {141}	05/15/2020 12:57:56	05/14/2020 10:54:01	Linear	1/Conc	0.000004	0.000001	0.000000	1.000000	0.999797	0.000001	1.351852	4.506172
Cr 205.560 {464}	05/15/2020 12:57:56	05/14/2020 11:00:59	Curvili	1/Conc	-0.000007	0.000015	-0.000000	1.000000	0.999975	0.000001	0.316297	1.054323
Cr 267.716 {126}	05/15/2020 12:57:56	05/14/2020 10:54:02	Linear	1/Conc	-0.000028	0.000025	0.000000	1.000000	0.999808	0.000004	0.696846	2.322819
Cu 223.008 {451}	05/15/2020 12:57:56	05/14/2020 10:47:13	Linear	1/Conc	0.000003	0.000007	0.000000	1.000000	0.998862	0.000002	0.917502	3.058340
Cu 224.700 {450}	05/15/2020 12:57:56	05/14/2020 11:01:00	Linear	None	-0.000501	0.000005	0.000000	1.000000	0.999992	0.000777	0.662207	2.207356
Cu 324.754 {104}	05/15/2020 12:57:56	05/14/2020 11:01:00	Linear	1/Conc	0.000232	0.000003	0.000000	1.000000	0.999891	0.000002	1.806402	6.021341
Cu 327.396 {103}	05/15/2020 12:57:56	05/14/2020 10:54:02	Linear	1/Conc	0.000030	0.000002	0.000000	1.000000	0.999786	0.000000	4.049596	13.498655
Fe 234.349 {144}	05/15/2020 12:57:56	05/14/2020 11:07:24	Linear	1/Var	0.000028	0.000001	0.000000	1.000000	0.999604	0.000004	1.331829	4.439428
Fe 239.562 {140}	05/15/2020 12:57:56	05/14/2020 11:22:14	Linear	1/Var	0.000005	0.000001	0.000000	1.000000	0.999255	0.000022	2.721388	9.071294
Fe 259.940 {129}	05/15/2020 12:57:56	05/14/2020 11:14:31	Curvili	1/Var	0.000001	0.000001	0.000000	1.000000	0.999854	0.000011	2.279205	7.597349
Mg 202.582 {466}	05/15/2020 12:57:56	05/14/2020 11:22:14	Curvili	1/Var	0.000001	0.000000	0.000000	1.000000	0.998679	0.000014	2.412525	8.041751
Mg 279.079 {121}	05/15/2020 12:57:56	05/14/2020 11:22:14	Full Fit	1/Var	-0.000003	0.000000	0.000000	1.030000	0.999820	0.000005	40.877755	136.25918
Mg 280.270 {120}	05/15/2020 12:57:56	05/14/2020 10:54:03	Linear	1/Conc	0.000142	0.000035	0.000000	1.000000	0.999355	0.000059	0.032048	0.106828
Mn 257.610 {131}	05/15/2020 12:57:56	05/14/2020 10:54:03	Linear	1/Conc	-0.000001	0.000018	0.000000	1.000000	0.999345	0.000002	0.072875	0.242917
Mn 259.373 {130}	05/15/2020 12:57:56	05/14/2020 11:01:00	Linear	1/Conc	0.000001	0.000007	0.000000	1.000000	0.999985	0.000017	0.463345	1.544482
Mo 202.030 {466}	05/15/2020 12:57:56	05/14/2020 10:47:15	Linear	1/Conc	0.000003	0.000010	0.000000	1.000000	0.999591	0.000001	0.453888	1.512959
Mo 203.844 {465}	05/15/2020 12:57:56	05/14/2020 10:47:15	Linear	1/Var	0.000003	0.000006	0.000000	1.000000	0.999869	0.000010	0.840456	2.801519
Mo 204.598 {464}	05/15/2020 12:57:56	05/14/2020 10:54:04	Linear	1/Conc	-0.000008	0.000006	0.000000	1.000000	0.999801	0.000001	0.798705	2.662349
Ni 221.647 {452}	05/15/2020 12:57:56	05/14/2020 10:54:04	Linear	1/Conc	0.000002	0.000016	0.000000	1.000000	0.999791	0.000016	0.487753	1.625845
Ni 231.604 {445}	05/15/2020 12:57:56	05/14/2020 10:54:04	Linear	1/Conc	-0.000015	0.000017	0.000000	1.000000	0.999735	0.000001	0.467413	1.558043
Pb 216.999 {455}	05/15/2020 12:57:56	05/14/2020 11:01:00	Linear	1/Conc	0.000004	0.000002	0.000000	1.000000	0.999929	0.000001	4.007594	13.358648
Pb 216.999 {456}	05/15/2020 12:57:56	05/14/2020 11:01:00	Linear	1/Conc	0.000001	0.000000	0.000000	1.000000	0.999917	0.000000	13.137245	43.790818
Pb 220.353 {453}	05/15/2020 12:57:56	05/14/2020 10:47:16	Linear	1/Conc	0.000015	0.000003	0.000000	1.000000	0.999716	0.000000	2.507705	8.359016
Pb 220.353 {153}	05/15/2020 12:57:56	05/14/2020 11:01:01	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999909	0.000000	4.496997	14.989992
Sb 206.833 {463}	05/15/2020 12:57:56	05/14/2020 10:54:05	Curvili	1/Conc	-0.000003	0.000002	-0.000000	1.000000	1.000000	0.000000	2.164684	7.215612

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Ag 338.289 {100}	OK.	1.000000	0.000000	1	0
	Al 167.079 {501}	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 197.262 {471}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 223.008 {451}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 203.844 {465}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {456}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0

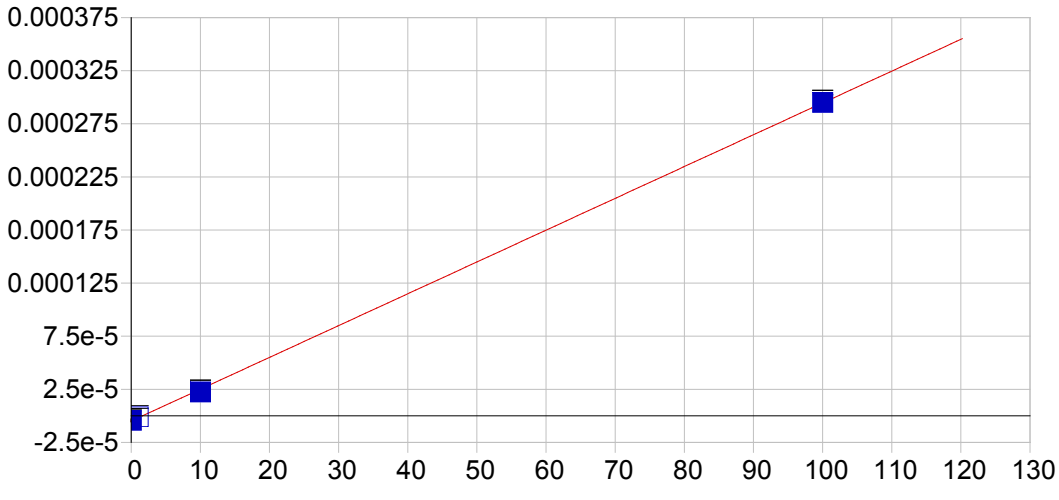
Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Sb 217.581 {455}	05/15/2020 12:57:56	05/14/2020 10:54:05	Linear	1/Conc	0.000004	0.000001	0.000000	1.000000	0.999736	0.000000	4.181647	13.938825
Se 196.090 {472}	05/15/2020 12:57:56	05/14/2020 10:47:17	Linear	None	0.000002	0.000000	0.000000	1.000000	0.999995	0.000001	9.544766	31.815887
Se 203.985 {465}	05/15/2020 12:57:56	05/14/2020 10:47:17	Linear	1/Var	-0.000006	0.000001	0.000000	1.000000	0.999951	0.000003	7.462247	24.874156
Se 206.279 {463}	05/15/2020 12:57:56	05/14/2020 10:54:05	Linear	1/Conc	-0.000002	0.000000	0.000000	1.000000	0.999924	0.000000	30.208346	100.69448
Tl 190.856 {476}	05/15/2020 12:57:56	05/14/2020 10:47:18	Linear	1/Conc	0.000005	0.000003	0.000000	1.000000	0.999586	0.000000	1.947748	6.492493
Tl 190.856 {477}	05/15/2020 12:57:56	05/14/2020 10:54:05	Linear	1/Var	0.000035	0.000001	0.000000	1.000000	0.998723	0.000053	4.041792	13.472639
V 290.882 {116}	05/15/2020 12:57:56	05/14/2020 10:54:05	Linear	1/Conc	0.000014	0.000002	0.000000	1.000000	0.999925	0.000001	2.846563	9.488543
V 292.402 {115}	05/15/2020 12:57:56	05/14/2020 10:54:05	Linear	1/Conc	-0.000008	0.000004	0.000000	1.000000	0.999818	0.000001	0.938272	3.127574
Zn 206.200 {463}	05/15/2020 12:57:56	05/14/2020 11:01:01	Curvili	1/Conc	0.000001	0.000018	-0.000000	1.000000	0.999971	0.000006	0.298478	0.994926
Zn 213.856 {457}	05/15/2020 12:57:56	05/14/2020 10:47:18	Linear	None	0.000074	0.000034	0.000000	1.000000	0.999993	0.000077	0.157834	0.526114
Y 224.306 {450}*	05/15/2020 12:57:56	05/14/2020 09:56:46	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
Y 324.228 {104}*	05/15/2020 12:57:56	05/14/2020 09:56:46	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
Y 371.030 { 91}*	05/15/2020 12:57:56	05/14/2020 09:56:46	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
Na 588.995 { 57}	05/15/2020 12:57:56	05/14/2020 11:07:25	Linear	None	0.002925	0.000009	0.000000	1.000000	0.999991	0.002236	3.214979	10.716595
Na 589.592 { 57}	05/15/2020 12:57:56	05/14/2020 11:22:15	Linear	1/Conc	0.000004	0.000004	0.000000	1.000000	0.999988	0.000028	4.141556	13.805186
Si 251.611 {134}	05/15/2020 12:57:56	05/14/2020 11:07:25	Linear	1/Conc	0.000009	0.000001	0.000000	1.000000	0.999797	0.000006	4.691227	15.637423
Ti 323.452 {104}	05/15/2020 12:57:56	05/14/2020 10:54:06	Linear	1/Conc	0.000267	0.000008	0.000000	1.000000	0.999896	0.000001	0.818398	2.727993
Ti 334.941 {101}	05/15/2020 12:57:56	05/14/2020 10:54:06	Linear	1/Conc	0.000001	0.000007	0.000000	1.000000	0.999861	0.000001	0.740545	2.468485
Sr 407.771 { 83}	05/15/2020 12:57:56	05/14/2020 10:54:07	Linear	1/Conc	0.000027	0.000150	0.000000	1.000000	0.999856	0.000010	0.068364	0.227881
Sr 421.552 { 80}	05/15/2020 12:57:56	05/14/2020 10:54:07	Linear	1/Conc	0.000002	0.000099	0.000000	1.000000	0.999901	0.000005	0.090185	0.300615
Sn 189.989 {477}	05/15/2020 12:57:56	05/14/2020 10:54:07	Linear	1/Conc	0.000002	0.000003	0.000000	1.000000	0.999672	0.000001	1.233605	4.112017
B 249.678 {135}	05/15/2020 12:57:56	05/14/2020 10:54:07	Linear	None	0.000021	0.000002	0.000000	1.000000	0.999996	0.000033	0.855266	2.850886
B 249.773 {135}	05/15/2020 12:57:56	05/14/2020 10:54:07	Linear	1/Var	0.000003	0.000003	0.000000	1.000000	0.999579	0.000006	0.524486	1.748285
Li 670.784 { 50}	05/15/2020 12:57:56	05/14/2020 10:54:07	Linear	1/Conc	-0.000044	0.000033	0.000000	1.000000	0.999913	0.000006	0.650174	2.167246
K 766.490 { 44}	05/15/2020 12:57:56	05/14/2020 11:22:15	Linear	1/Conc	0.000048	0.000001	0.000000	1.000000	0.999748	0.000021	29.113144	97.043814
K 769.896 { 44}	05/15/2020 12:57:56	05/14/2020 11:22:15	Linear	1/Conc	0.000037	0.000000	0.000000	1.000000	0.999650	0.000014	38.268806	127.56268
P 213.618 {457}	05/15/2020 12:57:56	05/14/2020 11:22:15	Linear	1/Conc	-0.000007	0.000001	0.000000	1.000000	0.999069	0.000042	7.722916	25.743053
S 182.034 {485}	05/15/2020 12:57:56	05/14/2020 11:22:15	Linear	1/Conc	0.000003	0.000000	0.000000	1.000000	0.998845	0.000025	9.529877	31.766256
Hg 184.950 {482}	05/15/2020 12:57:56	05/14/2020 10:47:21	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999992	0.000000	1.195993	3.986643
Ce 404.076 { 83}	05/15/2020 12:57:56	05/14/2020 10:47:21	Linear	1/Conc	0.000024	0.000001	0.000000	1.000000	1.000000	0.000000	15.204257	50.680857

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 203.985 {465}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {457}	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	Warnin	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 323.452 {104}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sr 421.552 { 80}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	4	Fe	-0.000179	0.000000	No
			Ce	0.000272	0.000000	No
			Mn	0.000066	0.000000	No
			V	0.000053	0.000000	No
Ag 338.289 {100}	☒	3	Fe	-0.000496	0.000000	No
			Ti	0.002000	0.000000	No
			Ce	-0.000298	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	4	Al	0.000941	0.000000	No
			Mn	-0.000003	0.000000	No
			Ni	-0.000722	0.000000	No
			Cr	0.000734	0.000000	No
As 197.262 {471}	☒	1	Al	0.000112	0.000000	No
Ba 233.527 {445}	☒	1	Fe	0.000002	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000009	0.000000	No
Be 313.042 {108}	☒	2	Fe	0.000034	0.000000	No
			Ni	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000013	0.000000	No
Ca 315.887 {107}	☒	1	Fe	0.000000	0.000000	No
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	1	Fe	0.000089	0.000000	No
Cd 228.802 {447}	☒	1	Fe	-0.000005	0.000000	No
Co 228.616 {447}	☒	3	Fe	0.000008	0.000000	No
			Ba	-0.001175	0.000000	No
			Ti	0.001700	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000226	0.000000	No
Cr 205.560 {464}	☒	1	Fe	0.000000	0.000000	No
Cr 267.716 {126}	☒	4	Fe	0.000005	0.000000	No
			Mn	0.000157	0.000000	No
			Ti	0.000100	0.000000	No
			V	-0.000002	0.000000	No
Cu 223.008 {451}	☒	2	Fe	-0.000048	0.000000	No
			Mo	0.010000	0.000000	No
Cu 224.700 {450}	☒	2	Fe	0.003134	0.000000	No
			Ni	-0.007040	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000081	0.000000	No
Cu 327.396 {103}	☒	2	Fe	-0.000012	0.000000	No
			Mo	-0.000319	0.000000	No
Fe 234.349 {144}	☒	None				

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	0.000004	0.000000	No
Mn 259.373 {130}	☒	1	Mg	0.001477	0.000000	No
Mo 202.030 {466}	☒	3	Fe	-0.000016	0.000000	No
			Ti	0.001417	0.000000	No
			V	-0.000077	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000019	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000044	0.000000	No
Ni 221.647 {452}	☒	2	Ca	-0.000003	0.000000	No
			Mg	-0.000003	0.000000	No
Ni 231.604 {445}	☒	6	Fe	-0.000054	0.000000	No
			Co	-0.000134	0.000000	No
			Mo	0.000840	0.000000	No
			Al	0.000003	0.000000	No
			Mn	0.000019	0.000000	No
			Be	-0.000294	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.001357	0.000000	No
			Na	0.000000	0.000000	No
Pb 216.999 {456}	☒	1	Al	0.001093	0.000000	No
Pb 220.353 {453}	☒	7	Si	0.000000	0.000000	No
			Al	-0.000001	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	-0.001644	0.000000	No
			V	-0.000018	0.000000	No
			Cu	0.000367	0.000000	No
			Mn	0.000094	0.000000	No
Pb 220.353 {153}	☒	1	Fe	-0.000002	0.000000	No
Sb 206.833 {463}	☒	2	Fe	-0.000097	0.000000	No
			Cr	0.000000	0.000000	No
Sb 217.581 {455}	☒	2	Fe	-0.000019	0.000000	No
			Ni	0.000133	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000437	0.000000	No
Se 203.985 {465}	☒	1	Fe	-0.000160	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.000965	0.000000	No
Tl 190.856 {476}	☒	7	Fe	-0.000045	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000000	0.000000	No
			Mn	0.000000	0.000000	No
			Ni	0.000000	0.000000	No
			Co	0.002495	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
			Cr	0.000220	0.000000	No
Tl 190.856 {477}	☒	2	Fe	-0.000350	0.000000	No
			Cr	0.000000	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000207	0.000000	No
V 292.402 {115}	☒	5	Fe	0.000045	0.000000	No
			Cr	-0.000051	0.000000	No
			Al	0.000000	0.000000	No
			Ti	0.000420	0.000000	No
			Mo	-0.000481	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000024	0.000000	No
Zn 213.856 {457}	☒	9	Fe	0.000178	0.000000	No
			Cu	0.001765	0.000000	No
			Al	0.000000	0.000000	No
			Mn	0.000094	0.000000	No
			Ni	0.004500	0.000000	No
			Ti	-0.000307	0.000000	No
			Mg	0.000026	0.000000	No
			Mo	0.000034	0.000000	No
			Ca	0.000000	0.000000	No
Y 224.306 {450}*	☒	None				
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000324	0.000000	No
Si 251.611 {134}	☒	4	Fe	-0.000024	0.000000	No
			Mo	0.042672	0.000000	No
			Ti	0.028118	0.000000	No
			Sn	0.019943	0.000000	No
Ti 323.452 {104}	☒	1	Fe	0.000008	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000082	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000015	0.000000	No
Sr 421.552 { 80}	☒	1	Ca	0.000013	0.000000	No
Sn 189.989 {477}	☒	1	Fe	0.000034	0.000000	No
B 249.678 {135}	☒	1	Fe	-0.000005	0.000000	No
B 249.773 {135}	☒	1	Fe	0.001143	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000016	0.000000	No
K 766.490 { 44}	☒	1	Fe	-0.000191	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000201	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000011	0.000000	No
S 182.034 {485}	☒	2	Mn	0.002145	0.000000	No
			Fe	0.001405	0.000000	No
Hg 184.950 {482}	☒	1	Fe	0.000009	0.000000	No
Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

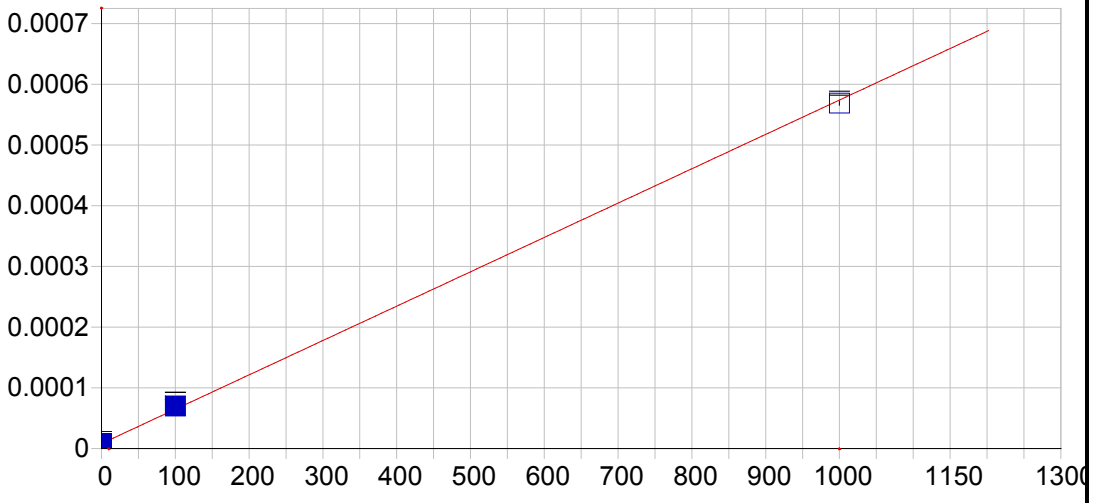


Ag 328.068 {103}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999916	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.706990		
Predicted MQL:	2.356632		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.18816	.188	.000	-.00000	.000	1
CalStd5=10	10.000	9.1209	-.879	-8.79	.00002	.000	1
CalStd8=100	100.00	100.12	.116	.116	.00030	.000	1
CalStd3=1	1.0000	1.2973	.297	29.7	-.00000	.000	1

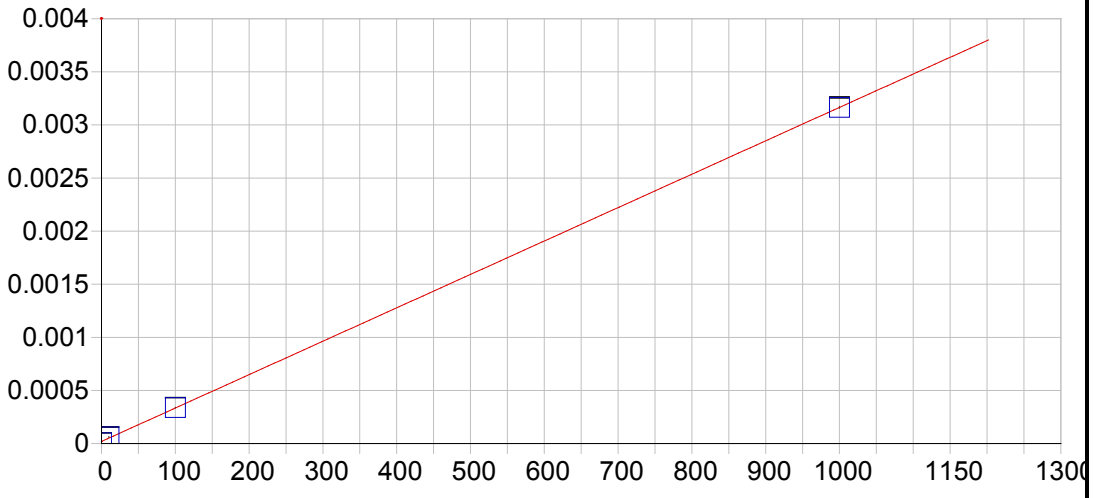


Ag 338.289 {100}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999579	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	8.160324		
Predicted MQL:	27.201080		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00826	-.008	.000	.00001	.000	1
CalStd8=100	100.00	109.18	9.18	9.18	.00007	.000	1
Ag Ba 1000,	1000.0	990.81	-9.19	-.919	.00057	.000	1

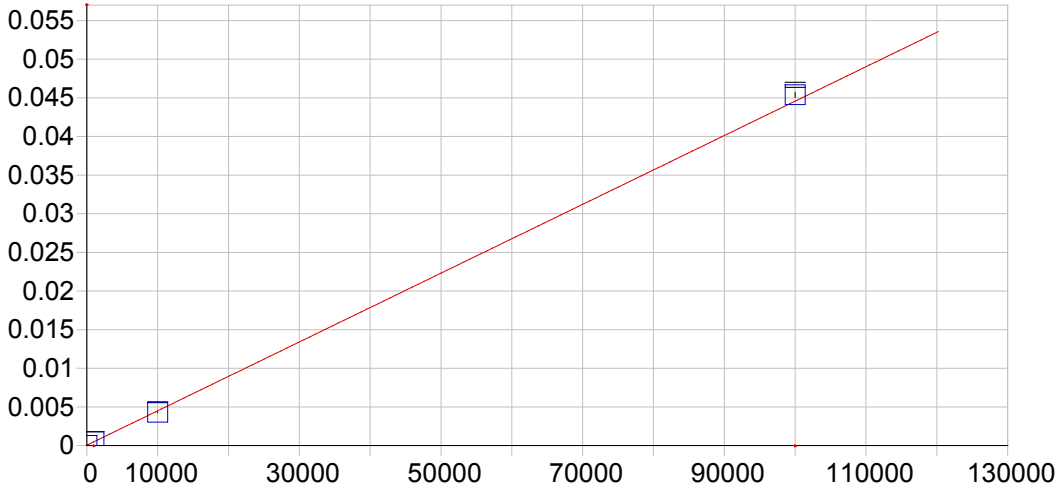


Al 167.079 {501}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999977	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	0.793570		
Predicted MQL:	2.645233		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.3921	-4.39	.000	.00001	.000	1
CalStd9=100	1000.0	999.85	-.152	-.015	.00316	.000	1
CalStd5=10	10.000	13.358	3.36	33.6	.00006	.000	1
CalStd8=100	100.00	101.19	1.19	1.19	.00034	.000	1

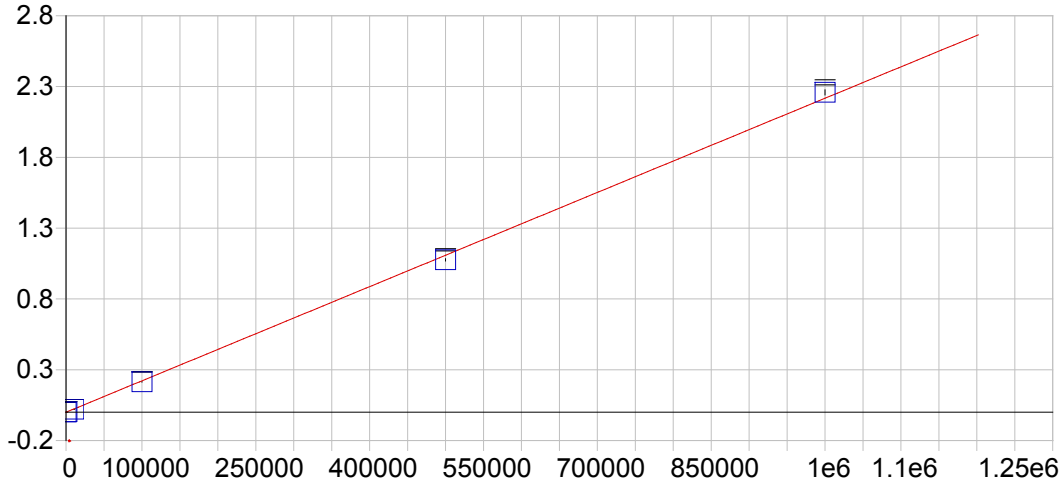


Al 308.215 {109}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000043	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999651	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	15.887892		
Predicted MQL:	52.959639		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.9392	2.94	.000	.00004	.000	1
CalStd10=10	10000.	9544.4	-456.	-4.56	.00429	.000	1
CalStd9=100	1000.0	992.58	-7.42	-.742	.00049	.000	1
CalStd13=10	100000.	101830.	1830.	1.83	.04539	.000	1

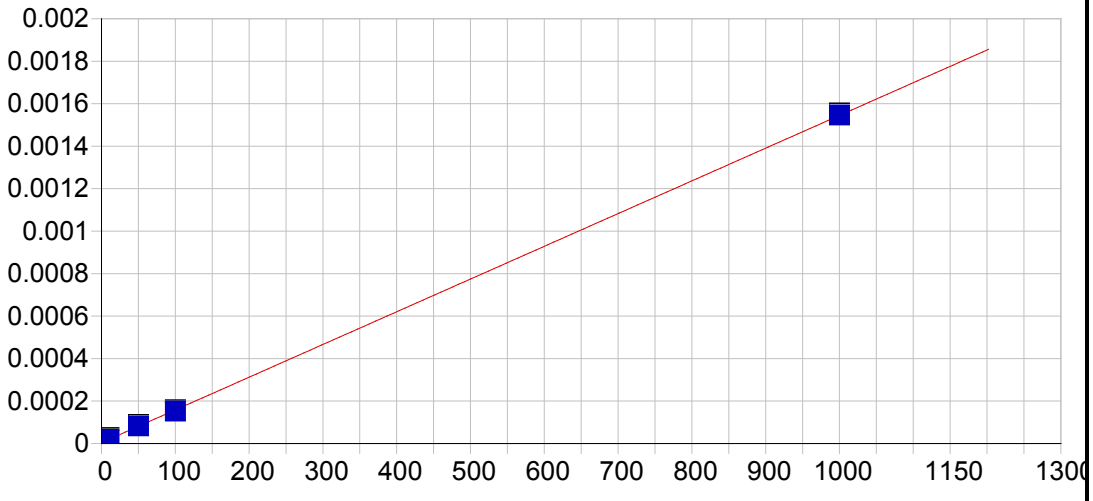


Al 396.152 { 85}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000038	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999712	Status:	OK.
Std Error of Est:	0.000083		
Predicted MDL:	5.108819		
Predicted MQL:	17.029396		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.12221	.122	.000	-.00004	.000	1
CalStd14=50	500000.	485270.	-14700.	-2.95	1.0759	.008	1
CalStd13=10	100000.	96794.	-3210.	-3.21	.21458	.002	1
CalStd10=10	10000.	9324.0	-676.	-6.76	.02064	.000	1
CalStd9=100	1000.0	988.30	-11.7	-1.17	.00215	.000	1
CalibStd15=	1000000.	1018600.	18600.	1.86	2.2586	.018	1

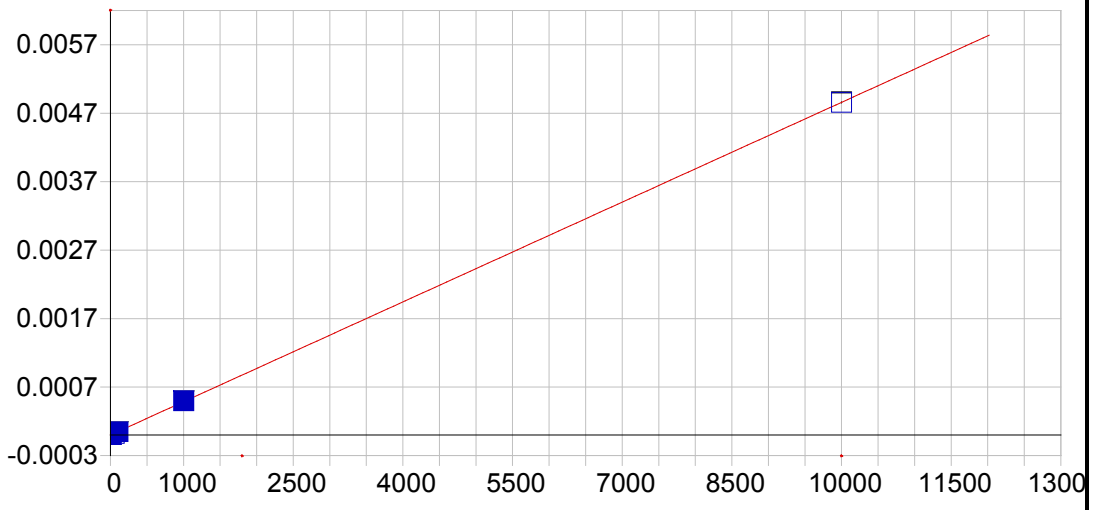


As 193.759 {474}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999970	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	3.697805		
Predicted MQL:	12.326018		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	1.2082	1.21	.000	.00001	.000	1
CalStd9=100	1000.0	1001.0	.951	.095	.00155	.000	1
CalStd7=50	50.000	51.073	1.07	2.15	.00008	.000	1
CalStd5=10	10.000	10.774	.774	7.74	.00002	.000	1
CalStd8=100	100.00	96.105	-3.90	-3.90	.00015	.000	1

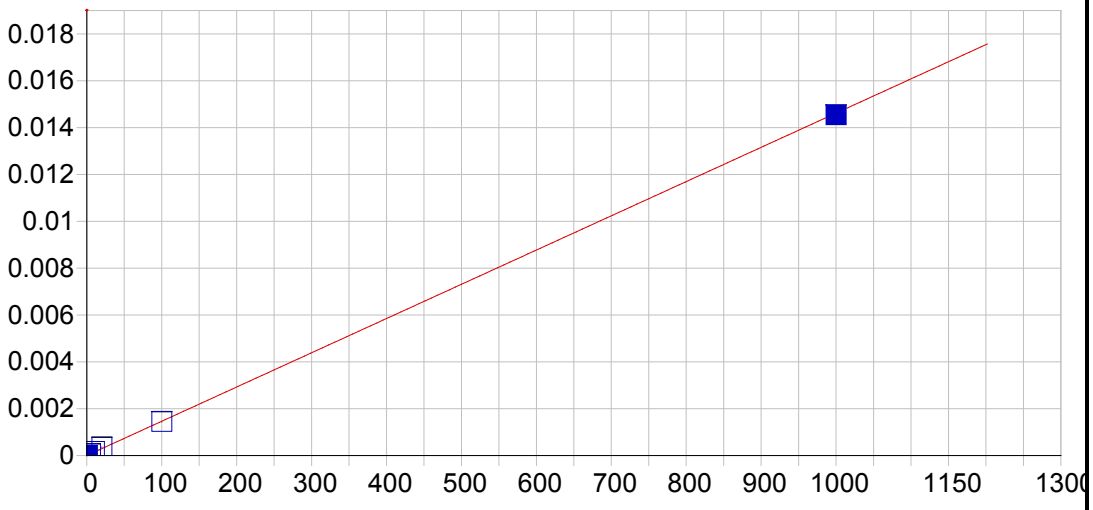


As 197.262 {471}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000007		
Predicted MDL:	7.748836		
Predicted MQL:	25.829453		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.9127	-1.91	.000	-.00000	.000	1
CalStd9=100	1000.0	1024.3	24.3	2.43	.00050	.000	1
CalStd7=50	50.000	42.351	-7.65	-15.3	.00002	.000	1
CalStd5=10	10.000	5.4166	-4.58	-45.8	.00000	.000	1
CalStd8=100	100.00	92.189	-7.81	-7.81	.00005	.000	1
CalStd10=10	10000.	9997.7	-2.31	-.023	.00486	.000	1

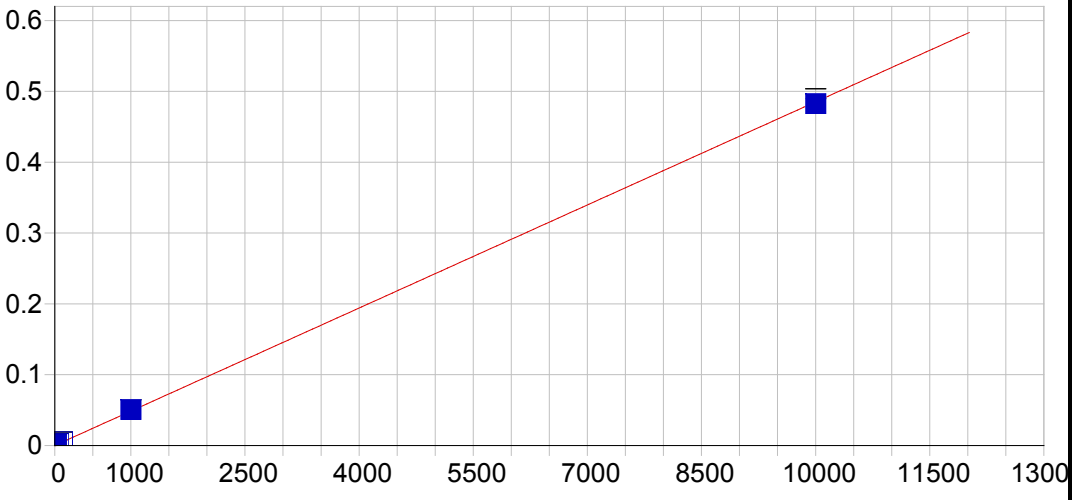


Ba 233.527 {445}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999410	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.332498		
Predicted MQL:	1.108327		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00046	-.000	.000	.00000	.000	1
CalStd5=10	10.000	11.826	1.83	18.3	.00017	.000	1
CalStd6=20	20.000	24.388	4.39	21.9	.00036	.000	1
CalStd8=100	100.00	99.108	-.892	-.892	.00145	.000	1
CalStd4=5	5.0000	4.9246	-.075	-1.51	.00007	.000	1
CalStd9=100	1000.0	994.67	-5.33	-.533	.01454	.000	1
CalStd3=1	1.0000	1.0871	.087	8.71	.00002	.000	1

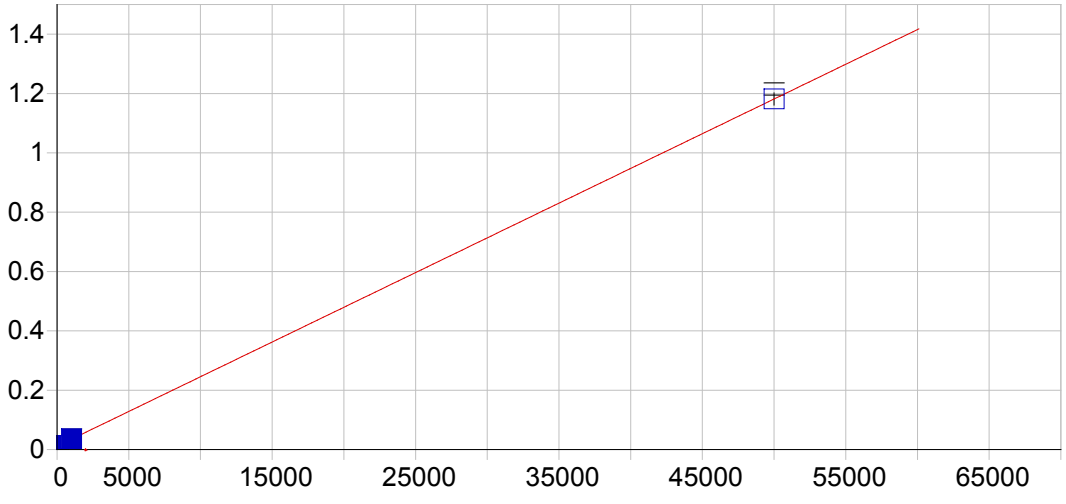


Ba 455.403 { 74}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000088	Re-Slope:	1.000000
A1 (Gain):	0.000049	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999816	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.182862		
Predicted MQL:	0.609539		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00061	-.001	.000	.00009	.000	1
CalStd7=50	50.000	53.941	3.94	7.88	.00271	.000	1
CalStd5=10	10.000	12.308	2.31	23.1	.00069	.000	1
CalStd6=20	20.000	24.997	5.00	25.0	.00130	.000	1
CalStd8=100	100.00	102.82	2.82	2.82	.00508	.000	1
CalStd4=5	5.0000	5.0477	.048	.955	.00033	.000	1
CalStd9=100	1000.0	1040.5	40.5	4.05	.05057	.000	1
CalStd3=1	1.0000	.97400	-.026	-2.60	.00014	.000	1
CalStd10=10	10000.	9945.4	-54.6	-.546	.48259	.007	1

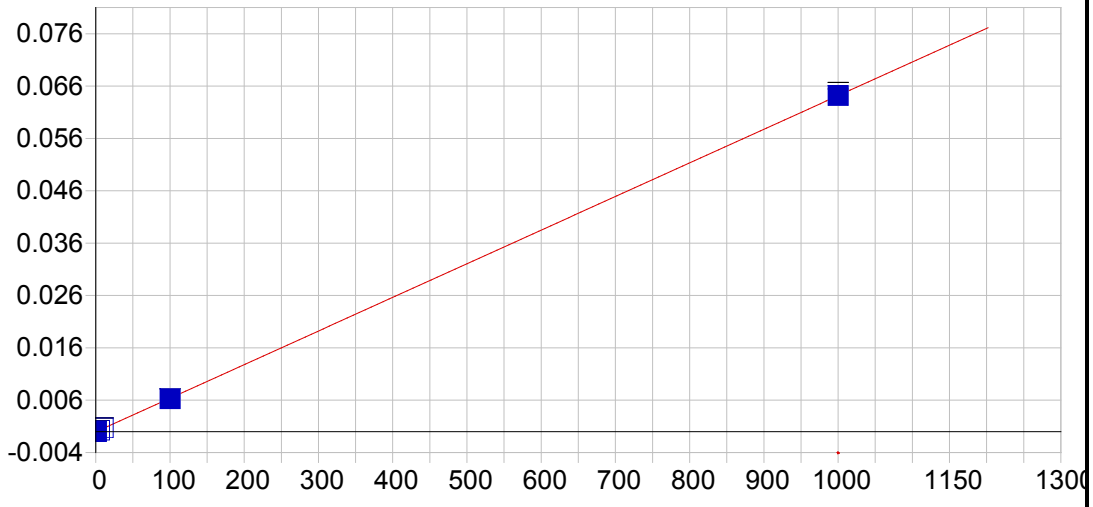


Ba 493.409 { 68}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.011355	Re-Slope:	1.000000
A1 (Gain):	0.000023	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000913		
Predicted MDL:	1.091315		
Predicted MQL:	3.637716		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-28.320	-28.3	.000	.01069	.000	1
CalStd9=100	1000.0	1044.7	44.7	4.47	.03581	.000	1
CalStd8=100	100.00	84.470	-15.5	-15.5	.01333	.000	1
Ag Ba 1000,	50000.	49999.	-.863	-.002	1.1815	.020	1

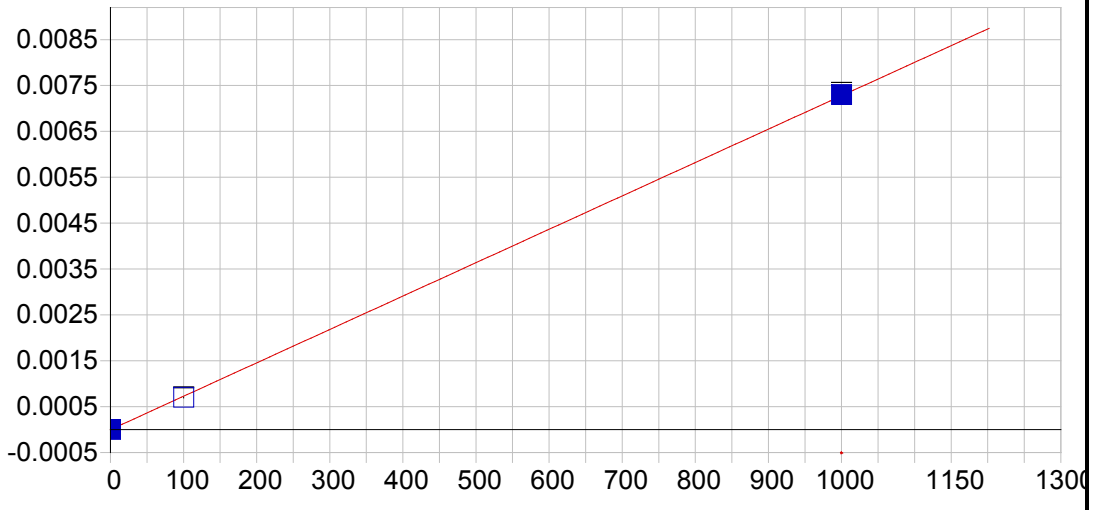


Be 313.042 {108}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000055	Re-Slope:	1.000000
A1 (Gain):	0.000064	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999845	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.033719		
Predicted MQL:	0.112397		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00002	.000	.000	-.00006	.000	1
CalStd5=10	10.000	11.683	1.68	16.8	.00070	.000	1
CalStd8=100	100.00	98.492	-1.51	-1.51	.00627	.000	1
CalStd2=0.5	.50000	.36450	-.136	-27.1	-.00003	.000	1
CalStd4=5	5.0000	5.1035	.103	2.07	.00027	.000	1
CalStd9=100	1000.0	999.81	-.193	-.019	.06418	.001	1
CalStd3=1	1.0000	1.0501	.050	5.01	.00001	.000	1

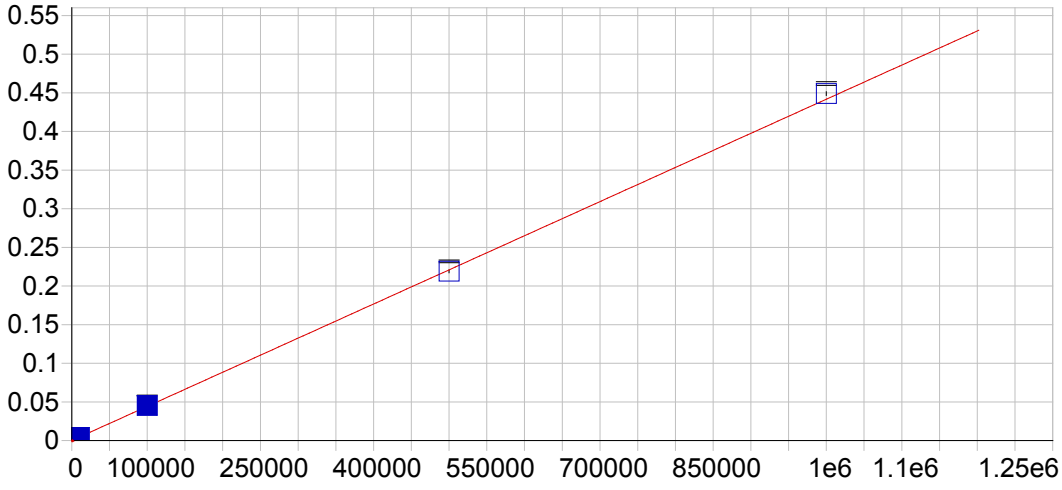


Be 234.861 {144}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999945	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.245706		
Predicted MQL:	0.819021		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00299	.003	.000	-.00000	.000	1
CalStd9=100	1000.0	1003.3	3.33	.333	.00730	.000	1
CalStd8=100	100.00	96.675	-3.33	-3.33	.00070	.000	1

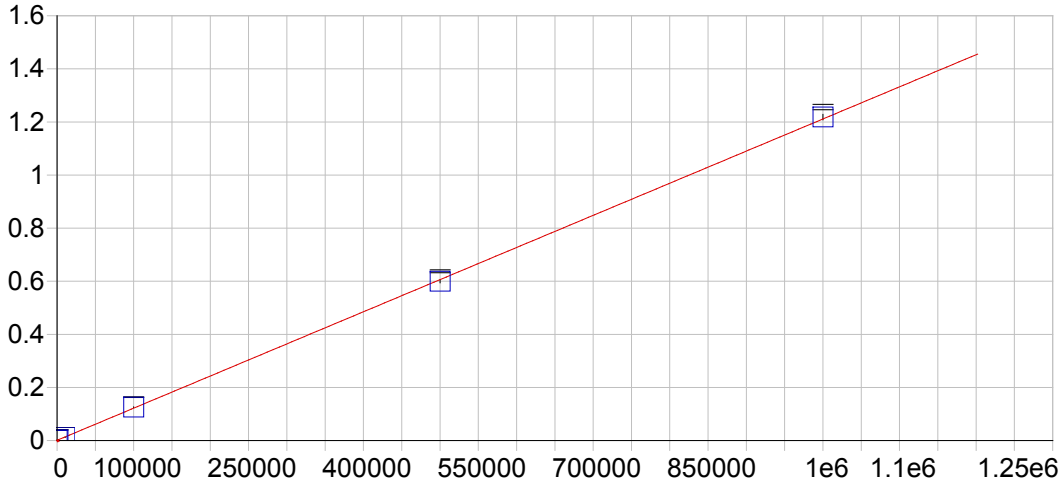


Ca 315.887 {107}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000046	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999889	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	6.269181		
Predicted MQL:	20.897270		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-5.0500	-5.05	.000	.00004	.000	1
CalStd10=10	10000.	9713.5	-286.	-2.86	.00434	.000	1
CalStd13=10	100000.	102300.	2300.	2.30	.04523	.000	1
CalStd14=50	500000.	495540.	-4460.	-.891	.21890	.002	1
CalStd9=100	1000.0	1005.5	5.45	.545	.00049	.000	1
CalibStd15=	1000000.	1016500.	16500.	1.65	.44897	.002	1

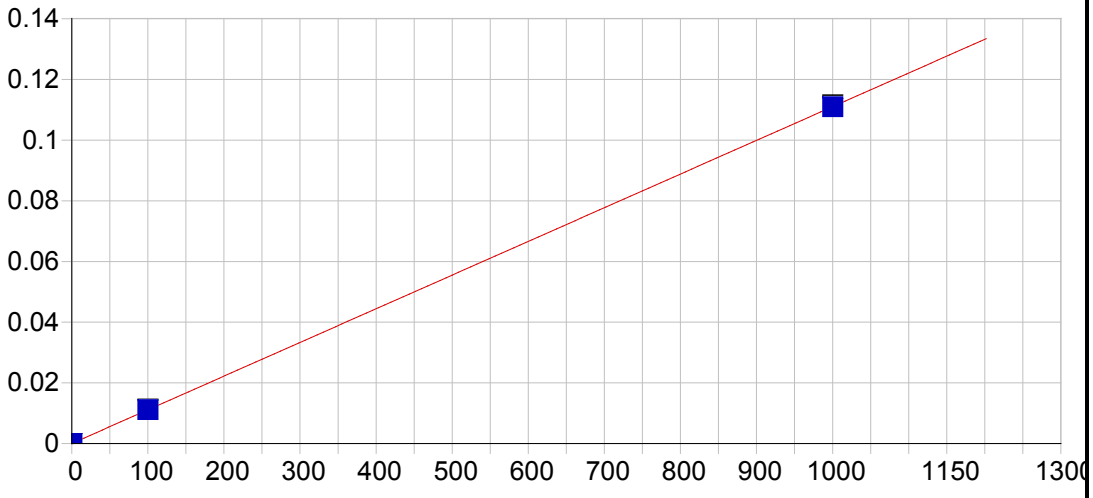


Ca 317.933 {106}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000923	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999783	Status:	OK.
Std Error of Est:	0.000043		
Predicted MDL:	2.864411		
Predicted MQL:	9.548036		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-21.794	-21.8	.000	.00090	.000	1
CalStd10=10	10000.	9703.0	-297.	-2.97	.01267	.000	1
CalStd13=10	100000.	102780.	2780.	2.78	.12531	.001	1
CalStd14=50	500000.	494450.	-5550.	-1.11	.59935	.005	1
CalStd9=100	1000.0	1004.9	4.94	.494	.00214	.000	1
CalibStd15=	1000000.	1005900.	5860.	.586	1.2183	.010	1

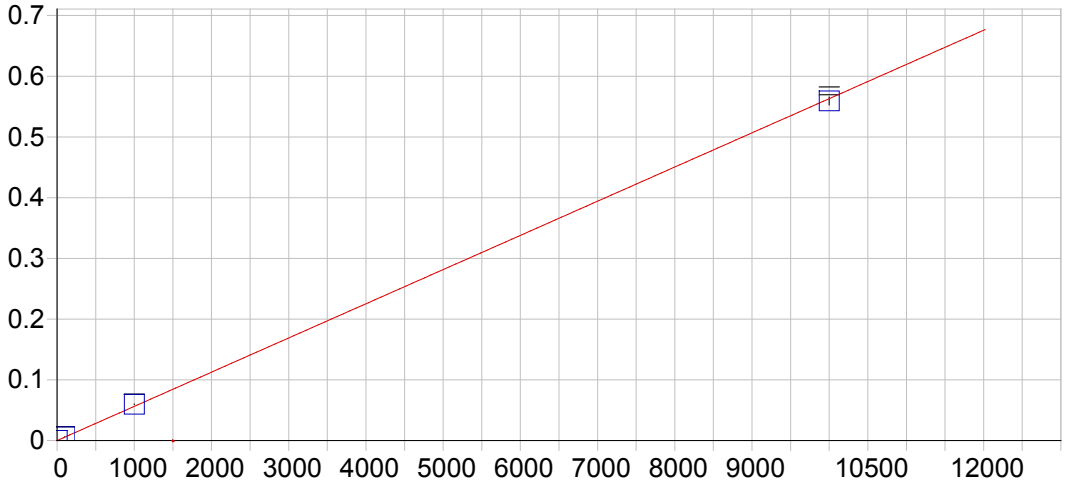


Ca 393.366 { 86}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000111	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999999	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.070206		
Predicted MQL:	0.234021		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00019	-.000	.000	.00001	.000	1
CalStd9=100	1000.0	999.65	-.346	-.035	.11099	.001	1
CalStd8=100	100.00	100.33	.327	.327	.01115	.000	1

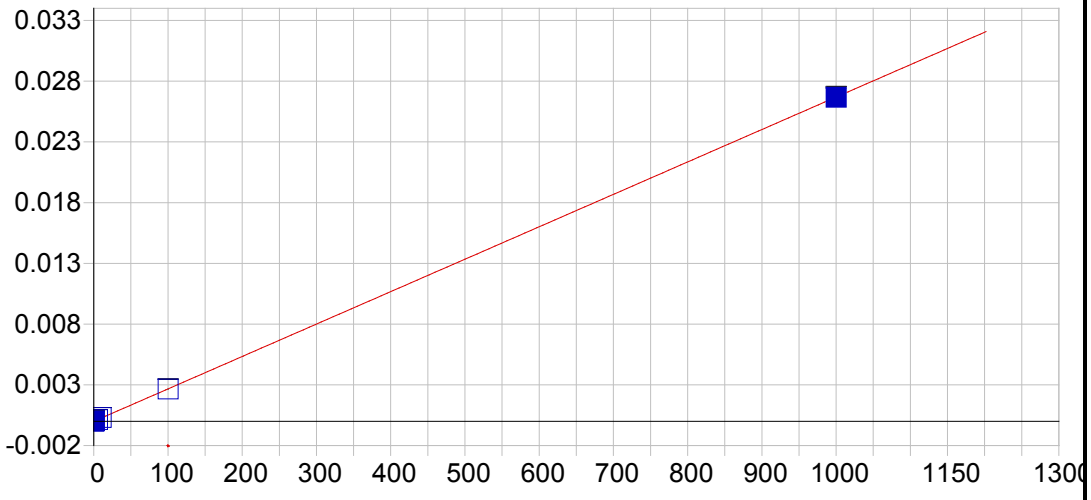


Ca 396.847 { 85}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000056	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999792	Status:	OK.
Std Error of Est:	0.000054		
Predicted MDL:	0.139801		
Predicted MQL:	0.466002		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01314	-.013	.000	.00001	.000	1
CalStd10=10	10000.	9932.6	-67.4	-.674	.55928	.006	1
CalStd8=100	100.00	107.86	7.86	7.86	.00609	.000	1
CalStd9=100	1000.0	1059.6	59.6	5.96	.05968	.000	1

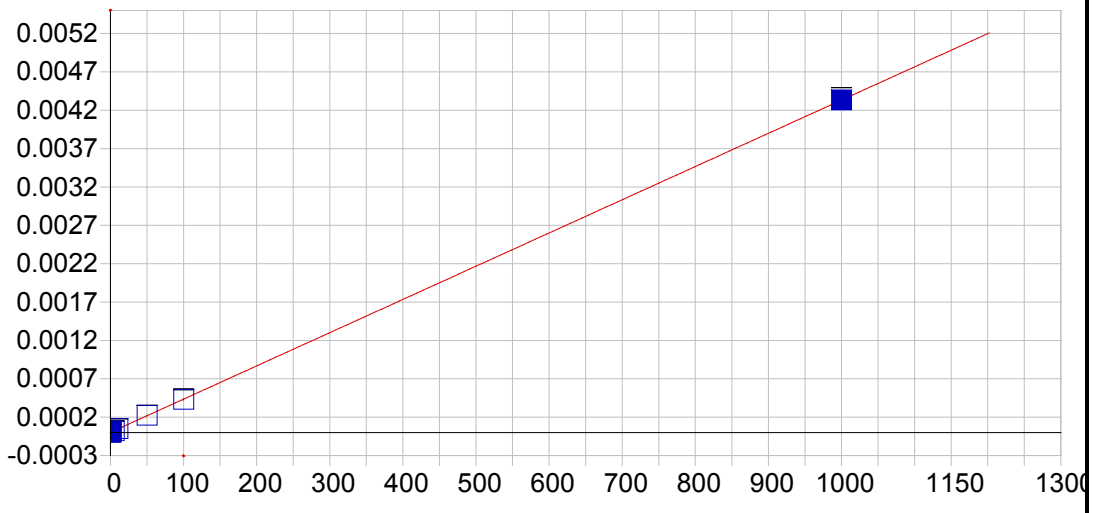


Cd 226.502 {449}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000027	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999855	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.222278		
Predicted MQL:	0.740927		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00011	.000	.000	-.00001	.000	1
CalStd3=1	1.0000	.98242	-.018	-1.76	.00002	.000	1
CalStd2=0.5	.50000	.31003	-.190	-38.0	.00000	.000	1
CalStd4=5	5.0000	5.1978	.198	3.96	.00013	.000	1
CalStd8=100	100.00	99.310	-.690	-.690	.00264	.000	1
CalStd5=10	10.000	11.541	1.54	15.4	.00030	.000	1
CalStd9=100	1000.0	999.16	-.840	-.084	.02667	.000	1

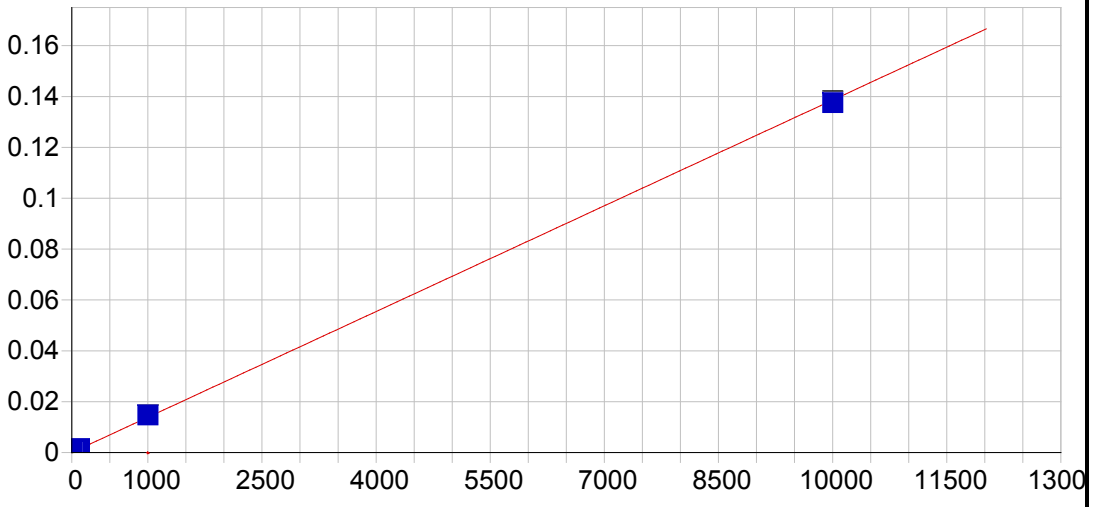


Cd 228.802 {447}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999998	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	1.754923		
Predicted MQL:	5.849745		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.42337	-.423	.000	.00000	.000	1
CalStd7=50	50.000	51.027	1.03	2.05	.00022	.000	1
CalStd3=1	1.0000	1.1994	.199	19.9	.00001	.000	1
CalStd2=0.5	.50000	.36584	-.134	-26.8	.00000	.000	1
CalStd4=5	5.0000	4.2578	-.742	-14.8	.00002	.000	1
CalStd8=100	100.00	99.250	-.750	-.750	.00043	.000	1
CalStd5=10	10.000	10.804	.804	8.04	.00005	.000	1
CalStd9=100	1000.0	1000.0	.019	.002	.00433	.000	1

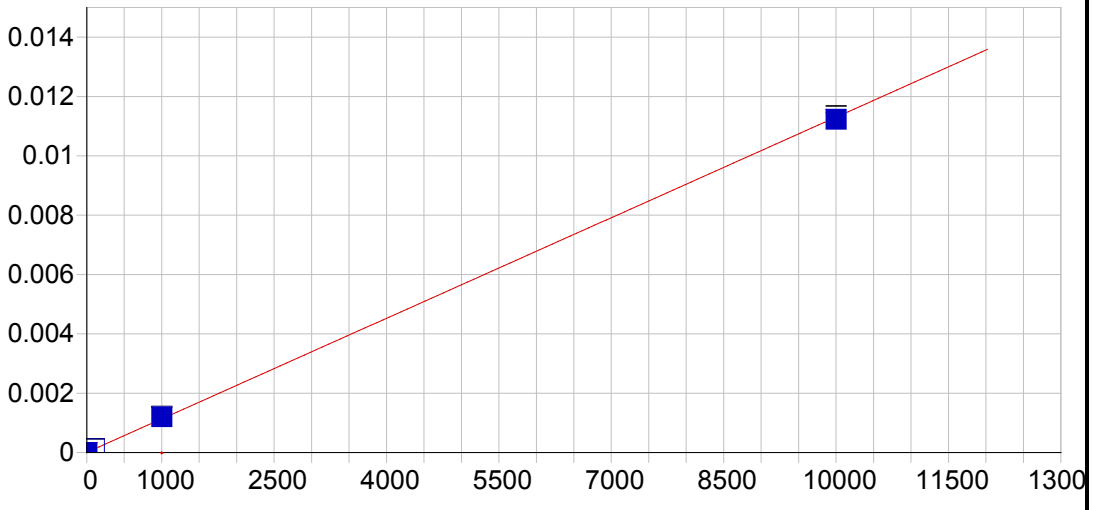


Co 228.616 {447}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999727	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.485561		
Predicted MQL:	1.618535		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00009	-.000	.000	.00001	.000	1
CalStd7=50	50.000	55.226	5.23	10.5	.00077	.000	1
CalStd5=10	10.000	12.236	2.24	22.4	.00018	.000	1
CalStd4=5	5.0000	4.9981	-.002	-.038	.00008	.000	1
CalStd8=100	100.00	105.71	5.71	5.71	.00147	.000	1
CalStd9=100	1000.0	1063.5	63.5	6.35	.01476	.000	1
CalStd3=1	1.0000	.65212	-.348	-34.8	.00002	.000	1
CalStd10=10	10000.	9923.7	-76.3	-.763	.13779	.000	1

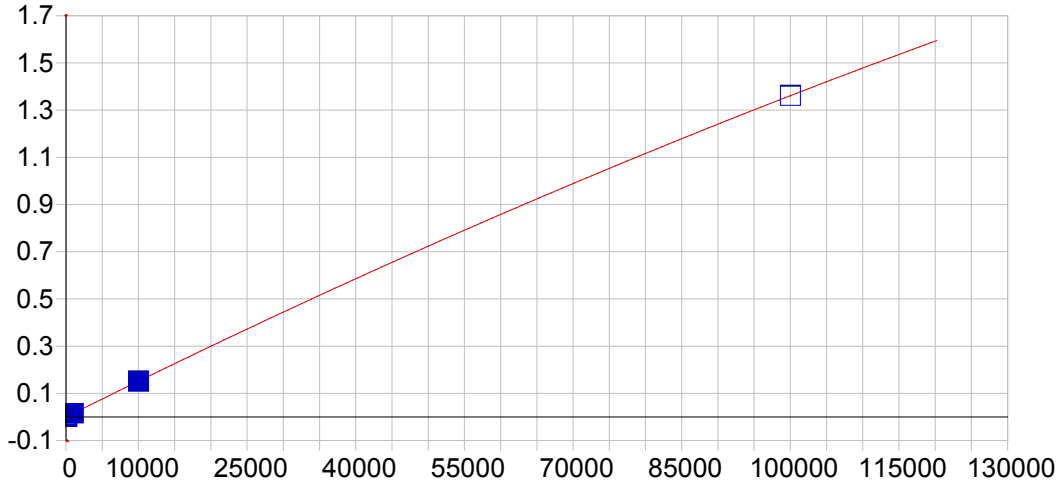


Co 238.892 {141}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999797	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.351852		
Predicted MQL:	4.506172		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01113	-.011	.000	.00000	.000	1
CalStd9=100	1000.0	1061.1	61.1	6.11	.00120	.000	1
CalStd10=10	10000.	9933.2	-66.8	-.668	.01123	.000	1
CalStd8=100	100.00	105.68	5.68	5.68	.00012	.000	1

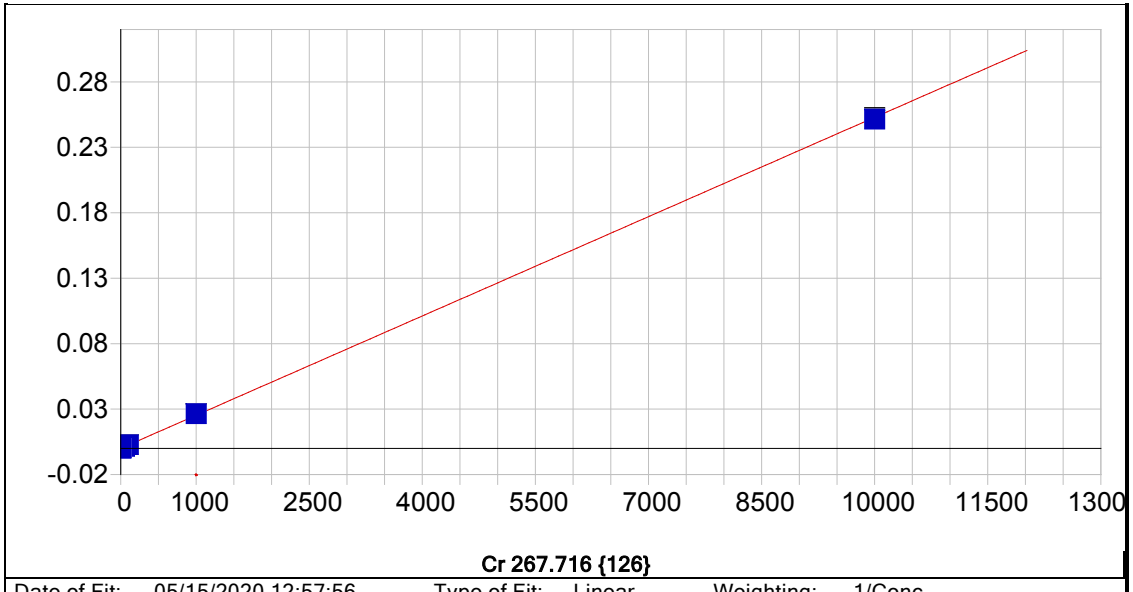


Cr 205.560 {464}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000015	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999975	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.316297		
Predicted MQL:	1.054323		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00097	-.001	.000	-.00001	.000	1
CalStd5=10	10.000	12.727	2.73	27.3	.00019	.000	1
CalStd7=50	50.000	54.629	4.63	9.26	.00083	.000	1
CalStd9=100	1000.0	1050.2	50.2	5.02	.01607	.000	1
CalStd8=100	100.00	103.51	3.51	3.51	.00158	.000	1
CalStd4=5	5.0000	5.3751	.375	7.50	.00008	.000	1
CalStd3=1	1.0000	1.4478	.448	44.8	.00002	.000	1
CalStd10=10	10000.	9930.4	-69.6	-.696	.15052	.000	1
CalStd12=10	100000.	100010.	8.11	.008	1.3614	.001	1

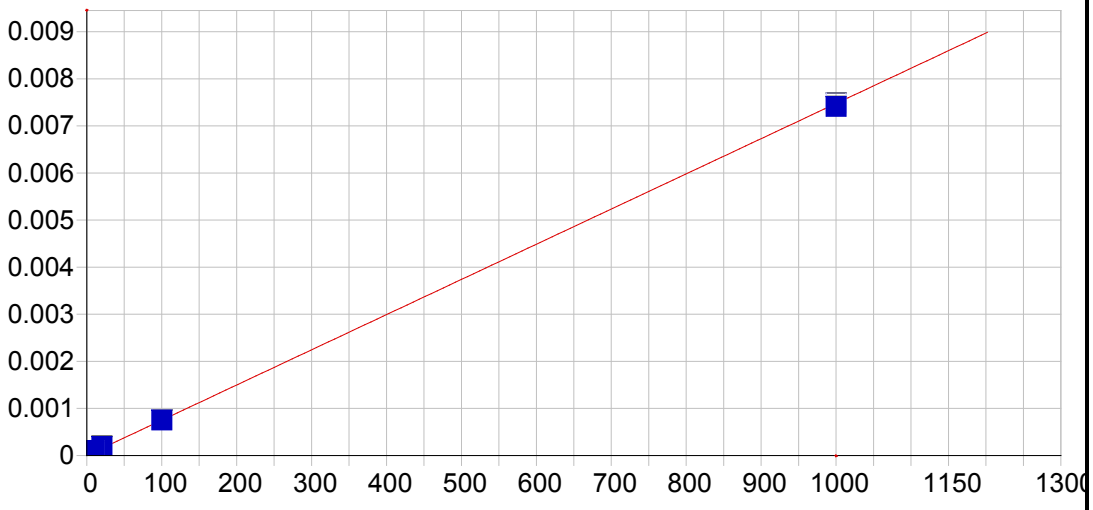


Cr 267.716 {126}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000025	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999808	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	0.696846		
Predicted MQL:	2.322819		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00369	-.004	.000	-.00003	.000	1
CalStd5=10	10.000	13.153	3.15	31.5	.00030	.000	1
CalStd7=50	50.000	55.363	5.36	10.7	.00137	.000	1
CalStd9=100	1000.0	1044.0	44.0	4.40	.02638	.000	1
CalStd8=100	100.00	104.25	4.25	4.25	.00261	.000	1
CalStd4=5	5.0000	6.1727	1.17	23.5	.00013	.000	1
CalStd10=10	10000.	9942.1	-57.9	-.579	.25151	.001	1

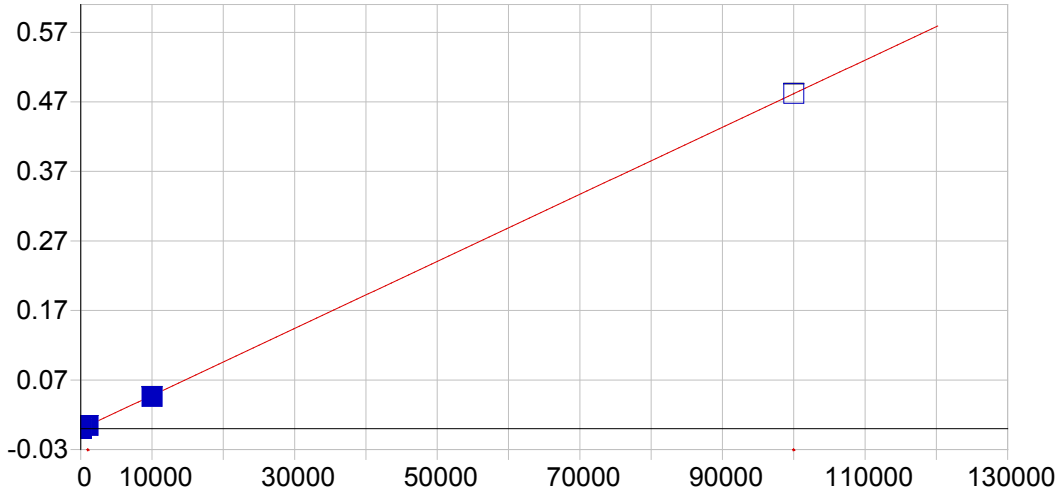


Cu 223.008 {451}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998862	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.917502		
Predicted MQL:	3.058340		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00596	-.006	.000	.00000	.000	1
CalStd9=100	1000.0	991.18	-8.82	-.882	.00748	.000	1
CalStd8=100	100.00	100.14	.141	.141	.00076	.000	1
CalStd6=20	20.000	25.280	5.28	26.4	.00019	.000	1
CalStd5=10	10.000	13.395	3.39	33.9	.00010	.000	1

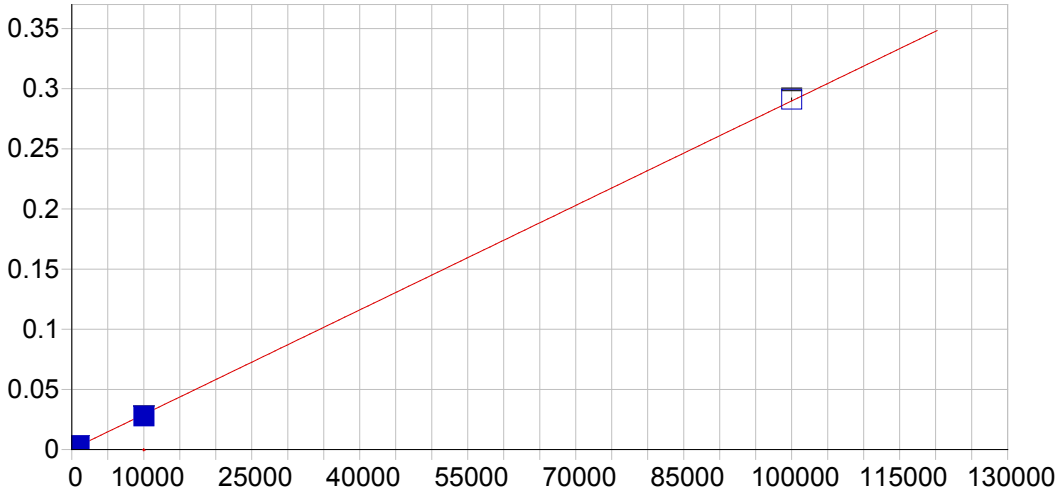


Cu 224.700 {450}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000501	Re-Slope:	1.000000
A1 (Gain):	0.000005	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000777		
Predicted MDL:	0.662207		
Predicted MQL:	2.207356		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	103.55	104.	.000	-.00000	.000	1
CalStd9=100	1000.0	1018.6	18.6	1.86	.00439	.000	1
CalStd7=50	50.000	110.25	60.3	121.	.00003	.000	1
CalStd8=100	100.00	123.90	23.9	23.9	.00009	.000	1
CalStd6=20	20.000	106.96	87.0	435.	.00001	.000	1
CalStd12=10	100000.	100030.	32.2	.032	.48187	.001	1
CalStd10=10	10000.	9674.6	-325.	-3.25	.04596	.000	1

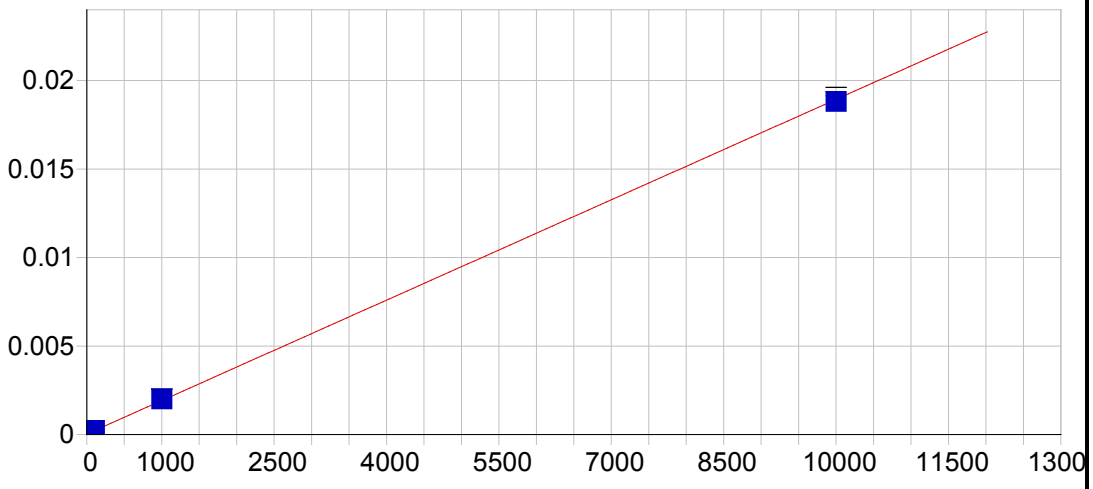


Cu 324.754 {104}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000232	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999891	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	1.806402		
Predicted MQL:	6.021341		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00330	-.003	.000	.00023	.000	1
CalStd9=100	1000.0	1004.1	4.15	.415	.00314	.000	1
CalStd8=100	100.00	99.449	-.551	-.551	.00052	.000	1
CalStd10=10	10000.	9539.4	-461.	-4.61	.02786	.000	1
CalStd12=10	100000.	100450.	449.	.449	.29114	.001	1
CalStd5=10	10.000	11.207	1.21	12.1	.00026	.000	1
CalStd6=20	20.000	23.943	3.94	19.7	.00030	.000	1
CalStd7=50	50.000	52.762	2.76	5.52	.00038	.000	1

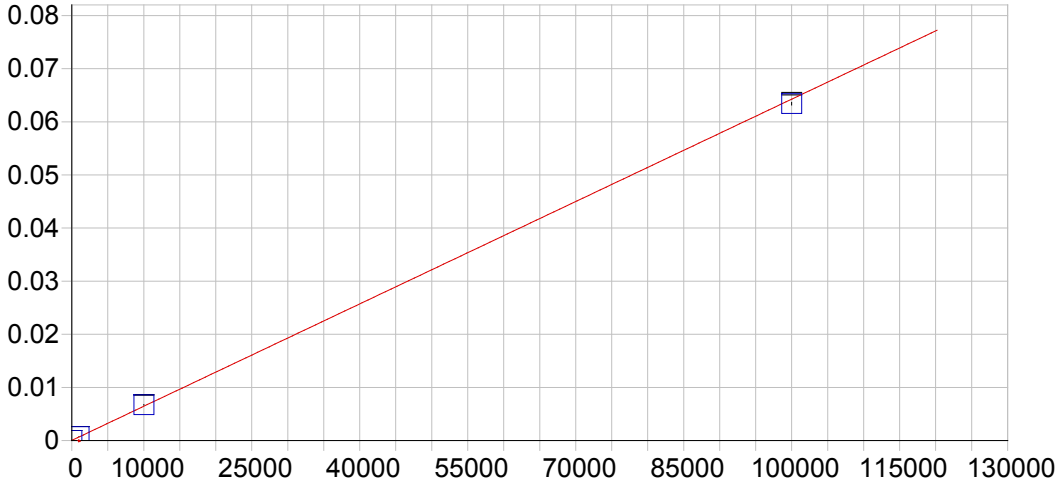


Cu 327.396 {103}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000030	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999786	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.049596		
Predicted MQL:	13.498655		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00444	-.004	.000	.00003	.000	1
CalStd6=20	20.000	23.525	3.53	17.6	.00007	.000	1
CalStd7=50	50.000	54.571	4.57	9.14	.00013	.000	1
CalStd8=100	100.00	104.21	4.21	4.21	.00023	.000	1
CalStd9=100	1000.0	1046.4	46.4	4.64	.00201	.000	1
CalStd10=10	10000.	9937.5	-62.5	-.625	.01882	.000	1
CalStd4=5	5.0000	6.4853	1.49	29.7	.00004	.000	1
CalStd5=10	10.000	12.412	2.41	24.1	.00005	.000	1

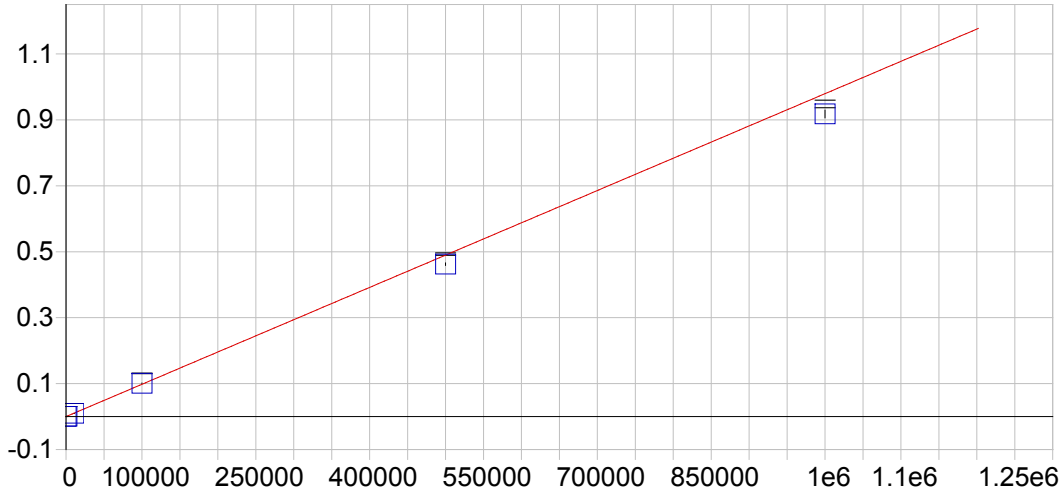


Fe 234.349 {144}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000028	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999604	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.331829		
Predicted MQL:	4.439428		

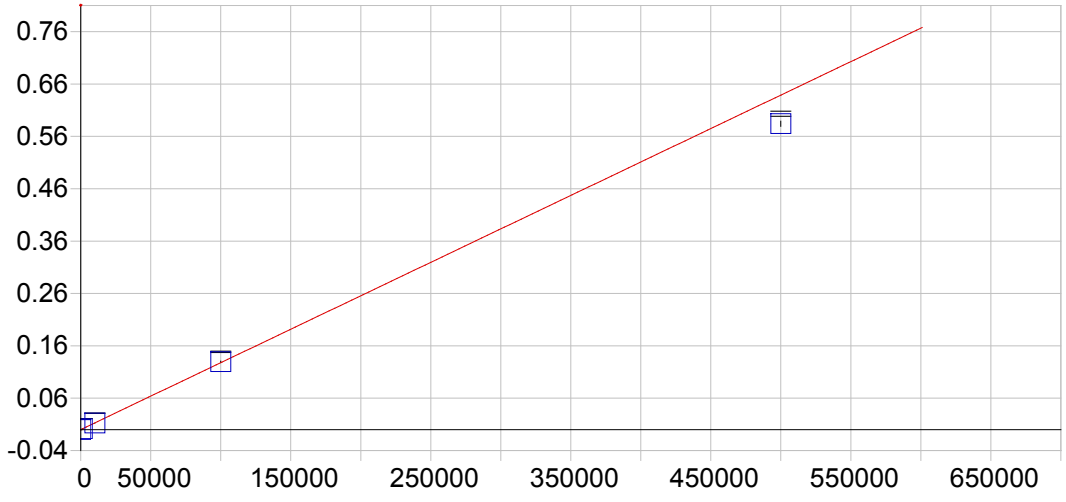
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.13822	-.138	.000	.00003	.000	1
CalStd10=10	10000.	10402.	402.	4.02	.00671	.000	1
CalStd13=10	100000.	98665.	-1330.	-1.33	.06340	.000	1
CalStd9=100	1000.0	1086.0	86.0	8.60	.00073	.000	1



Fe 239.562 {140}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000005		Re-Slope:	1.000000	
A1 (Gain):	0.000001		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999255		Status:	OK.	
Std Error of Est:	0.000022				
Predicted MDL:	2.721388				
Predicted MQL:	9.071294				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.9213	-3.92	.000	.00000	.000	1
CalStd10=10	10000.	9862.6	-137.	-1.37	.00967	.000	1
CalStd13=10	100000.	102600.	2600.	2.60	.10051	.001	1
CalStd14=50	500000.	472000.	-28000.	-5.60	.46236	.004	1
CalStd9=100	1000.0	1026.4	26.4	2.64	.00101	.000	1
CalibStd15=	1000000.	936960.	-63000.	-6.30	.91782	.012	1

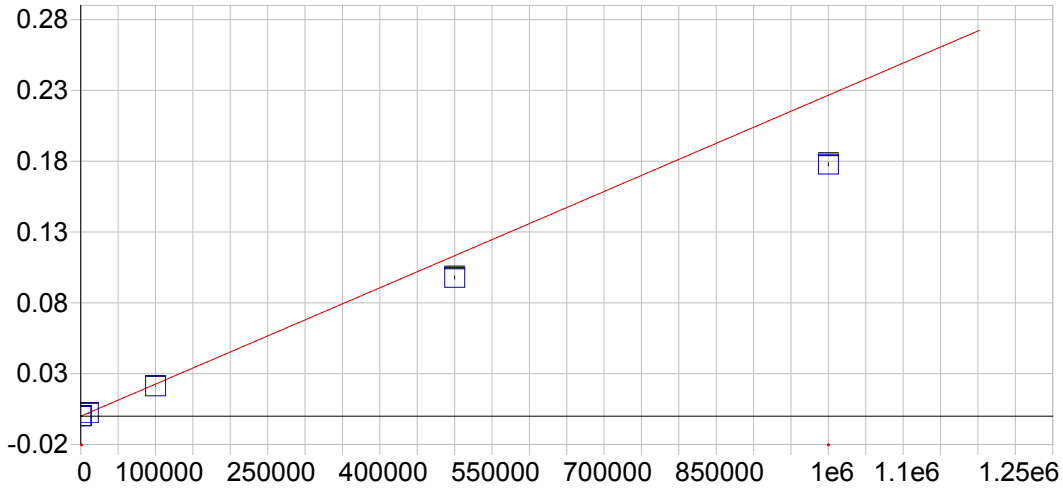


Fe 259.940 {129}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999854	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	2.279205		
Predicted MQL:	7.597349		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.21307	-.213	.000	.00000	.000	1
CalStd10=10	10000.	9568.8	-431.	-4.31	.01223	.000	1
CalStd13=10	100000.	101260.	1260.	1.26	.12939	.001	1
CalStd14=50	500000.	457160.	-42800.	-8.57	.58414	.005	1
CalStd9=100	1000.0	1003.5	3.46	.346	.00128	.000	1

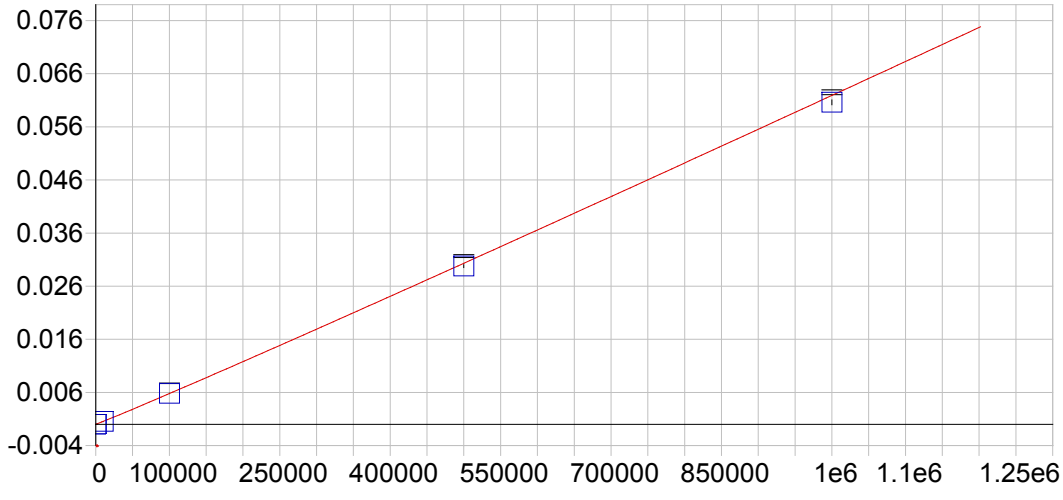


Mg 202.582 {466}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998679	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	2.412525		
Predicted MQL:	8.041751		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-11.632	-11.6	.000	-.00000	.000	1
CalStd13=10	100000.	94041.	-5960.	-5.96	.02131	.000	1
CalStd10=10	10000.	10079.	78.8	.788	.00229	.000	1
CalStd14=50	500000.	432100.	-67900.	-13.6	.09792	.001	1
CalStd9=100	1000.0	1108.6	109.	10.9	.00025	.000	1
CalibStd15=	1000000.	784970.	-215000.	-21.5	.17789	.001	1

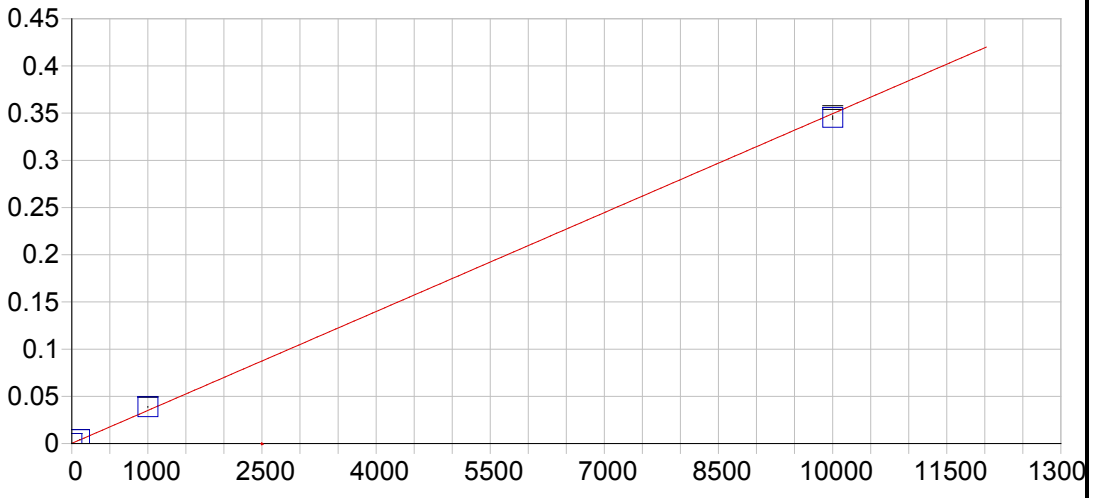


Mg 279.079 {121}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Full Fit	Weighting:	1/Var

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.030000		
Correlation:	0.999820	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	40.877755		
Predicted MQL:	136.259182		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	-.00000	.000	1
CalStd13=10	100000.	100690.	692.	.692	.00582	.000	1
CalStd10=10	10000.	9690.9	-309.	-3.09	.00052	.000	1
CalStd14=50	500000.	491290.	-8710.	-1.74	.02977	.000	1
CalStd9=100	1000.0	1038.3	38.3	3.83	.00005	.000	1
CalibStd15=	1000000.	979730.	-20300.	-2.03	.06062	.000	1

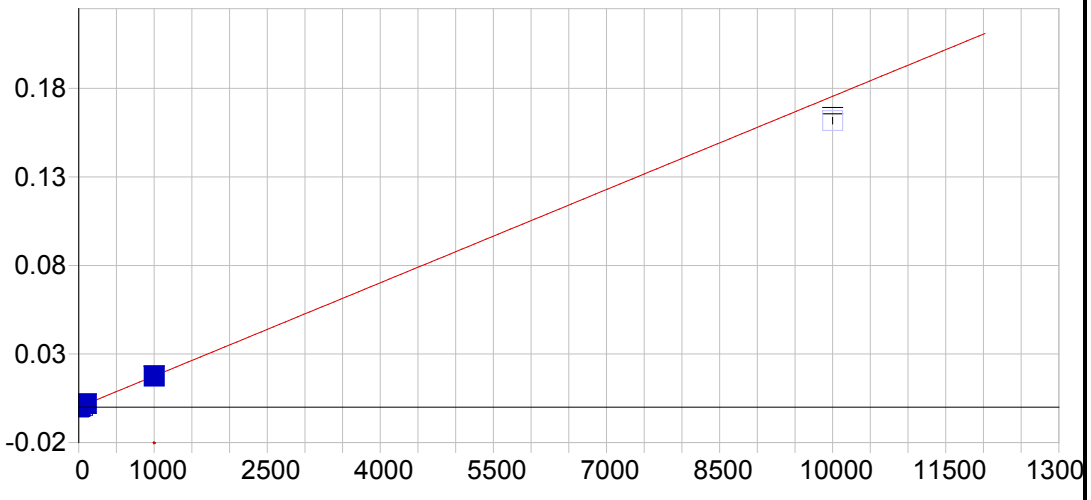


Mg 280.270 {120}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000142	Re-Slope:	1.000000
A1 (Gain):	0.000035	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999355	Status:	OK.
Std Error of Est:	0.000059		
Predicted MDL:	0.032048		
Predicted MQL:	0.106828		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02120	-.021	.000	.00014	.000	1
CalStd9=100	1000.0	1107.5	107.	10.7	.03883	.000	1
CalStd10=10	10000.	9880.9	-119.	-1.19	.34527	.002	1
CalStd8=100	100.00	111.64	11.6	11.6	.00404	.000	1

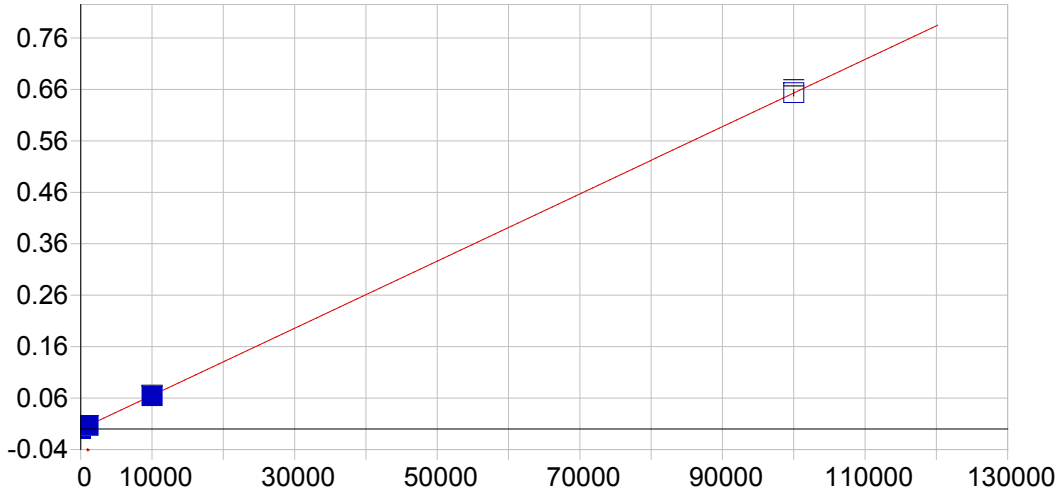


Mn 257.610 {131}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999345	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	0.072875		
Predicted MQL:	0.242917		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00244	-.002	.000	-.00000	.000	1
CalStd5=10	10.000	12.250	2.25	22.5	.00021	.000	1
CalStd7=50	50.000	52.202	2.20	4.40	.00091	.000	1
CalStd6=20	20.000	24.186	4.19	20.9	.00042	.000	1
CalStd8=100	100.00	99.564	-.436	-.436	.00175	.000	1
CalStd4=5	5.0000	5.1137	.114	2.27	.00009	.000	1
CalStd9=100	1000.0	991.68	-8.32	-.832	.01741	.000	1
CalStd10=10	10000.	9215.1	-785.	-7.85	.16175	.002	0

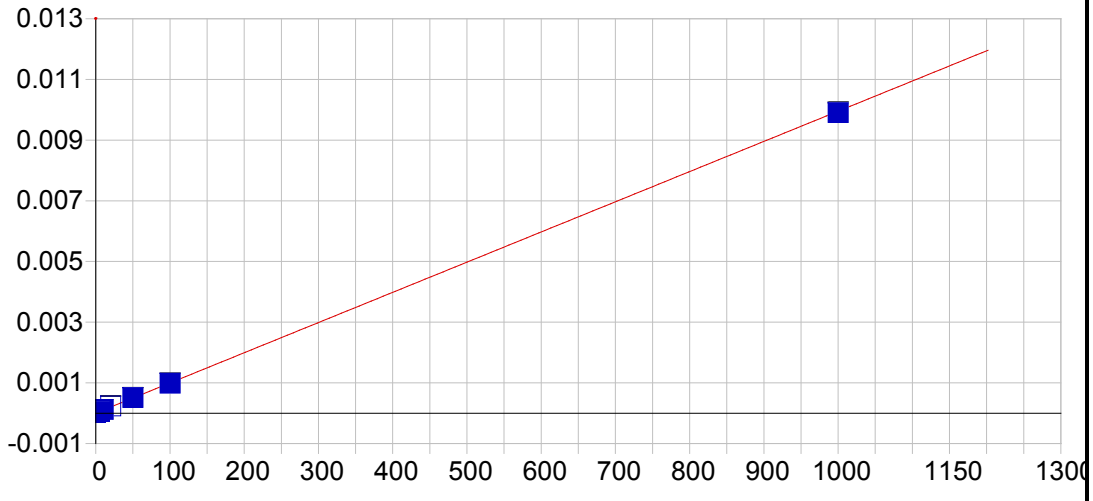


Mn 259.373 {130}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000017		
Predicted MDL:	0.463345		
Predicted MQL:	1.544482		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.03249	-.032	.000	.00000	.000	1
CalStd10=10	10000.	9881.9	-118.	-1.18	.06461	.001	1
CalStd9=100	1000.0	1043.5	43.5	4.35	.00682	.000	1
CalStd12=10	100000.	100070.	74.6	.075	.65330	.006	1

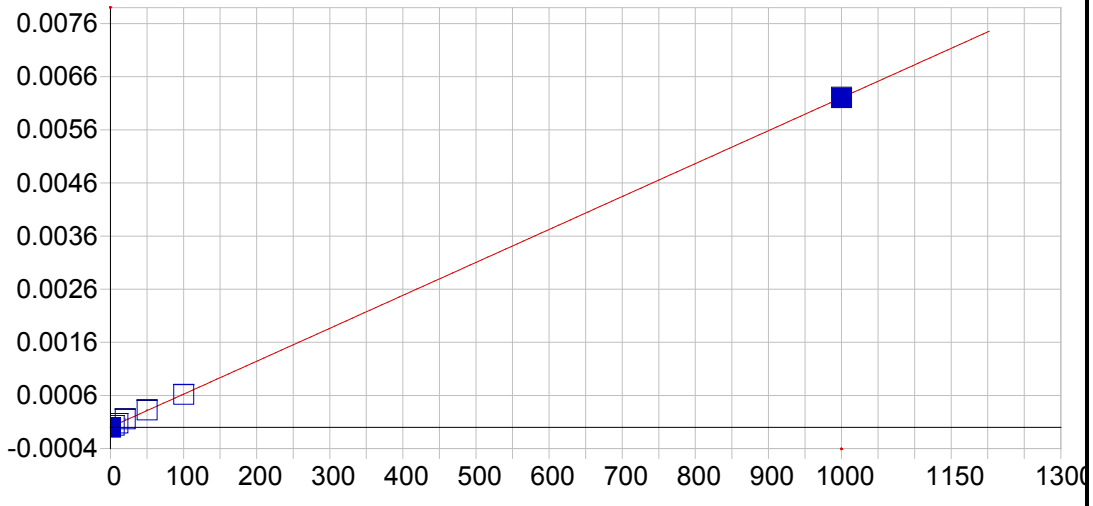


Mo 202.030 {466}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999591	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.453888		
Predicted MQL:	1.512959		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00156	-.002	.000	.00000	.000	1
CalStd7=50	50.000	51.332	1.33	2.66	.00051	.000	1
CalStd6=20	20.000	23.490	3.49	17.4	.00024	.000	1
CalStd5=10	10.000	11.665	1.67	16.7	.00012	.000	1
CalStd8=100	100.00	98.642	-1.36	-1.36	.00099	.000	1
CalStd4=5	5.0000	4.8170	-.183	-3.66	.00005	.000	1
CalStd9=100	1000.0	995.06	-4.94	-.494	.00992	.000	1

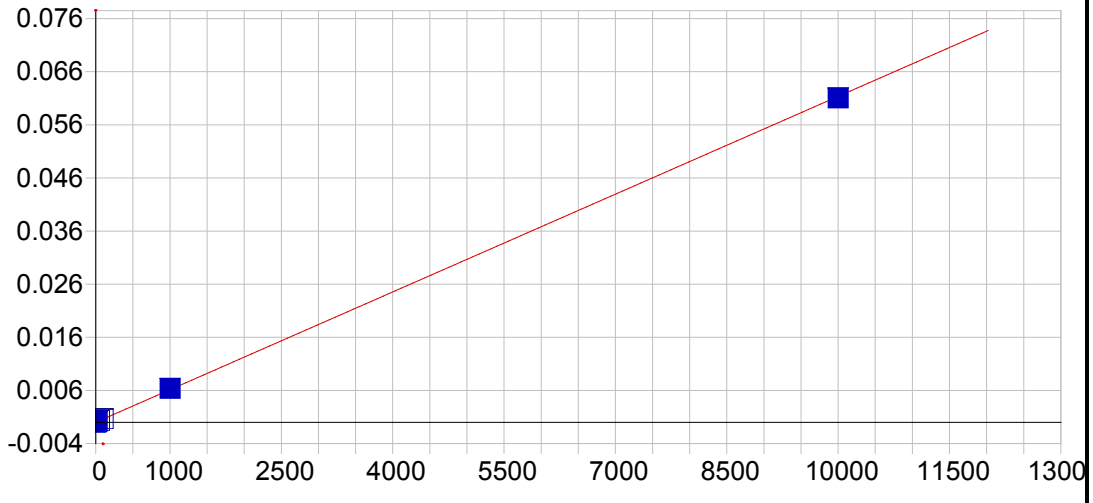


Mo 203.844 {465}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999869	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.840456		
Predicted MQL:	2.801519		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.61357	-.614	.000	-.00000	.000	1
CalStd7=50	50.000	51.570	1.57	3.14	.00032	.000	1
CalStd6=20	20.000	24.436	4.44	22.2	.00015	.000	1
CalStd5=10	10.000	11.773	1.77	17.7	.00008	.000	1
CalStd8=100	100.00	98.898	-1.10	-1.10	.00062	.000	1
CalStd4=5	5.0000	4.8555	-.144	-2.89	.00003	.000	1
CalStd9=100	1000.0	999.54	-.456	-.046	.00620	.000	1

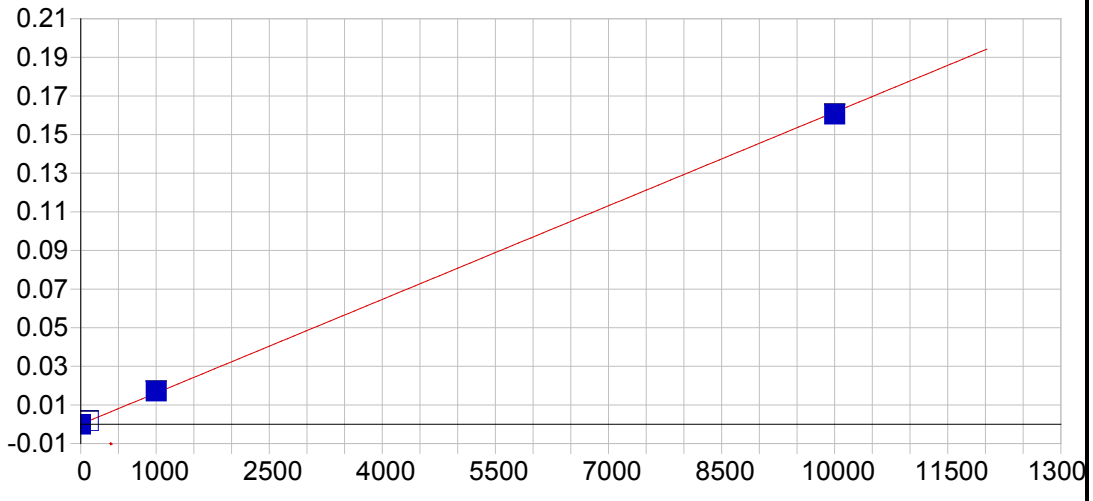


Mo 204.598 {464}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999801	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.798705		
Predicted MQL:	2.662349		

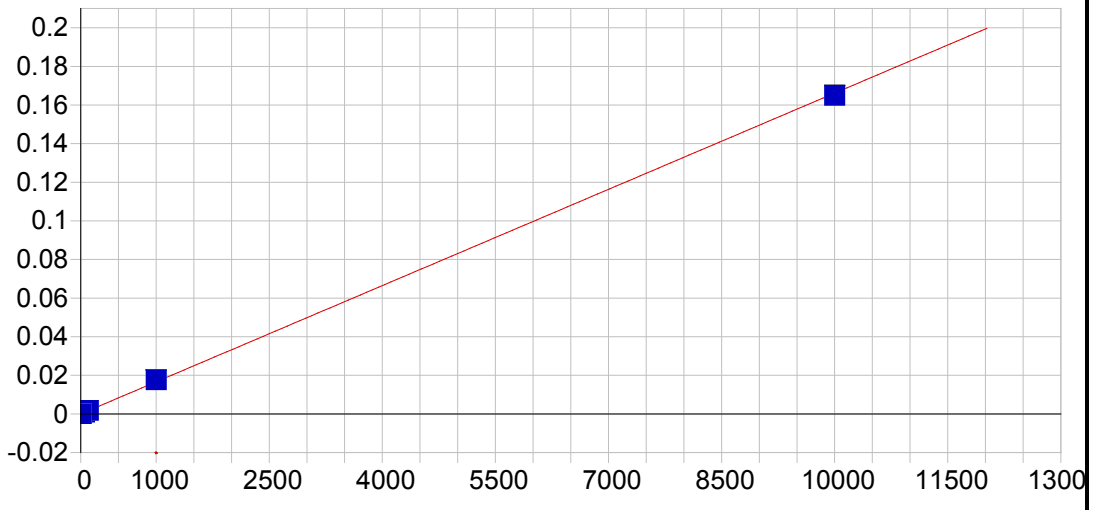
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00385	-.004	.000	-.00001	.000	1
CalStd7=50	50.000	53.700	3.70	7.40	.00032	.000	1
CalStd6=20	20.000	25.319	5.32	26.6	.00015	.000	1
CalStd5=10	10.000	13.235	3.24	32.4	.00007	.000	1
CalStd8=100	100.00	103.05	3.05	3.05	.00062	.000	1
CalStd4=5	5.0000	5.2277	.228	4.55	.00002	.000	1
CalStd9=100	1000.0	1036.7	36.7	3.67	.00635	.000	1
CalStd10=10	10000.	9947.8	-52.2	-.522	.06104	.000	1



Ni 221.647 {452}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000002		Re-Slope:	1.000000	
A1 (Gain):	0.000016		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999791		Status:	OK.	
Std Error of Est:	0.000016				
Predicted MDL:	0.487753				
Predicted MQL:	1.625845				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01168	-.012	.000	.00000	.000	1
CalStd10=10	10000.	9932.1	-67.9	-.679	.16053	.000	1
CalStd8=100	100.00	106.18	6.18	6.18	.00172	.000	1
CalStd9=100	1000.0	1061.7	61.7	6.17	.01716	.000	1

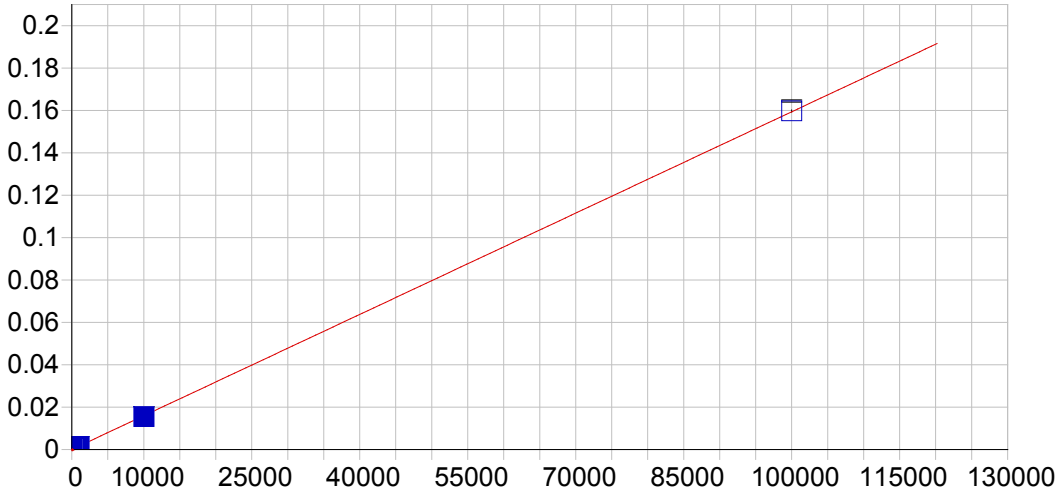


Ni 231.604 {445}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000017	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999735	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.467413		
Predicted MQL:	1.558043		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00068	-.001	.000	-.00001	.000	1
CalStd7=50	50.000	55.448	5.45	10.9	.00091	.000	1
CalStd5=10	10.000	12.766	2.77	27.7	.00020	.000	1
CalStd8=100	100.00	106.16	6.16	6.16	.00175	.000	1
CalStd4=5	5.0000	5.5703	.570	11.4	.00008	.000	1
CalStd9=100	1000.0	1059.6	59.6	5.96	.01760	.000	1
CalStd3=1	1.0000	1.0654	.065	6.54	.00000	.000	1
CalStd10=10	10000.	9925.4	-74.6	-.746	.16489	.000	1

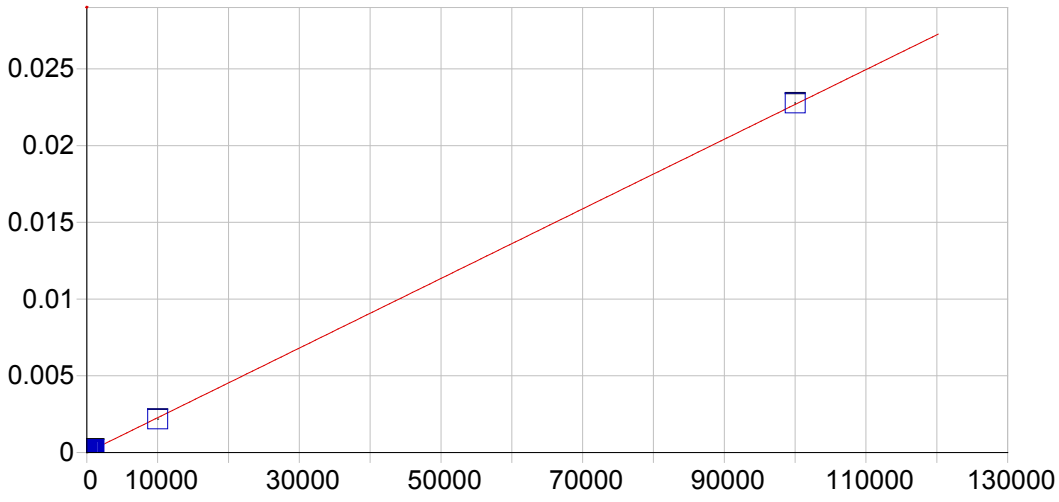


Pb 216.999 {455}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999929	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	4.007594		
Predicted MQL:	13.358648		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00748	-.007	.000	.00000	.000	1
CalStd9=100	1000.0	1040.9	40.9	4.09	.00167	.000	1
CalStd10=10	10000.	9705.8	-294.	-2.94	.01547	.000	1
CalStd8=100	100.00	107.84	7.84	7.84	.00018	.000	1
CalStd5=10	10.000	16.556	6.56	65.6	.00003	.000	1
CalStd12=10	100000.	100240.	239.	.239	.15975	.000	1

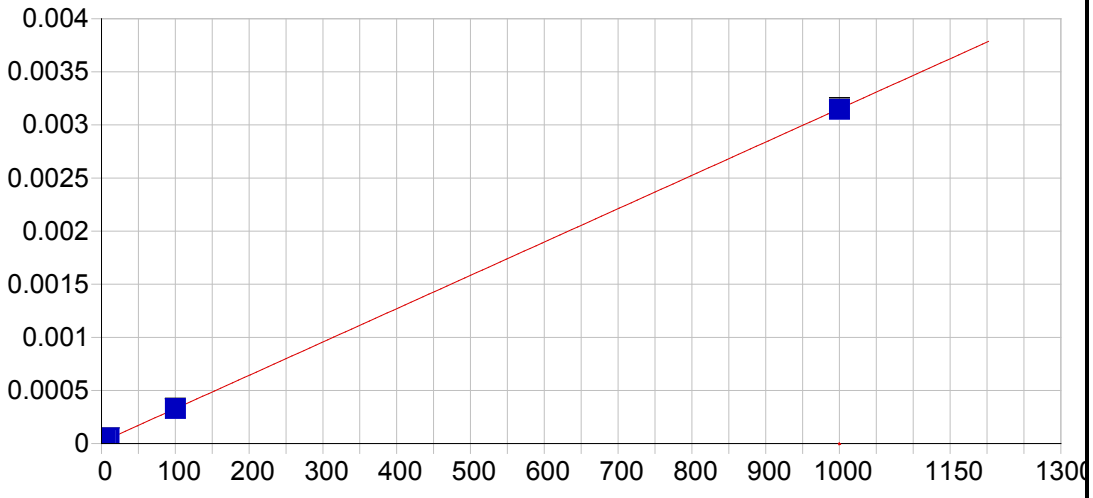


Pb 216.999 {456}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	13.137245		
Predicted MQL:	43.790818		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00320	.003	.000	.00000	.000	1
CalStd9=100	1000.0	1020.4	20.4	2.04	.00023	.000	1
CalStd10=10	10000.	9607.2	-393.	-3.93	.00218	.000	1
CalStd8=100	100.00	103.10	3.10	3.10	.00002	.000	1
CalStd5=10	10.000	6.6418	-3.36	-33.6	.00000	.000	1
CalStd12=10	100000.	100370.	373.	.373	.02277	.000	1

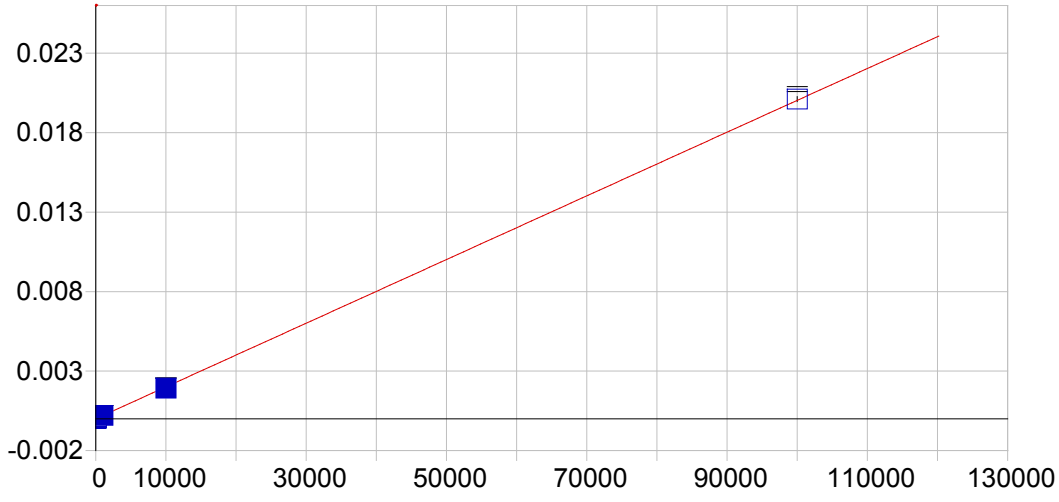


Pb 220.353 {453}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999716	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.507705		
Predicted MQL:	8.359016		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00051	-.001	.000	.00001	.000	1
CalStd5=10	10.000	12.329	2.33	23.3	.00005	.000	1
CalStd8=100	100.00	100.15	.147	.147	.00033	.000	1
CalStd4=5	5.0000	4.3445	-.656	-13.1	.00003	.000	1
CalStd9=100	1000.0	998.18	-1.82	-.182	.00314	.000	1

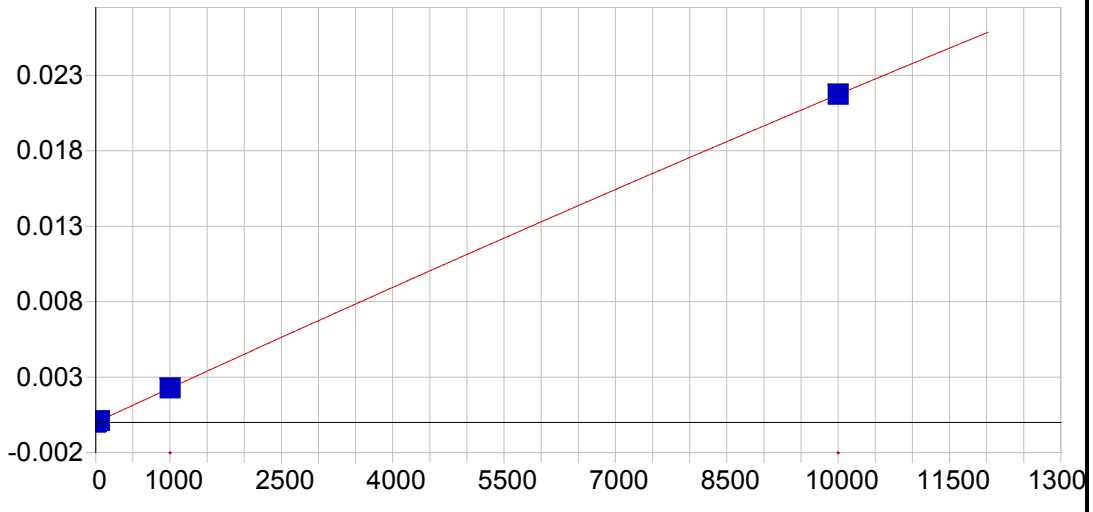


Pb 220.353 {153}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999909	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.496997		
Predicted MQL:	14.989992		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00813	-.008	.000	.00000	.000	1
CalStd9=100	1000.0	1034.0	34.0	3.40	.00021	.000	1
CalStd10=10	10000.	9588.6	-411.	-4.11	.00192	.000	1
CalStd8=100	100.00	108.48	8.48	8.48	.00002	.000	1
CalStd12=10	100000.	100370.	369.	.369	.02011	.000	1

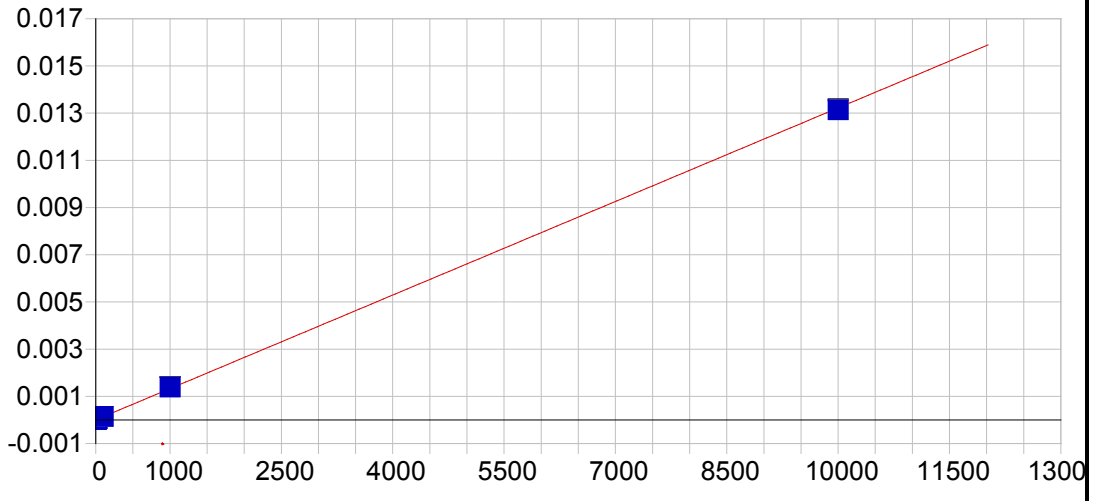


Sb 206.833 {463}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	-0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.164684		
Predicted MQL:	7.215612		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00017	.000	.000	-.00000	.000	1
CalStd9=100	1000.0	999.87	-.135	-.013	.00227	.000	1
CalStd5=10	10.000	9.7591	-.241	-2.41	.00002	.000	1
CalStd7=50	50.000	50.363	.363	.725	.00011	.000	1
CalStd10=10	10000.	10000.	.013	.000	.02173	.000	1

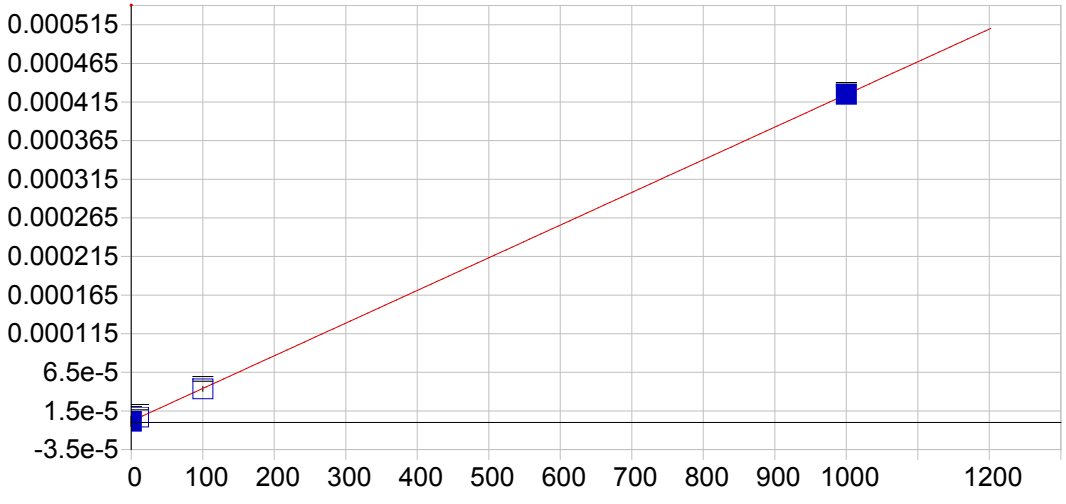


Sb 217.581 {455}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999736	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.181647		
Predicted MQL:	13.938825		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00356	-.004	.000	.00000	.000	1
CalStd9=100	1000.0	1050.1	50.1	5.01	.00139	.000	1
CalStd6=20	20.000	26.280	6.28	31.4	.00004	.000	1
CalStd5=10	10.000	12.656	2.66	26.6	.00002	.000	1
CalStd8=100	100.00	105.15	5.15	5.15	.00014	.000	1
CalStd4=5	5.0000	5.1832	.183	3.66	.00001	.000	1
CalStd10=10	10000.	9935.6	-64.4	-.644	.01314	.000	1

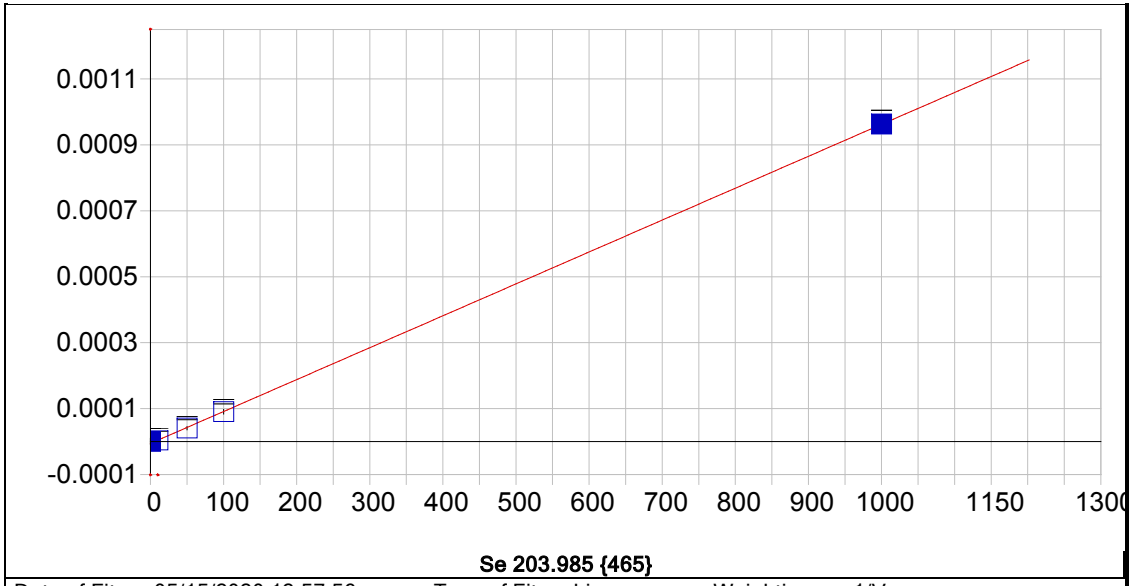


Se 196.090 {472}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	9.544766		
Predicted MQL:	31.815887		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.58549	-.585	.000	.00000	.000	1
CalStd9=100	1000.0	1000.1	.131	.013	.00042	.000	1
CalStd5=10	10.000	11.960	1.96	19.6	.00001	.000	1
CalStd8=100	100.00	98.495	-1.51	-1.51	.00004	.000	1

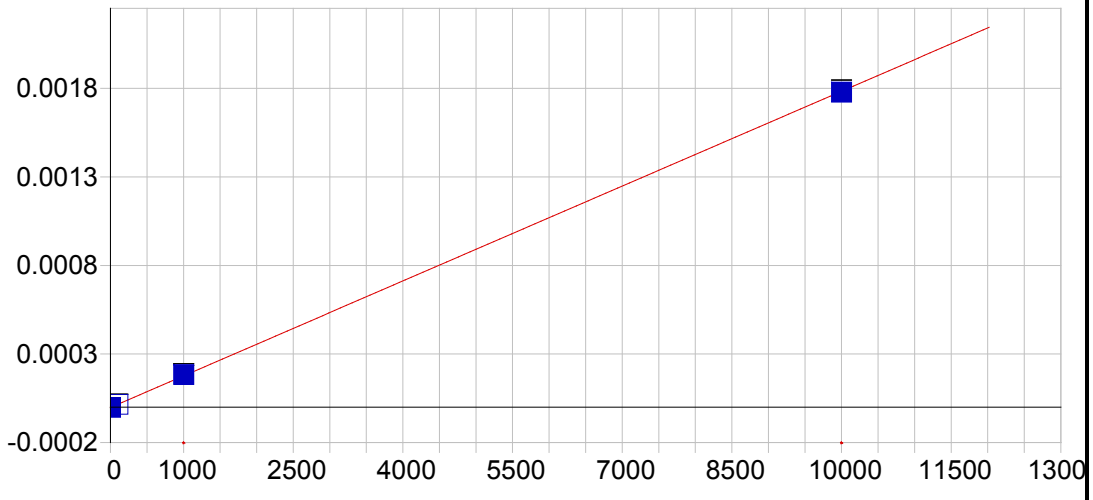


Se 203.985 {465}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999951	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	7.462247		
Predicted MQL:	24.874156		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	5.9739	5.97	.000	.00000	.000	1
CalStd7=50	50.000	47.767	-2.23	-4.47	.00004	.000	1
CalStd9=100	1000.0	1000.9	.856	.086	.00096	.000	1
CalStd5=10	10.000	10.522	.522	5.22	.00000	.000	1
CalStd8=100	100.00	99.094	-.906	-.906	.00009	.000	1

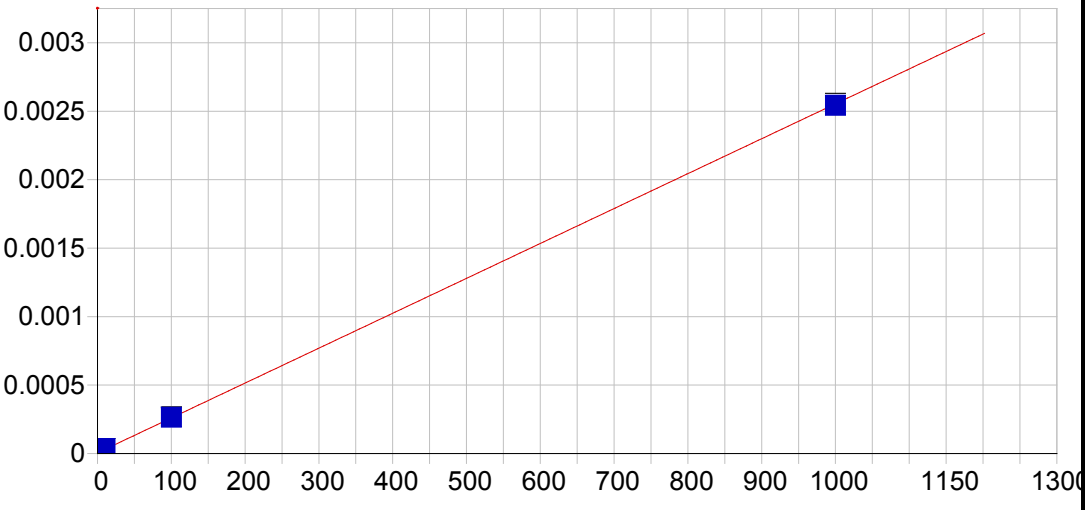


Se 206.279 {463}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999924	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	30.208346		
Predicted MQL:	100.694488		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00073	-.001	.000	-.00000	.000	1
CalStd9=100	1000.0	1038.6	38.6	3.86	.00018	.000	1
CalStd10=10	10000.	9964.1	-35.9	-.359	.00178	.000	1
CalStd8=100	100.00	97.227	-2.77	-2.77	.00002	.000	1

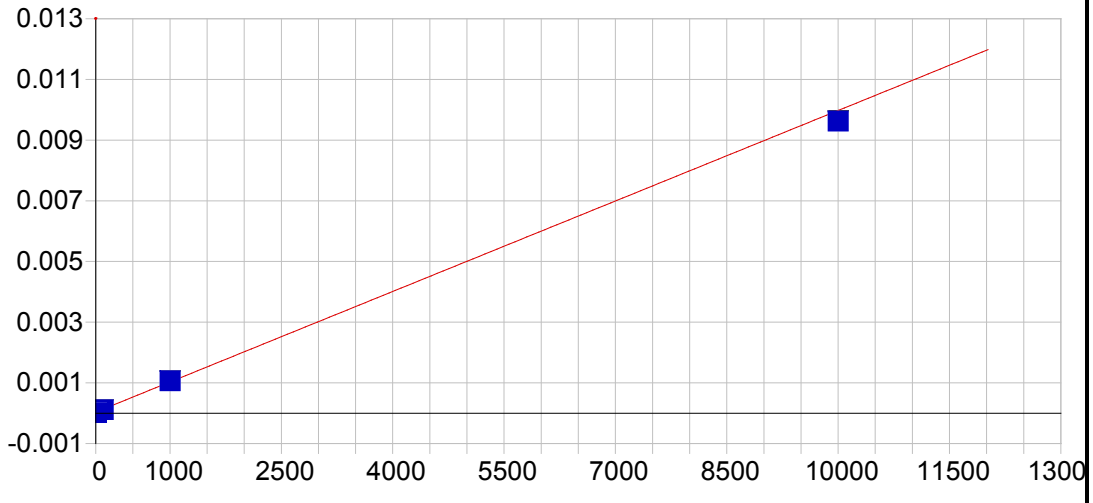


Tl 190.856 {476}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999586	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.947748		
Predicted MQL:	6.492493		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00308	-.003	.000	.00000	.000	1
CalStd9=100	1000.0	995.28	-4.72	-.472	.00255	.000	1
CalStd8=100	100.00	101.77	1.77	1.77	.00026	.000	1
CalStd5=10	10.000	12.949	2.95	29.5	.00004	.000	1

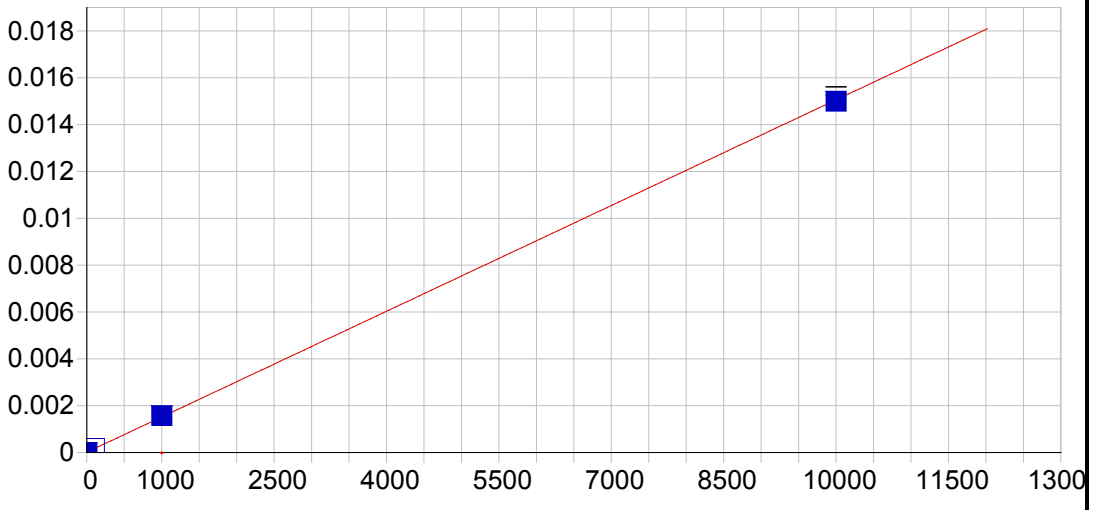


Tl 190.856 {477}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000035	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998723	Status:	OK.
Std Error of Est:	0.000053		
Predicted MDL:	4.041792		
Predicted MQL:	13.472639		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-35.037	-35.0	.000	.00000	.000	1
CalStd9=100	1000.0	1033.7	33.7	3.37	.00106	.000	1
CalStd8=100	100.00	72.901	-27.1	-27.1	.00011	.000	1
CalStd5=10	10.000	-23.758	-33.8	-338.	.00001	.000	1
CalStd10=10	10000.	9647.1	-353.	-3.53	.00962	.000	1

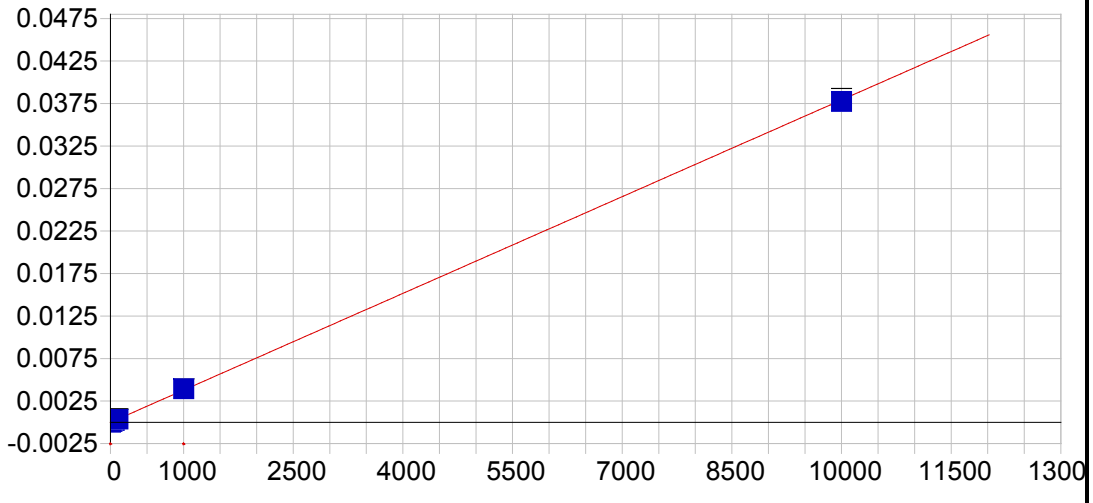


V 290.882 {116}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999925	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	2.846563		
Predicted MQL:	9.488543		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00686	-.007	.000	.00001	.000	1
CalStd9=100	1000.0	1037.2	37.2	3.72	.00157	.000	1
CalStd10=10	10000.	9959.3	-40.7	-.407	.01500	.000	1
CalStd8=100	100.00	103.55	3.55	3.55	.00017	.000	1

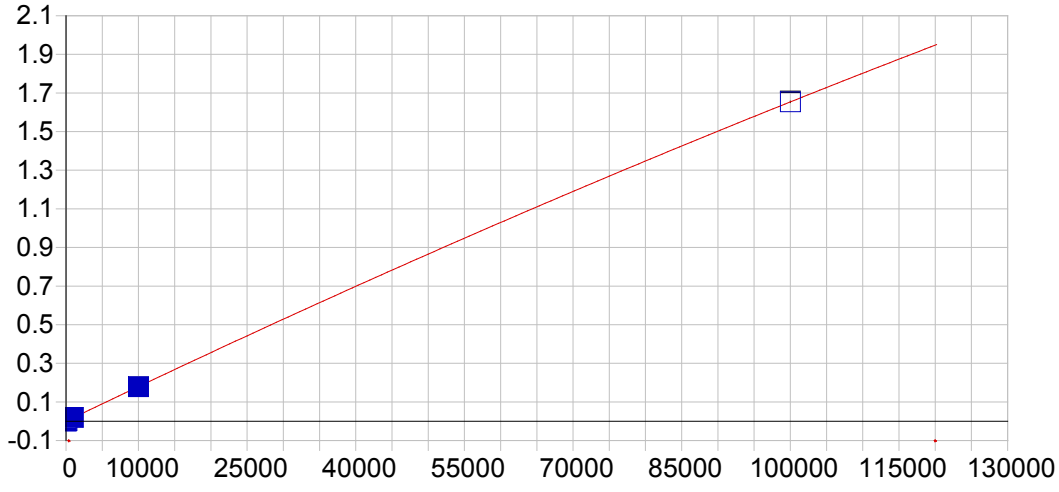


V 292.402 {115}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999818	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.938272		
Predicted MQL:	3.127574		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00628	-.006	.000	-.00001	.000	1
CalStd7=50	50.000	54.446	4.45	8.89	.00020	.000	1
CalStd9=100	1000.0	1036.7	36.7	3.67	.00392	.000	1
CalStd6=20	20.000	25.713	5.71	28.6	.00009	.000	1
CalStd5=10	10.000	12.072	2.07	20.7	.00004	.000	1
CalStd8=100	100.00	101.46	1.46	1.46	.00038	.000	1
CalStd10=10	10000.	9949.6	-50.4	-.504	.03775	.000	1

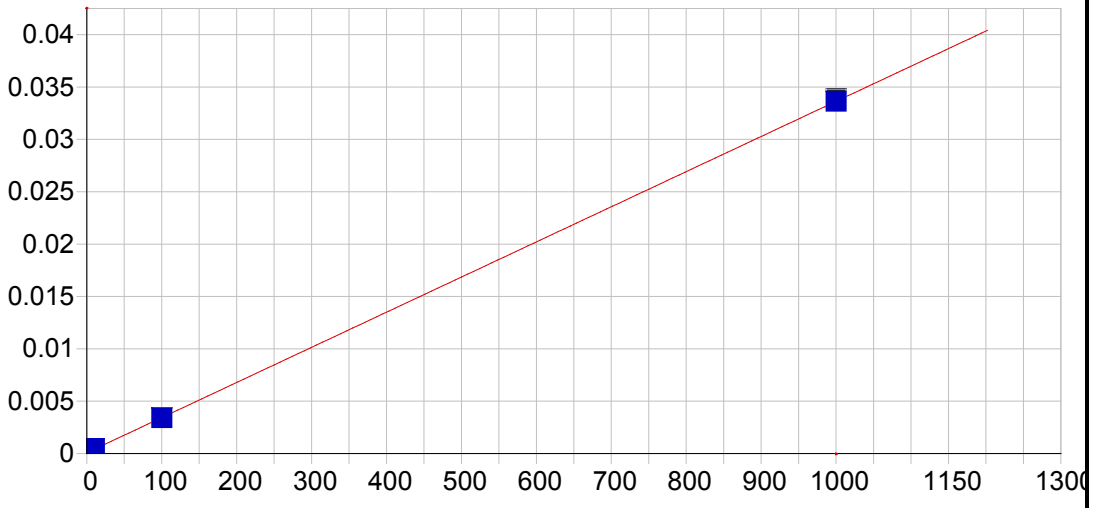


Zn 206.200 {463}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999971	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.298478		
Predicted MQL:	0.994926		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9931.6	-68.4	-.684	.17805	.000	1
Blank	.00000	-.00564	-.006	.000	.00000	.000	1
CalStd9=100	1000.0	1051.5	51.5	5.15	.01900	.000	1
CalStd12=10	100000.	100010.	7.48	.007	1.6539	.003	1
CalStd5=10	10.000	14.702	4.70	47.0	.00027	.000	1
CalStd8=100	100.00	104.89	4.89	4.89	.00190	.000	1

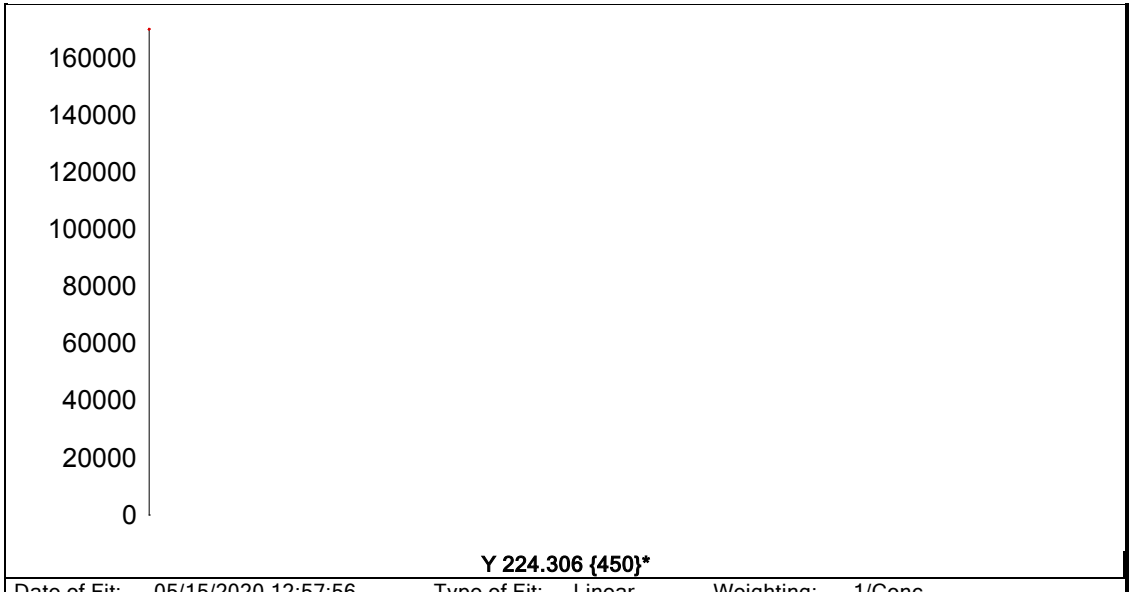


Zn 213.856 {457}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000074	Re-Slope:	1.000000
A1 (Gain):	0.000034	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999993	Status:	OK.
Std Error of Est:	0.000077		
Predicted MDL:	0.157834		
Predicted MQL:	0.526114		

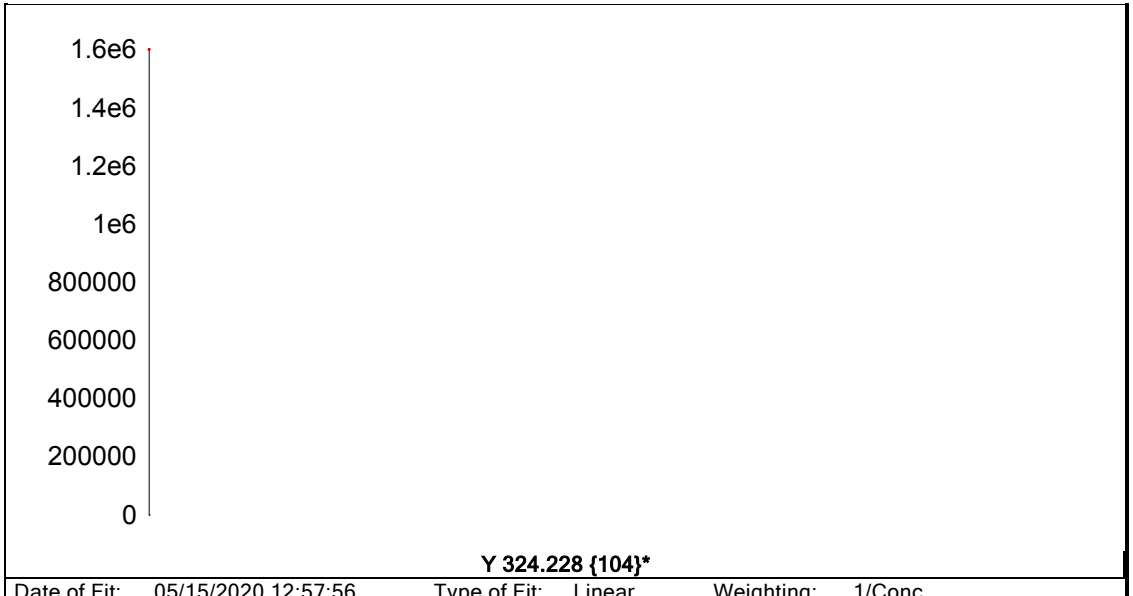
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.8291	-1.83	.000	.00001	.000	1
CalStd9=100	1000.0	1000.1	.054	.005	.03385	.000	1
CalStd5=10	10.000	12.575	2.58	25.8	.00050	.000	1
CalStd8=100	100.00	99.200	-.800	-.800	.00342	.000	1



Y 224.306 {450}*

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

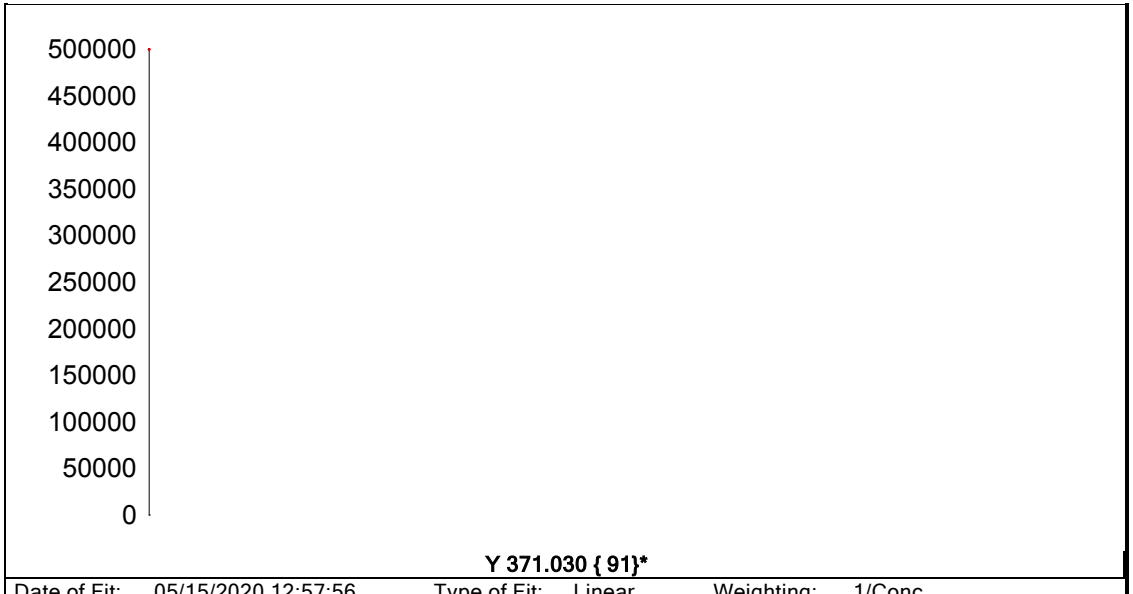
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	160310.	86.0	1



Y 324.228 {104}*

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

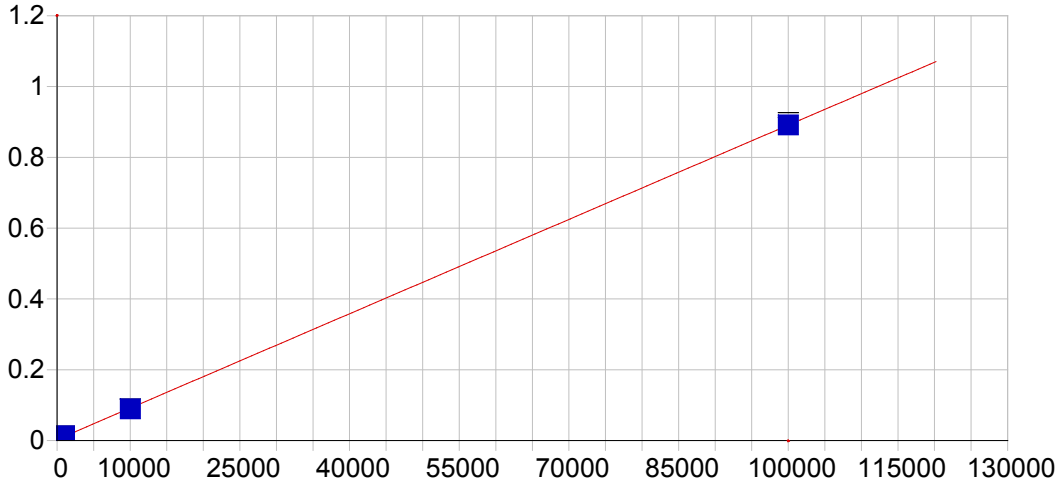
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1498700.	5820.	1



Y 371.030 { 91}*

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	407020.	5910.	1

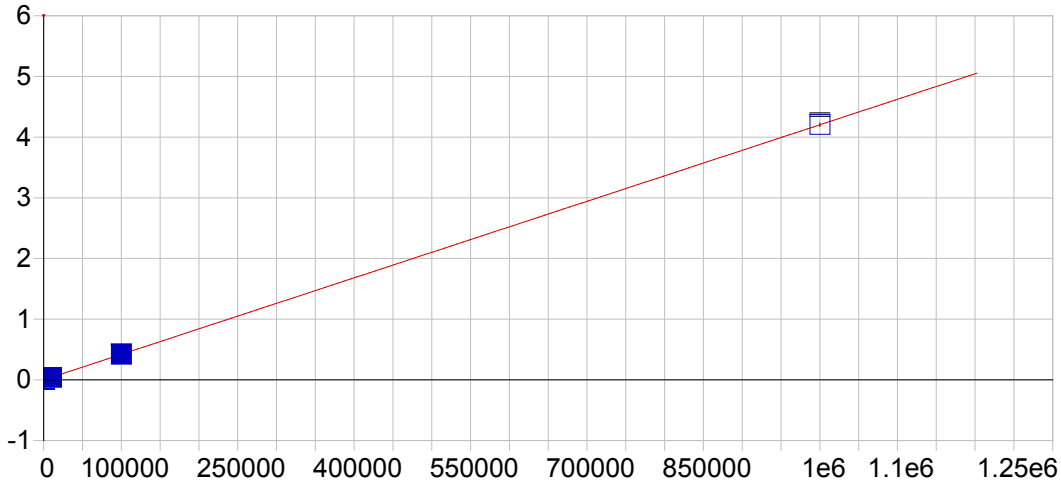


Na 588.995 { 57}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.002925	Re-Slope:	1.000000
A1 (Gain):	0.000009	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999991	Status:	OK.
Std Error of Est:	0.002236		
Predicted MDL:	3.214979		
Predicted MQL:	10.716595		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	145.78	146.	.000	.00422	.000	1
CalStd9=100	1000.0	1124.4	124.	12.4	.01291	.000	1
CalStd10=10	10000.	9701.2	-299.	-2.99	.08909	.001	1
CalStd13=10	100000.	100030.	28.6	.029	.89141	.007	1

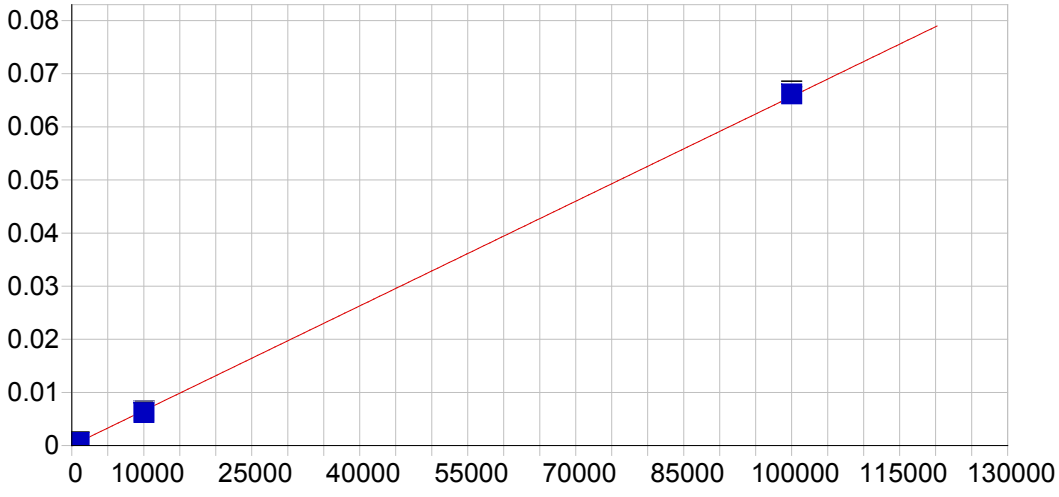


Na 589.592 { 57}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999988	Status:	OK.
Std Error of Est:	0.000028		
Predicted MDL:	4.141556		
Predicted MQL:	13.805186		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.08282	.083	.000	.00000	.000	1
CalStd9=100	1000.0	966.12	-33.9	-3.39	.00407	.000	1
CalStd10=10	10000.	9505.4	-495.	-4.95	.03997	.001	1
CalibStd15=	1000000.	1000500.	529.	.053	4.2055	.029	1
CalStd13=10	100000.	99999.	-.641	-.001	.42046	.003	1

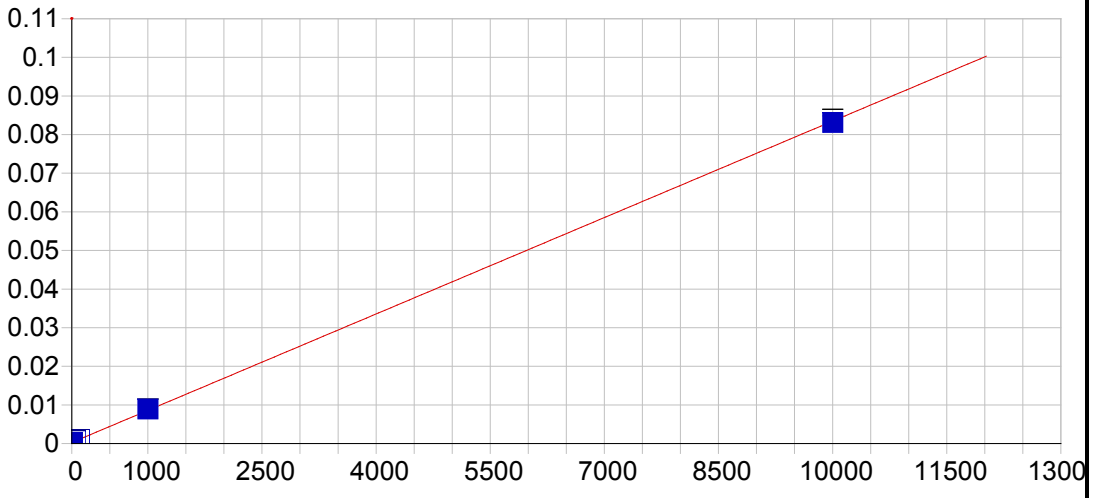


Si 251.611 {134}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999797	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	4.691227		
Predicted MQL:	15.637423		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.12906	.129	.000	.00001	.000	1
CalStd9=100	1000.0	922.86	-77.1	-7.71	.00067	.000	1
CalStd10=10	10000.	9410.6	-589.	-5.89	.00651	.000	1
CalStd13=10	100000.	100700.	702.	.702	.06617	.001	1

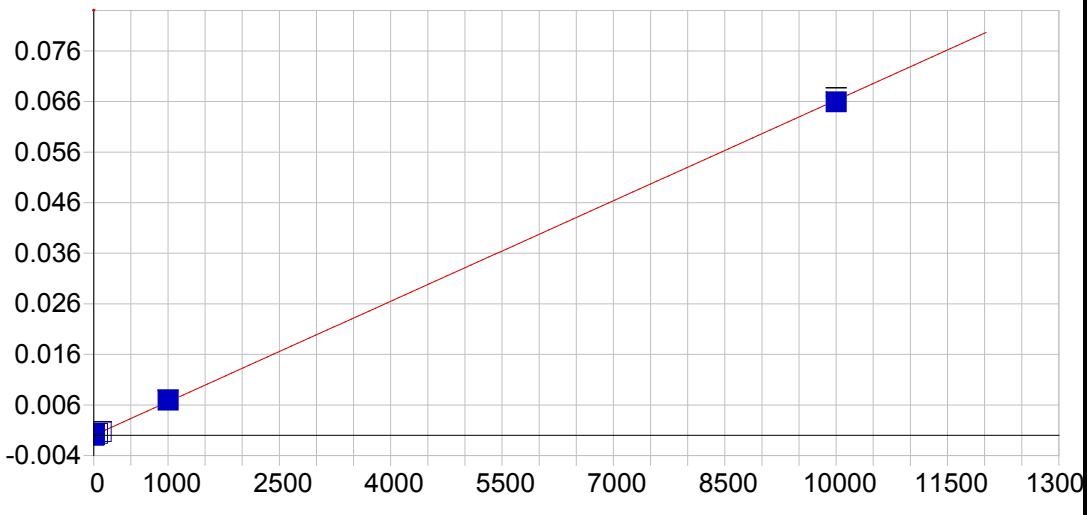


Ti 323.452 {104}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000267	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999896	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.818398		
Predicted MQL:	2.727993		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00197	-.002	.000	.00027	.000	1
CalStd5=10	10.000	12.315	2.32	23.2	.00037	.000	1
CalStd8=100	100.00	102.16	2.16	2.16	.00112	.000	1
CalStd9=100	1000.0	1037.0	37.0	3.70	.00890	.000	1
CalStd10=10	10000.	9955.5	-44.5	-.445	.08312	.001	1
CalStd7=50	50.000	52.816	2.82	5.63	.00071	.000	1
CalStd4=5	5.0000	5.2566	.257	5.13	.00031	.000	1

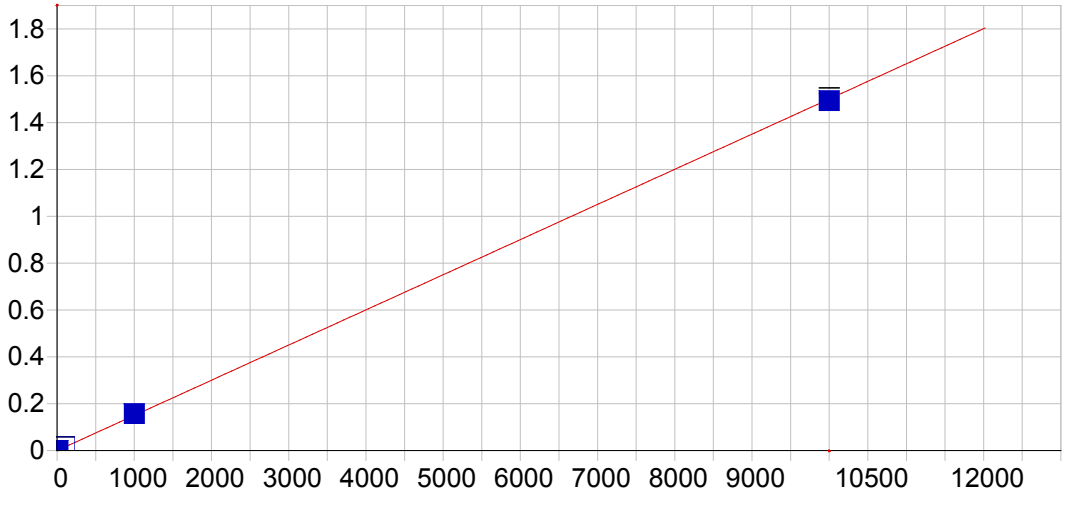


Ti 334.941 {101}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999861	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.740545		
Predicted MQL:	2.468485		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00229	-.002	.000	.00000	.000	1
CalStd5=10	10.000	12.197	2.20	22.0	.00008	.000	1
CalStd8=100	100.00	102.75	2.75	2.75	.00068	.000	1
CalStd9=100	1000.0	1044.3	44.3	4.43	.00692	.000	1
CalStd10=10	10000.	9946.7	-53.3	-.533	.06591	.001	1
CalStd7=50	50.000	53.558	3.56	7.12	.00036	.000	1
CalStd4=5	5.0000	5.5077	.508	10.2	.00004	.000	1

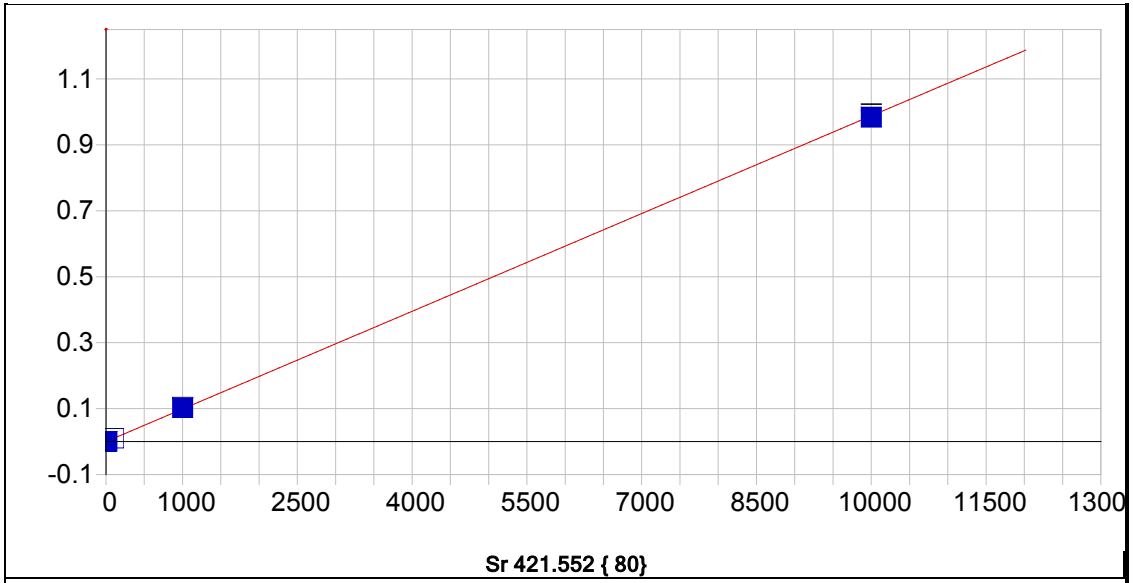


Sr 407.771 { 83}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000027	Re-Slope:	1.000000
A1 (Gain):	0.000150	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999856	Status:	OK.
Std Error of Est:	0.000010		
Predicted MDL:	0.068364		
Predicted MQL:	0.227881		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00048	-.000	.000	.00003	.000	1
CalStd3=1	1.0000	1.1066	.107	10.7	.00019	.000	1
CalStd4=5	5.0000	5.3261	.326	6.52	.00083	.000	1
CalStd5=10	10.000	12.330	2.33	23.3	.00188	.000	1
CalStd8=100	100.00	103.27	3.27	3.27	.01553	.000	1
CalStd9=100	1000.0	1047.2	47.2	4.72	.15722	.001	1
CalStd10=10	10000.	9946.7	-53.3	-.533	1.4930	.013	1

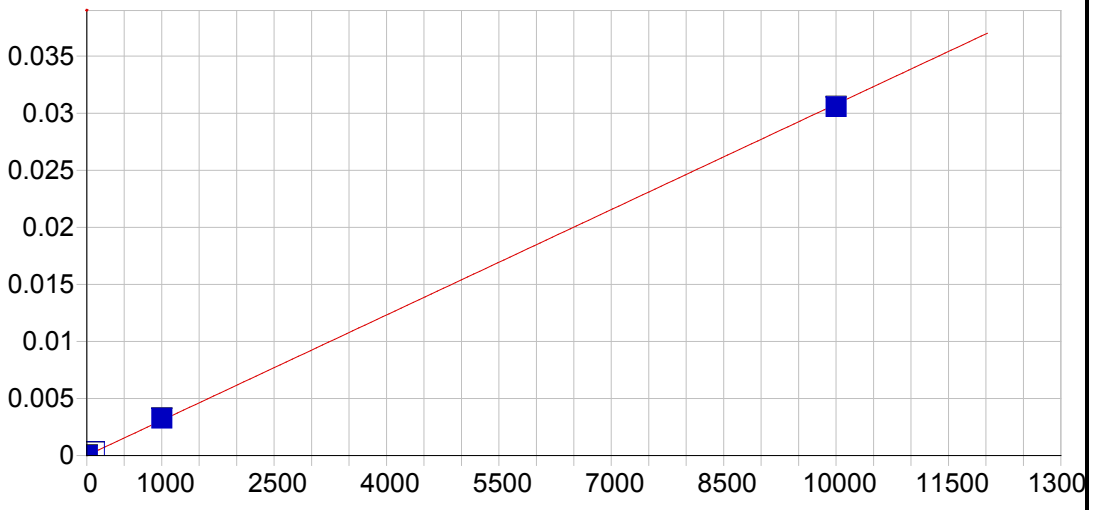


Sr 421.552 { 80}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000099	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999901	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.090185		
Predicted MQL:	0.300615		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00034	-.000	.000	.00000	.000	1
CalStd3=1	1.0000	1.0375	.037	3.75	.00010	.000	1
CalStd4=5	5.0000	5.1449	.145	2.90	.00051	.000	1
CalStd5=10	10.000	12.162	2.16	21.6	.00120	.000	1
CalStd8=100	100.00	102.58	2.58	2.58	.01014	.000	1
CalStd9=100	1000.0	1038.4	38.4	3.84	.10261	.001	1
CalStd10=10	10000.	9956.6	-43.4	-.434	.98383	.009	1

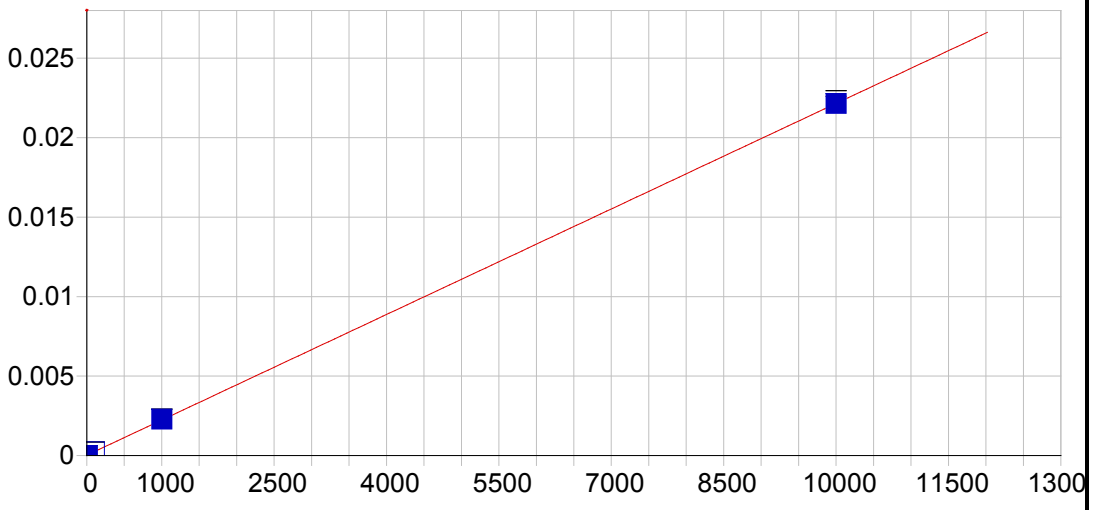


Sn 189.989 {477}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999672	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	1.233605		
Predicted MQL:	4.112017		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00621	-.006	.000	.00000	.000	1
CalStd10=10	10000.	9926.5	-73.5	-.735	.03057	.000	1
CalStd9=100	1000.0	1061.6	61.6	6.16	.00327	.000	1
CalStd8=100	100.00	106.82	6.82	6.82	.00033	.000	1
CalStd5=10	10.000	14.985	4.99	49.9	.00005	.000	1

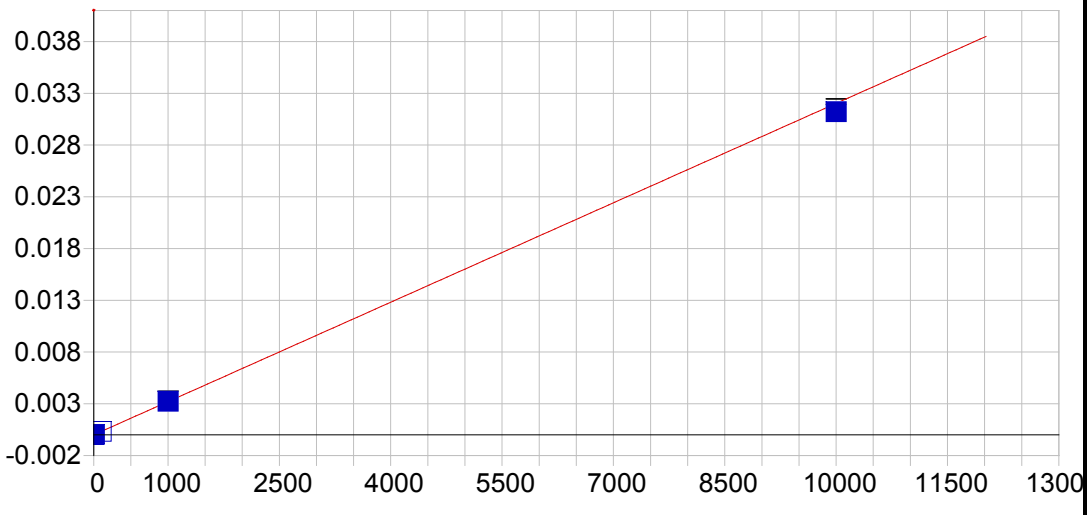


B 249.678 {135}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000021	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999996	Status:	OK.
Std Error of Est:	0.000033		
Predicted MDL:	0.855266		
Predicted MQL:	2.850886		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-7.8921	-7.89	.000	.00000	.000	1
CalStd8=100	100.00	93.065	-6.93	-6.93	.00023	.000	1
CalStd5=10	10.000	4.3438	-5.66	-56.6	.00003	.000	1
CalStd9=100	1000.0	1022.7	22.7	2.27	.00228	.000	1
CalStd10=10	10000.	9997.8	-2.19	-.022	.02215	.000	1

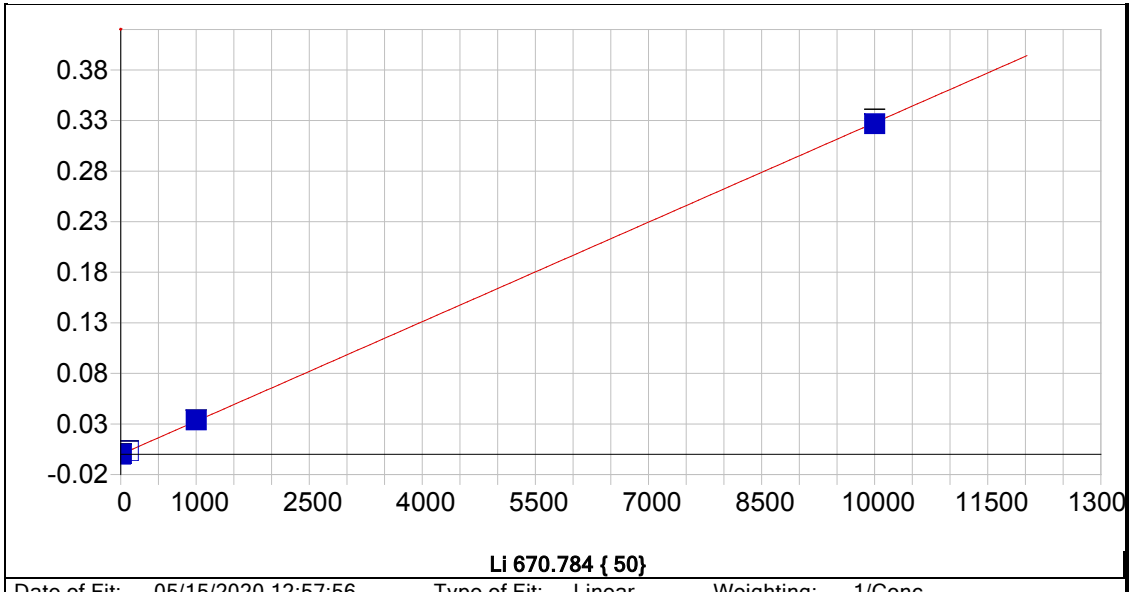


B 249.773 {135}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999579	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.524486		
Predicted MQL:	1.748285		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.74472	-.745	.000	.00000	.000	1
CalStd8=100	100.00	99.789	-.211	-.211	.00032	.000	1
CalStd5=10	10.000	12.129	2.13	21.3	.00004	.000	1
CalStd9=100	1000.0	1011.3	11.3	1.13	.00325	.000	1
CalStd10=10	10000.	9744.3	-256.	-2.56	.03125	.000	1

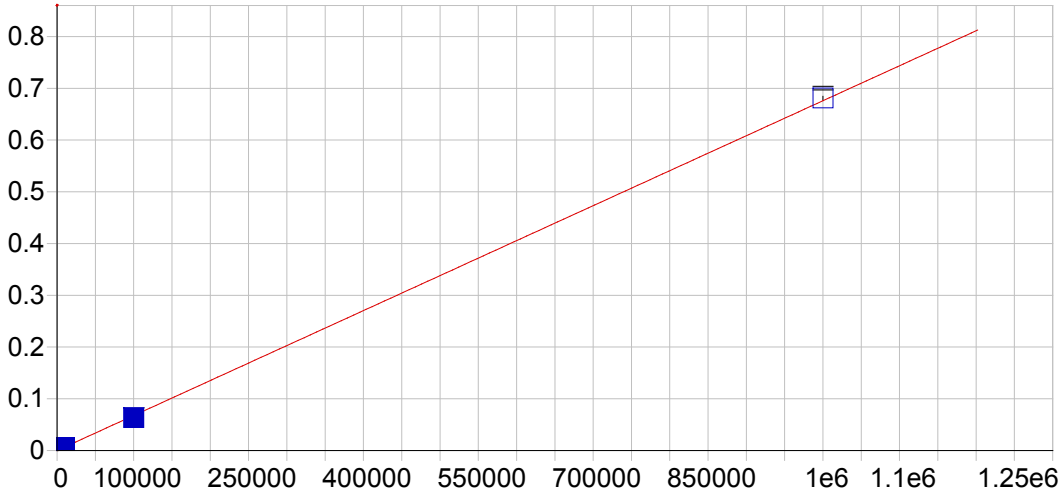


Li 670.784 { 50}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000044	Re-Slope:	1.000000
A1 (Gain):	0.000033	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999913	Status:	OK.
Std Error of Est:	0.000006		
Predicted MDL:	0.650174		
Predicted MQL:	2.167246		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00309	-.003	.000	-.00004	.000	1
CalStd5=10	10.000	12.581	2.58	25.8	.00037	.000	1
CalStd8=100	100.00	102.22	2.22	2.22	.00331	.000	1
CalStd9=100	1000.0	1032.8	32.8	3.28	.03383	.000	1
CalStd10=10	10000.	9962.4	-37.6	-.376	.32668	.005	1

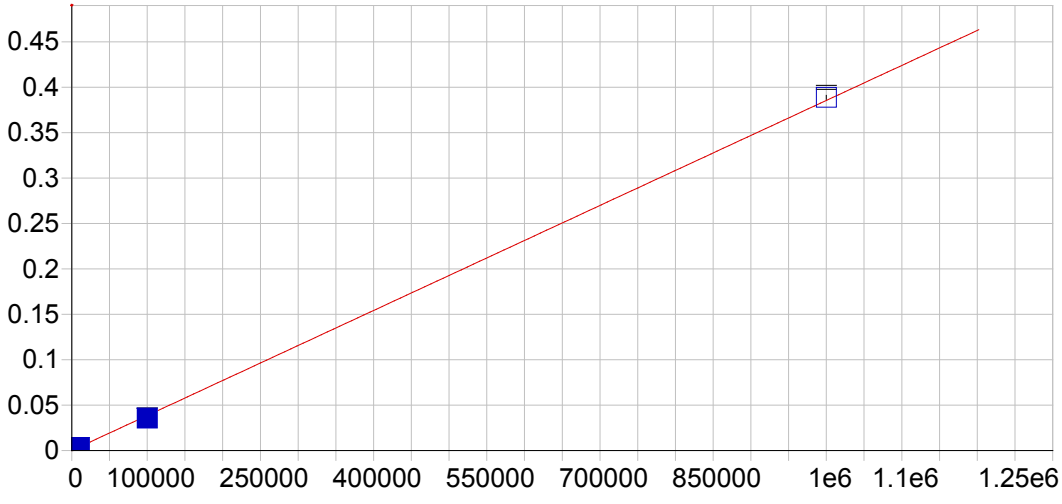


K 766.490 { 44}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000048	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999748	Status:	OK.
Std Error of Est:	0.000021		
Predicted MDL:	29.113144		
Predicted MQL:	97.043814		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.26060	.261	.000	.00005	.000	1
CalStd9=100	1000.0	893.24	-107.	-10.7	.00065	.000	1
CalStd10=10	10000.	9018.4	-982.	-9.82	.00614	.000	1
CalibStd15=	1000000.	1007400.	7390.	.739	.68099	.004	1
CalStd13=10	100000.	93693.	-6310.	-6.31	.06337	.000	1

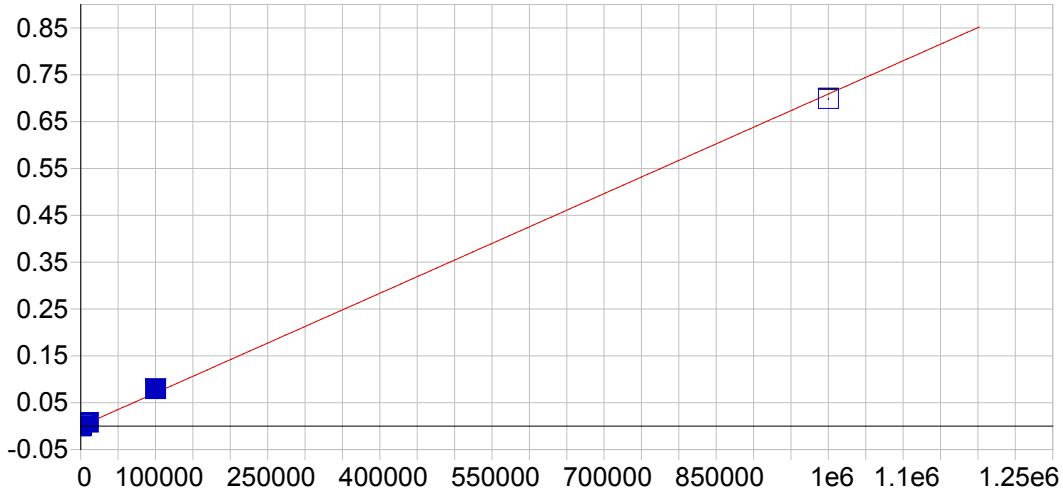


K 769.896 { 44}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000037	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999650	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	38.268806		
Predicted MQL:	127.562687		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.19203	.192	.000	.00004	.000	1
CalStd9=100	1000.0	978.64	-21.4	-2.14	.00041	.000	1
CalStd10=10	10000.	8978.4	-1020.	-10.2	.00350	.000	1
CalibStd15=	1000000.	1008800.	8770.	.877	.38886	.002	1
CalStd13=10	100000.	92272.	-7730.	-7.73	.03561	.000	1

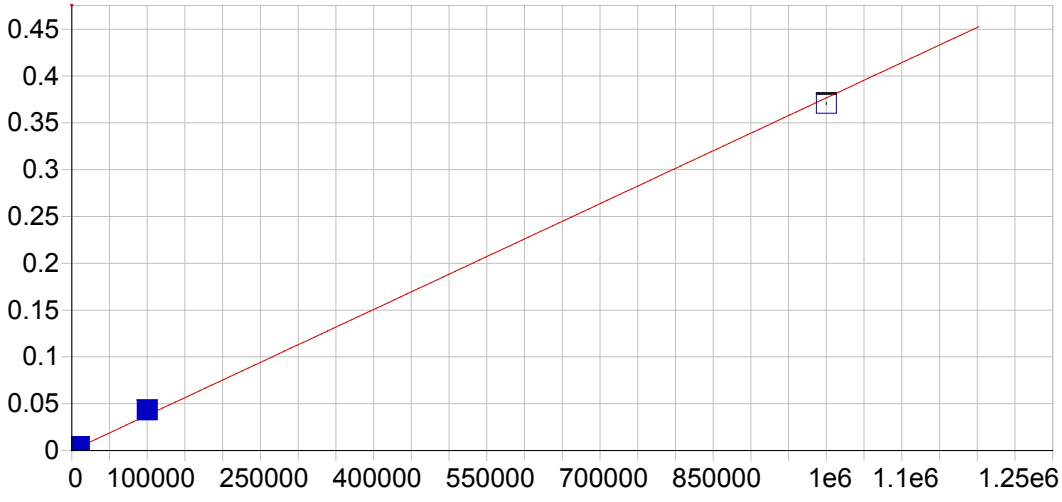


P 213.618 {457}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999069	Status:	OK.
Std Error of Est:	0.000042		
Predicted MDL:	7.722916		
Predicted MQL:	25.743053		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.46983	-.470	.000	-.00001	.000	1
CalStd10=10	10000.	11681.	1680.	16.8	.00827	.000	1
CalStd9=100	1000.0	1191.7	192.	19.2	.00084	.000	1
CalStd13=10	100000.	112440.	12400.	12.4	.07971	.000	1
CalibStd15=	1000000.	985690.	-14300.	-1.43	.69882	.001	1

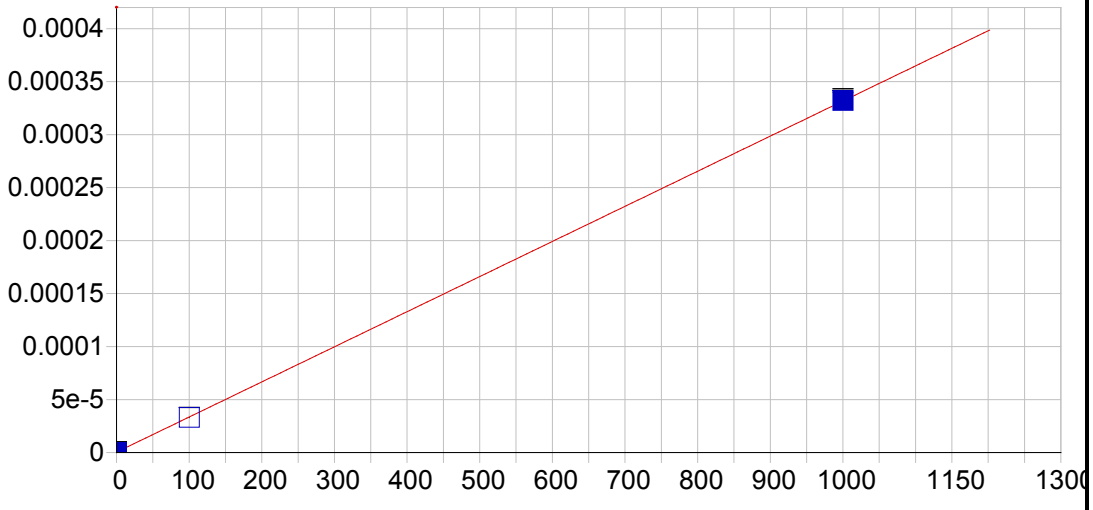


S 182.034 {485}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998845	Status:	OK.
Std Error of Est:	0.000025		
Predicted MDL:	9.529877		
Predicted MQL:	31.766256		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.39273	-.393	.000	.00000	.000	1
CalStd9=100	1000.0	1147.5	148.	14.8	.00044	.000	1
CalStd10=10	10000.	11141.	1140.	11.4	.00421	.000	1
CalibStd15=	1000000.	983980.	-16000.	-1.60	.37057	.001	1
CalStd13=10	100000.	114710.	14700.	14.7	.04325	.000	1

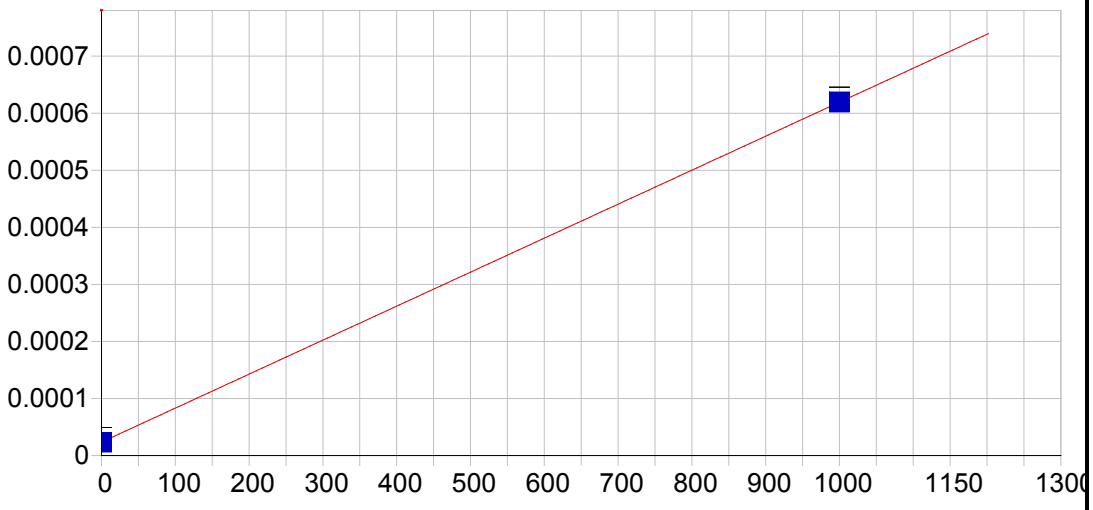


Hg 184.950 {482}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999992	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.195993		
Predicted MQL:	3.986643		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00112	.001	.000	.00000	.000	1
CalStd8=100	100.00	98.756	-1.24	-1.24	.00003	.000	1
CalStd9=100	1000.0	1001.2	1.24	.124	.00033	.000	1



Ce 404.076 { 83}

Date of Fit:	05/15/2020 12:57:56	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000024	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	15.204257		
Predicted MQL:	50.680857		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00002	.000	1
CalStd9=100	1000.0	1000.0	.000	.000	.00062	.000	1

Sample Name: Blank Acquired: 05/14/2020 09:50:26 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**-.000**	**.000**	**-.000**	**.000**	**.011**	**-.000**	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	32.5	16.0	6.72	29.7	62.9	533.	87.3	1.45	4.95	166.	7.74	34.5

Elem	Ca3968	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2230	Cu2247	Fe2599	Mg2790	Mg2802
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**.000**	**.000**	**.000**	**-.000**	**-.000**	**.000**	**-.000**	**.000**	**-.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	28.1	62.3	1200.	55.8	43.9	23.2	54.0	56.2	216.	110.	20.7	1.14

Elem	Mn2576	Mn2593	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	44.5	392.	112.	119.	24.1	89.6	20.4	111.	196.	435.	108.	16.8

Elem	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	7.67	25.2	399.	33.2

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**160310.**	**1498700.**	**407020.**
Stddev	86.	5824.	5906.
%RSD	.05362	.38861	1.4509

Sample Name: CalStd2=0.5 Acquired: 05/14/2020 09:56:51 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	2.90	279.	86.1

Int. Std.	Y_2243	Y_3242
Units	Cts/S	Cts/S
Avg	**157250.**	**1465500.**
Stddev	355.	7043.
%RSD	.22582	.48059

Sample Name: CalStd3=1 Acquired: 05/14/2020 10:03:40 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	147.	20.0	9.84	16.5	58.7	12.3	38.2	241.

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157600.**	**1469000.**	**398270.**
Stddev	659.	8212.	4096.
%RSD	.41839	.55898	1.0285

Sample Name: CalStd4=5 Acquired: 05/14/2020 10:09:56 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	4.72	.861	1.84	12.7	5.82	4.47	3.41	2.15	9.45	6.78	33.9	52.7

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157320.**	**1466000.**	**399890.**
Stddev	307.	5998.	2408.
%RSD	.19515	.40912	.60213

Sample Name: CalStd5=10 Acquired: 05/14/2020 10:16:19 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2230
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	7.98	5.54	25.4	132.	1.44	.294	1.89	5.09	2.88	2.36	3.97	3.23

Elem	Mn2576	Mo2020	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.902	4.35	2.10	11.0	6.95	39.7	18.2	50.8	5.29	7.34	1.61	.555

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157760.**	**1458700.**	**396630.**
Stddev	382.	6541.	2022.
%RSD	.24223	.44844	.50973

Sample Name: CalStd6=20 Acquired: 05/14/2020 10:22:41 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2230	Cu2247	Mn2576	Mo2020	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000
%RSD	.649	2.52	12.6	.829	1.94	12.5	4.47

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157650.**	**1467400.**	**399990.**
Stddev	357.	5382.	5301.
%RSD	.22674	.36678	1.3252

Sample Name: CalStd7=50 Acquired: 05/14/2020 10:29:09 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	As1937	As1972	Cd2288	Co2286	Cr2055	Cr2677	Cu2247	Mn2576	Mo2020	Ni2316	Sb2068	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.001**	**.001**	**.001**	**.000**	**.001**	**.001**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	7.18	10.3	.891	.546	1.06	1.08	6.55	.556	.887	.938	4.38	2.84

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157940.**	**1476900.**	**396470.**
Stddev	240.	15044.	1942.
%RSD	.15227	1.0186	.48972

Sample Name: CalStd8=100 Acquired: 05/14/2020 10:35:25 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3933	Ca3968	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.013**	**.006**	**.001**	**.011**	**.006**	**.003**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.719	.655	3.30	2.31	.558	.831	.153	1.52	1.50	1.32	.417	1.71

Elem	Co2286	Co2388	Cr2055	Cr2677	Cu2230	Cu2247	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.002**	**.003**	**.001**	**.000**	**.004**	**.002**	**.001**	**.002**	**.002**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.361	1.34	.291	.851	.944	9.86	.203	.491	.357	.606	.326	3.27

Elem	Pb2203	Sb2175	Se1960	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.002**	**.003**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.966	3.14	6.94	14.1	1.53	1.71	1.01	.376	.304

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157330.**	**1467700.**	**399060.**
Stddev	281.	6430.	3851.
%RSD	.17866	.43812	.96492

Sample Name: CalStd9=1000 Acquired: 05/14/2020 10:41:45 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Ca3968
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.003**	**.000**	**.002**	**.002**	**.000**	**.015**	**.036**	**.064**	**.007**	**.000**	**.111**	**.060**
Stddev	.000	.000	.000	.000	.000	.000	.000	.001	.000	.000	.001	.000
%RSD	.222	1.26	.604	.540	.662	.109	.530	.988	.655	.650	.490	.566

Elem	Cd2265	Cd2288	Co2286	Co2388	Cr2055	Cr2677	Cu2230	Cu2247	Fe2599	Mg2790	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.027**	**.004**	**.015**	**.001**	**.016**	**.026**	**.007**	**.004**	**.001**	**.000**	**.039**	**.017**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.269	.739	.439	1.40	.120	.364	.075	.645	.369	1.74	1.00	.997

Elem	Mn2593	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	V_2908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.007**	**.010**	**.017**	**.018**	**.002**	**.003**	**.002**	**.001**	**.000**	**.000**	**.003**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.180	.141	.202	.083	.672	.514	.106	.840	.511	2.67	.343	.368

Elem	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.019**	**.034**
Stddev	.000	.000	.000
%RSD	1.02	.149	.173

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157680.**	**1467800.**	**395720.**
Stddev	292.	9154.	1097.
%RSD	.18493	.62364	.27730

Sample Name: CalStd10=10000 Acquired: 05/14/2020 10:47:25 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1972	Ca3158	Ca3968	Co2286	Co2388	Cr2055	Cr2677	Cu2247	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.021**	**.005**	**.004**	**.559**	**.138**	**.011**	**.151**	**.252**	**.046**	**.012**	**.001**
Stddev	.000	.000	.000	.000	.006	.000	.000	.000	.001	.000	.000	.000
%RSD	1.30	1.25	.154	1.18	1.16	.351	.992	.215	.374	.460	.950	1.25

Elem	Mg2802	Mn2576	Mn2593	Ni2216	Ni2316	Pb2169	Sb2068	Sb2175	Se2062	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.345**	**.162**	**.065**	**.161**	**.165**	**.015**	**.022**	**.013**	**.002**	**.015**	**.038**	**.178**
Stddev	.002	.002	.001	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.571	1.11	1.05	.104	.077	.191	.113	.271	.651	1.23	.920	.267

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**153830.**	**1425600.**	**398580.**
Stddev	268.	11791.	3075.
%RSD	.17440	.82711	.77157

Sample Name: CalStd12=100K Acquired: 05/14/2020 10:54:12 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu2247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.36**	**.482**	**.653**	**.160**	**1.65**
Stddev	.00	.001	.006	.000	.00
%RSD	.107	.104	.919	.303	.204

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**154670.**	**1438800.**	**398980.**
Stddev	237.	8263.	2109.
%RSD	.15327	.57430	.52870

Sample Name: CalStd13=100000 Acquired: 05/14/2020 11:01:05 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.045**	**.215**	**.045**	**.129**	**.006**
Stddev	.000	.002	.000	.001	.000
%RSD	.730	.734	.886	1.00	.801

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**148790.**	**1384800.**	**386290.**
Stddev	108.	3918.	3086.
%RSD	.07259	.28294	.79894

Sample Name: CalStd14=500000 Acquired: 05/14/2020 11:07:31 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.08**	**.219**	**.584**	**.030**
Stddev	.01	.002	.005	.000
%RSD	.739	.789	.848	.902

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1299100.**	**374700.**
Stddev	13468.	2404.
%RSD	1.0367	.64155

Sample Name: CalibStd15=1000k Acquired: 05/14/2020 11:14:36 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Mg2790
Units	Cts/S	Cts/S	Cts/S
Avg	**2.26**	**.449**	**.061**
Stddev	.02	.002	.000
%RSD	.812	.546	.725

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**125360.**	**1163700.**	**332720.**
Stddev	172.	5603.	1304.
%RSD	.13732	.48147	.39194

Sample Name: Ag Ba 1000, 50000 Acquired: 05/14/2020 11:22:19 Type: Cal
Method: DOD Calibration Updated 060614(v3872) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba4934
Units	Cts/S
Avg	**1.18**
Stddev	.02
%RSD	1.71

Int. Std.	Y_3710
Units	Cts/S
Avg	**406730.**
Stddev	3020.
%RSD	.74261

Sample Name: icv Acquired: 05/14/2020 11:43:58 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2055	Cr2677
Avg	**48.9**	**11400.**	**10800.**	**1930.**	**1990.**	**1890.**	**48.0**	**9660.**	**47.5**	**506.**	**203.**	**203.**
Stddev	.9	77.	69.	10.	10.	5.	.4	56.	.3	2.	1.	1.
%RSD	1.77	.678	.637	.531	.481	.241	.742	.579	.613	.354	.397	.725
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Cu2230	Fe2599	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Se2062
Avg	**235.**	**4800.**	**9910.**	**476.**	**482.**	**506.**	**505.**	**497.**	**473.**	**501.**	**1950.**	**2050.**
Stddev	.	34.	34.	3.	1.	1.	1.	6.	5.	4.	22.	28.
%RSD	.142	.711	.340	.591	.229	.126	.176	1.19	1.07	.698	1.11	1.39
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138
Avg	**1890.**	**501.**	**516.**	**493.**
Stddev	7.	6.	1.	1.
%RSD	.377	1.10	.182	.201
Check ?	None	None	None	None
Value				
Range				

Sample Name: icv Acquired: 05/14/2020 11:43:58 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**156430.**	**1461300.**	**398740.**
Stddev	434.	7531.	2627.
%RSD	.27713	.51537	.65891

Sample Name: ICVLL Acquired: 05/14/2020 11:50:17 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	As1937	Ba2335	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Avg	F **34.6**	**1140.**	**1130.**	**58.5**	**28.7**	**11.9**	**1440.**	**1440.**	**14.7**	**30.6**	**30.7**	**31.0**
Stddev	.8	4.	14.	3.1	.7	.1	18.	13.	.1	.5	.5	.5
%RSD	2.33	.366	1.28	5.35	2.36	.748	1.28	.924	.894	1.79	1.64	1.54
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Fe2599	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**867.**	**1580.**	**30.4**	**30.3**	**30.8**	**30.0**	**60.4**	**55.7**	**56.7**	**29.8**	**28.8**
Stddev	6.	9.	.3	.4	.1	2.2	2.9	5.8	.4	.4	.1
%RSD	.709	.581	.896	1.27	.344	7.19	4.80	10.5	.706	1.41	.321
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**155710.**	**1458200.**	**400730.**
Stddev	168.	6921.	3875.
%RSD	.10782	.47460	.96709

Sample Name: icb Acquired: 05/14/2020 11:56:29 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	**-.097**	**-3.76**	**-.919**	**.012**	**-.042**	**.102**	**.096**	**.078**	**-.170**	**1.39**	**-.287**	**-.608**
Stddev	.403	.60	3.07	.115	.024	.053	.086	.109	.250	.14	.490	1.04
%RSD	416.	16.0	334.	923.	57.0	52.3	89.9	139.	147.	10.4	171.	170.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.057**	**-.049**	**-.052**	**.037**	**-.023**	**1.28**	**-12.2**	**1.88**	**.433**	**-1.75**
Stddev	.046	.049	.460	.895	1.86	2.55	1.4	.51	.391	.10
%RSD	80.2	101.	890.	2430.	8270.	199.	11.3	26.9	90.3	5.46
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**160590.**	**1492400.**	**411740.**
Stddev	806.	5282.	3257.
%RSD	.50196	.35394	.79094

Sample Name: MRL/LLOQ Acquired: 05/14/2020 12:09:10 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	F **11.8**	**400.**	**16.2**	**9.74**	**4.02**	**477.**	**509.**	**5.05**	**10.8**	**11.1**	**11.3**	**291.**
Stddev	.6	1.	1.9	.50	.04	6.	6.	.11	.4	.2	.8	2.
%RSD	5.02	.146	11.9	5.15	1.03	1.33	1.17	2.19	3.51	2.03	7.03	.662
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	20.0											
Range	-30.0%											

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**538.**	**12.4**	**10.2**	**10.5**	**9.50**	**21.5**	**20.6**	**18.3**	**10.1**	**8.72**
Stddev	2.	.2	.3	.1	3.82	.6	6.5	1.8	1.1	.33
%RSD	.399	1.44	2.66	1.35	40.3	2.89	31.7	10.0	11.0	3.82
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**156940.**	**1461200.**	**400370.**
Stddev	359.	7237.	3754.
%RSD	.22863	.49525	.93767

Sample Name: ICSA Acquired: 05/14/2020 12:15:26 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	**2.78**	**453000.**	**.020**	**1.28**	**.000**	**457000.**	**.130**	**.000**	**3.74**	**-.099**	**420000.**
Stddev	.49	9310.	16.7	.46	.272	5500.	.509	.849	1.28	.725	3260.
%RSD	17.7	2.06	81400.	36.2	71400.	1.20	390.	177000.	34.2	730.	.774
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	Zn2138
Avg	**450000.**	**4.03**	**.512**	**-1.82**	**.361**	**2.08**	**.033**	**-.001**	**20100.**	**-4.86**
Stddev	4910.	.14	1.10	1.30	6.92	2.13	12.3	4.65	210.	.86
%RSD	1.09	3.39	214.	71.4	1910.	103.	36900.	367000.	1.04	17.7
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**138170.**	**1317400.**	**377240.**
Stddev	98.	6753.	4725.
%RSD	.07088	.51264	1.2526

Sample Name: ICSAB Acquired: 05/14/2020 12:22:28 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3382	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2288	Co2286	Cr2055	Cr2677	Cu2230
Avg	**441.**	**450000.**	**459.**	**435.**	**424.**	**456000.**	**461.**	**433.**	**455.**	**458.**	**447.**
Stddev	11.	1500.	11.	1.	2.	2320.	2.	3.	2.	1.	2.
%RSD	2.41	.334	2.38	.303	.474	.508	.390	.599	.335	.326	.463
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908
Avg	**420000.**	**451000.**	**427.**	**440.**	**429.**	**418.**	**416.**	**402.**	**466.**	**443.**	**490.**
Stddev	1680.	2710.	2.	2.	1.	1.	6.	9.	8.	26.	2.
%RSD	.400	.601	.426	.386	.296	.177	1.49	2.33	1.76	5.83	.370
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	V_2924	Zn2062	Zn2138
Avg	**484.**	**430.**	**440.**
Stddev	4.	2.	1.
%RSD	.803	.374	.168
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Sample Name: ICSAB Acquired: 05/14/2020 12:22:28 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**139510.**	**1308100.**	**371720.**
Stddev	454.	5452.	2712.
%RSD	.32541	.41677	.72945

Sample Name: ICVLL ag Acquired: 05/14/2020 12:35:28 Type: Unk
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.1**	**-1.56**	**1.72**	**18.7**	**.093**	**4.88**	**5.22**	**.139**	**.019**	**1.05**	**1.60**	**45.4**
Stddev	.6	.49	3.86	.6	.005	.11	.20	.215	.377	.23	1.29	19.7
%RSD	5.98	31.5	225.	3.23	5.92	2.32	3.87	154.	1970.	21.8	80.6	43.3

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**2.74**	**.492**	**.181**	**.378**	**1.81**	**-1.62**	**-3.35**	**2.90**	**.522**	**-.428**
Stddev	.14	.036	.447	.352	1.43	3.30	4.72	3.06	.801	.103
%RSD	5.25	7.28	248.	93.2	79.0	203.	141.	106.	153.	24.1

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**157300.**	**1465000.**	**397250.**
Stddev	440.	8363.	6185.
%RSD	.27957	.57086	1.5569

Sample Name: ccv1 Acquired: 05/14/2020 17:49:22 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	As1972	Ba4934	Be3130	Ca3158	Cd2288	Co2388	Cr2055	Cu2247	Fe2599
Avg	**448.**	**4490.**	**4650.**	**4830.**	**4880.**	**463.**	**4580.**	**466.**	**4780.**	**4790.**	**4740.**	**4520.**
Stddev	2.	31.	25.	17.	33.	3.	9.	4.	47.	6.	11.	25.
%RSD	.554	.679	.525	.344	.684	.609	.195	.811	.982	.116	.228	.543
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2593	Mo2020	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062
Avg	**4560.**	**4660.**	**4540.**	**4750.**	**4570.**	**4630.**	**4760.**	**4790.**	**4660.**	**4670.**	**4850.**
Stddev	64.	26.	13.	5.	16.	16.	31.	46.	14.	21.	11.
%RSD	1.40	.559	.290	.099	.344	.354	.648	.955	.297	.440	.229
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**152260.**	**1433800.**	**398090.**
Stddev	353.	4463.	1903.
%RSD	.23217	.31127	.47813

Sample Name: ccv2 Acquired: 05/14/2020 17:55:05 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Ca3968	Cd2265	Co2286	Cr2055	Cr2677	Cu2230
Avg	**48.1**	**481.**	**465.**	**458.**	**48.4**	**468.**	**498.**	**48.3**	**492.**	**484.**	**481.**	**460.**
Stddev	.8	2.	3.	2.	.2	5.	5.	.2	3.	2.	3.	2.
%RSD	1.71	.390	.736	.517	.447	1.10	1.06	.459	.590	.435	.555	.439
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**462.**	**507.**	**454.**	**461.**	**488.**	**486.**	**482.**	**456.**	**490.**	**476.**	**464.**	**477.**
Stddev	5.	3.	1.	2.	1.	1.	2.	2.	4.	10.	3.	2.
%RSD	1.11	.518	.198	.439	.159	.274	.453	.375	.832	2.01	.747	.405
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Zn2138
Avg	**488.**	**467.**
Stddev	1.	1.
%RSD	.206	.160
Check ?	Chk Pass	Chk Pass
Value		
Range		

Sample Name: ccv2 Acquired: 05/14/2020 17:55:05 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**156830.**	**1474000.**	**399130.**
Stddev	554.	2330.	3829.
%RSD	.35304	.15806	.95942

Sample Name: ccb Acquired: 05/14/2020 18:00:56 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	**.206**	**-3.98**	**1.67**	**.144**	**.004**	**.829**	**.837**	**.206**	**.147**	**.911**	**-.006**	**-.950**
Stddev	.350	.48	1.88	.089	.014	.092	.098	.117	.534	.683	.613	2.26
%RSD	170.	12.1	112.	61.9	360.	11.1	11.7	56.7	363.	75.0	10100.	238.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.478**	**.015**	**.238**	**-.331**	**-.914**	**2.71**	**-.377**	**1.49**	**.187**	**-1.71**
Stddev	.042	.046	.392	.371	1.76	2.95	4.97	1.41	.759	.04
%RSD	8.88	313.	165.	112.	193.	108.	1320.	94.6	406.	2.32
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**160370.**	**1503300.**	**407030.**
Stddev	355.	8034.	1831.
%RSD	.22110	.53441	.44974

Sample Name: msw413975 Acquired: 05/14/2020 18:39:51 Type: Unk
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.8**	**7720.**	**7360.**	**754.**	**891.**	**18.3**	**259000.**	**16.8**	**188.**	**88.2**	**98.8**
Stddev	.6	68.	57.	8.	3.	.1	1710.	.3	1.	1.3	1.2
%RSD	3.28	.884	.779	1.05	.329	.447	.660	1.84	.469	1.44	1.17

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**7980.**	**130000.**	**652.**	**1830.**	**189.**	**196.**	**177.**	**195.**	**741.**	**522.**	**164.**
Stddev	56.	959.	1.	3.	1.	2.	4.	4.	8.	5.	1.
%RSD	.709	.735	.203	.154	.544	1.15	2.13	2.24	1.12	1.03	.340

Elem	Zn2138
Units	ug/L
Avg	**222.**
Stddev	.
%RSD	.164

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**142670.**	**1354600.**	**390050.**
Stddev	293.	6203.	2834.
%RSD	.20564	.45787	.72654

Sample Name: msdw413975 Acquired: 05/14/2020 18:45:54 Type: Unk
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**18.8**	**7720.**	**7420.**	**754.**	**891.**	**18.4**	**261000.**	**16.6**	**189.**	**88.0**	**99.3**
Stddev	.8	62.	63.	9.	2.	.0	2220.	.1	.	1.3	.7
%RSD	4.28	.802	.846	1.17	.172	.195	.850	.732	.166	1.45	.685

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**8100.**	**131000.**	**652.**	**1830.**	**188.**	**192.**	**176.**	**195.**	**732.**	**621.**	**165.**
Stddev	66.	1040.	2.	4.	1.	4.	2.	7.	3.	5.	2.
%RSD	.813	.791	.315	.206	.583	2.07	.988	3.60	.410	.759	1.08

Elem	Zn2138
Units	ug/L
Avg	**221.**
Stddev	.
%RSD	.154

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**143080.**	**1358300.**	**388510.**
Stddev	691.	3303.	2567.
%RSD	.48284	.24317	.66060

Sample Name: ccv1 Acquired: 05/14/2020 18:58:11 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	As1972	Ba4934	Be3130	Ca3158	Cd2288	Co2388	Cr2055	Cu2247
Avg	**450.**	**4560.**	**4510.**	**4630.**	**4810.**	**4930.**	**466.**	**4670.**	**465.**	**4770.**	**4800.**	**4740.**
Stddev	3.	53.	28.	22.	9.	37.	4.	40.	2.	39.	5.	10.
%RSD	.656	1.16	.613	.468	.183	.747	.854	.849	.368	.816	.099	.214
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2790	Mn2593	Mo2020	Ni2216	Pb2169	Sb2068	Se1960	Se2062	Tl1908	V_2908	Zn2062
Avg	**4590.**	**4630.**	**4740.**	**4550.**	**4770.**	**4570.**	**4620.**	**4720.**	**4800.**	**4650.**	**4750.**	**4880.**
Stddev	23.	65.	28.	8.	1.	12.	7.	13.	47.	4.	25.	9.
%RSD	.508	1.41	.598	.167	.022	.259	.142	.270	.989	.078	.521	.183
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**153120.**	**1432300.**	**392270.**
Stddev	402.	10804.	2056.
%RSD	.26262	.75431	.52411

Sample Name: ccv2 Acquired: 05/14/2020 19:03:54 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Ca3968	Cd2265	Co2286	Cr2055	Cr2677	Cu2230
Avg	**47.7**	**483.**	**463.**	**458.**	**48.6**	**465.**	**496.**	**48.5**	**492.**	**485.**	**480.**	**457.**
Stddev	.8	2.	3.	1.	.2	4.	4.	.1	2.	1.	1.	2.
%RSD	1.74	.321	.680	.217	.412	.905	.842	.266	.447	.243	.241	.416
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2802	Mn2576	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908	V_2924
Avg	**462.**	**509.**	**456.**	**459.**	**487.**	**487.**	**477.**	**456.**	**491.**	**497.**	**463.**	**480.**
Stddev	4.	3.	2.	2.	.	2.	6.	5.	5.	3.	2.	3.
%RSD	.810	.652	.448	.340	.100	.332	1.15	1.14	.972	.588	.327	.695
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Zn2062	Zn2138
Avg	**490.**	**466.**
Stddev	2.	1.
%RSD	.368	.193
Check ?	Chk Pass	Chk Pass
Value		
Range		

Sample Name: ccv2 Acquired: 05/14/2020 19:03:54 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**157670.**	**1473200.**	**397570.**
Stddev	449.	4436.	3587.
%RSD	.28482	.30114	.90227

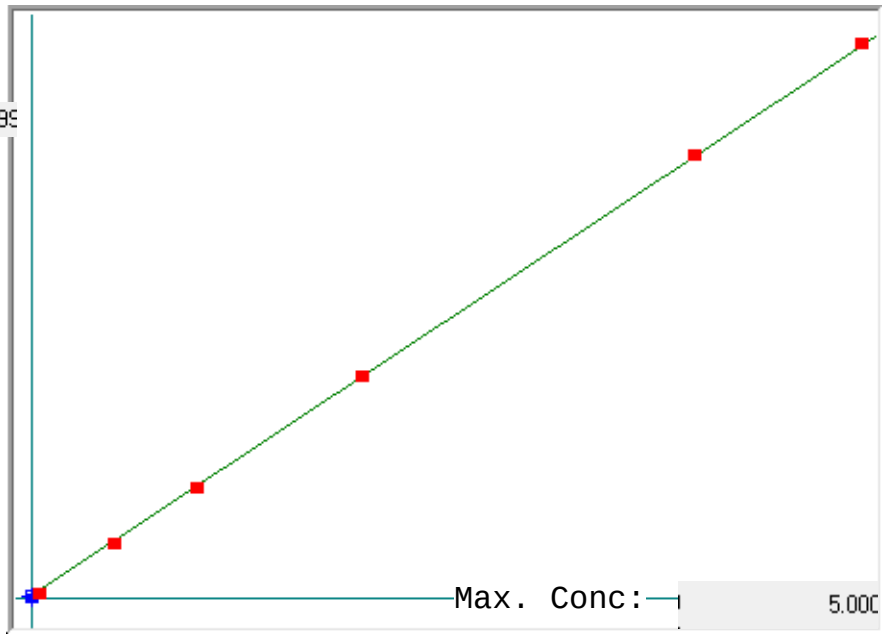
Sample Name: ccb Acquired: 05/14/2020 19:09:46 Type: QC
Method: DOD Calibration Updated 060614(v3872) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Ca3968	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	**.740**	**-3.88**	**-1.83**	**.297**	**.005**	**1.04**	**1.03**	**.103**	**-.255**	**1.18**	**.251**	**-.545**
Stddev	.657	.39	3.56	.388	.008	.05	.09	.200	.320	.42	.626	3.37
%RSD	88.8	9.91	195.	131.	145.	5.09	8.95	195.	125.	35.3	249.	617.
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**.505**	**.062**	**.762**	**.211**	**1.85**	**1.14**	**-5.36**	**.397**	**.695**	**-1.59**
Stddev	.062	.034	.343	.312	2.23	.91	6.70	1.15	.299	.17
%RSD	12.2	55.5	45.1	148.	121.	79.8	125.	289.	42.9	10.9
Check ?	None	None	None	None	None	None	None	None	None	None
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**161310.**	**1508300.**	**408130.**
Stddev	304.	5741.	2156.
%RSD	.18816	.38063	.52822

Hg WATER



A= 0.0000e+000

B= 1.3570e-004

C= -2.1846e-002

Rho= 0.9999064

Accept= Accepted

Accepted Date=

05/06/20 12:39

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
CALIBRATION BLANK	0.000	0.000	0.000	164	6.225	155	163	169	171	
0.05	0.050	0.048	-0.002	515	2.5 %	499	509	521	533	
0.5	0.500	0.496	-0.004	3815	1.7 %	3726	3787	3843	3906	
1.0	1.000	0.995	-0.005	7491	2.3 %	7262	7404	7580	7720	
2.0	2.000	2.020	0.020	15049	1.7 %	14690	14950	15151	15406	
4.0	4.000	4.033	0.033	29882	2.5 %	28879	29546	30271	30833	
5.0	5.000	5.040	0.040	37298	1.9 %	36286	37047	37629	38232	

050620w

Method: Hg WATER Operator: Admin Date of Analysis: 06 May 2020 11:11:34

Sample ID	Date	Element	Units	Extended ID	LT Mean Conc
CALIBRATION BLANK	06 May 2020 12:16:54	Hg			164.500
0.05	06 May 2020 12:20:03	Hg			515.500
0.5	06 May 2020 12:23:15	Hg			3815.500
1.0	06 May 2020 12:26:26	Hg			7491.500
2.0	06 May 2020 12:29:37	Hg			15049.250
4.0	06 May 2020 12:32:47	Hg			29882.250
5.0	06 May 2020 12:35:57	Hg			37298.500
ICV	06 May 2020 12:39:07	Hg			2.996
ICB	06 May 2020 12:45:27	Hg			0.003
lcsw76282 76285 76286	06 May 2020 12:48:36	Hg			2.030
mbw76282 76285 76286	06 May 2020 12:54:55	Hg			-0.004
412289	06 May 2020 12:58:03	Hg			4.447
412289	06 May 2020 13:04:22	Hg		2	2.143
44376dup 412289	06 May 2020 13:07:32	Hg		2	2.165
414377msw 412289	06 May 2020 13:10:42	Hg		2	3.190
412405	06 May 2020 13:17:02	Hg			-0.002
CCV	06 May 2020 13:20:12	Hg			3.027
CCB	06 May 2020 13:26:32	Hg			0.001
414395dup 412405	06 May 2020 13:29:41	Hg			0.001
413136	06 May 2020 13:32:52	Hg			0.001
414390dup 413136	06 May 2020 13:36:04	Hg			-0.003
413975	06 May 2020 13:39:13	Hg			0.005
414396msw 412405	06 May 2020 13:42:23	Hg			2.016
414397msdw 412405	06 May 2020 13:45:32	Hg			2.028
414391msw 413136	06 May 2020 13:48:42	Hg			2.056
414392msdw 413136	06 May 2020 13:51:51	Hg			2.112
lcsw76304 76284 76283	06 May 2020 13:58:11	Hg			2.025
CCV	06 May 2020 14:01:21	Hg			3.028
CCB	06 May 2020 14:07:40	Hg			0.003
mbw76304 76284 76283	06 May 2020 14:10:49	Hg			0.002
414669	06 May 2020 14:13:59	Hg			-0.005
414688	06 May 2020 14:17:10	Hg			-0.001
414786msw 414688	06 May 2020 14:20:21	Hg			2.040
414787msdw 414688	06 May 2020 14:23:32	Hg			2.064
414689	06 May 2020 14:29:51	Hg			-0.007
414690	06 May 2020 14:33:01	Hg			-0.001
414691	06 May 2020 14:36:11	Hg			-0.003
414694	06 May 2020 14:39:21	Hg			-0.005
CCV	06 May 2020 14:42:30	Hg			3.042
CCB	06 May 2020 14:48:49	Hg			0.004
414695	06 May 2020 14:51:59	Hg			-0.001
414696	06 May 2020 14:55:08	Hg			-0.000
414697	06 May 2020 14:58:18	Hg			-0.004
414698	06 May 2020 15:01:28	Hg			0.007
414699	06 May 2020 15:04:39	Hg			0.011
414700	06 May 2020 15:07:50	Hg			0.002
414701	06 May 2020 15:11:01	Hg			-0.003
413405	06 May 2020 15:14:11	Hg			-0.007
414386msw 413405	06 May 2020 15:17:20	Hg			1.982
414387msdw 413405	06 May 2020 15:20:30	Hg			1.999
CCV	06 May 2020 15:23:40	Hg			3.084
CCB	06 May 2020 15:29:58	Hg			-0.001
412395	06 May 2020 15:33:08	Hg			0.021
412543	06 May 2020 15:36:17	Hg			-0.002
413094	06 May 2020 15:39:27	Hg			-0.003
414380msw 413094	06 May 2020 15:42:37	Hg			2.133
414381msdw 413094	06 May 2020 15:45:47	Hg			2.078
414382msw 412543	06 May 2020 15:48:58	Hg			2.103
414383msdw 412543	06 May 2020 15:52:09	Hg			2.086
CCV	06 May 2020 15:55:20	Hg			3.176
CCB	06 May 2020 16:01:38	Hg			-0.004

050620w detailed

Method: Hg WATER Operator: Admin Date of Analysis: 06 May 2020 11:11:34

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
CALIBRATION BLANK - 1	06 May 2020 12:16:54	Hg			155	-
CALIBRATION BLANK - 2	06 May 2020 12:16:54	Hg			163	-
CALIBRATION BLANK - 3	06 May 2020 12:16:54	Hg			169	-
CALIBRATION BLANK - 4	06 May 2020 12:16:54	Hg			171	-
0.05 - 1	06 May 2020 12:20:03	Hg			499	-
0.05 - 2	06 May 2020 12:20:03	Hg			509	-
0.05 - 3	06 May 2020 12:20:03	Hg			521	-
0.05 - 4	06 May 2020 12:20:03	Hg			533	-
0.5 - 1	06 May 2020 12:23:15	Hg			3726	-
0.5 - 2	06 May 2020 12:23:15	Hg			3787	-
0.5 - 3	06 May 2020 12:23:15	Hg			3843	-
0.5 - 4	06 May 2020 12:23:15	Hg			3906	-
1.0 - 1	06 May 2020 12:26:26	Hg			7262	-
1.0 - 2	06 May 2020 12:26:26	Hg			7404	-
1.0 - 3	06 May 2020 12:26:26	Hg			7580	-
1.0 - 4	06 May 2020 12:26:26	Hg			7720	-
2.0 - 1	06 May 2020 12:29:37	Hg			14690	-
2.0 - 2	06 May 2020 12:29:37	Hg			14950	-
2.0 - 3	06 May 2020 12:29:37	Hg			15151	-
2.0 - 4	06 May 2020 12:29:37	Hg			15406	-
4.0 - 1	06 May 2020 12:32:47	Hg			28879	-
4.0 - 2	06 May 2020 12:32:47	Hg			29546	-
4.0 - 3	06 May 2020 12:32:47	Hg			30271	-
4.0 - 4	06 May 2020 12:32:47	Hg			30833	-
5.0 - 1	06 May 2020 12:35:57	Hg			36286	-
5.0 - 2	06 May 2020 12:35:57	Hg			37047	-
5.0 - 3	06 May 2020 12:35:57	Hg			37629	-
5.0 - 4	06 May 2020 12:35:57	Hg			38232	-
ICV - 1	06 May 2020 12:39:07	Hg			21522	96.6% 2.899
ICV - 2	06 May 2020 12:39:07	Hg			22019	98.9% 2.966
ICV - 3	06 May 2020 12:39:07	Hg			22501	101.1% 3.032
ICV - 4	06 May 2020 12:39:07	Hg			22903	102.9% 3.086
ICB - 1	06 May 2020 12:45:27	Hg			170	0.001
ICB - 2	06 May 2020 12:45:27	Hg			177	0.002
ICB - 3	06 May 2020 12:45:27	Hg			186	0.003
ICB - 4	06 May 2020 12:45:27	Hg			189	0.004
lcsw76282 76285 76286 - 1	06 May 2020 12:48:36	Hg			14649	1.966
lcsw76282 76285 76286 - 2	06 May 2020 12:48:36	Hg			14986	2.012
lcsw76282 76285 76286 - 3	06 May 2020 12:48:36	Hg			15309	2.056
lcsw76282 76285 76286 - 4	06 May 2020 12:48:36	Hg			15524	2.085
mbw76282 76285 76286 - 1	06 May 2020 12:54:55	Hg			122	-0.005 [ ]
mbw76282 76285 76286 - 2	06 May 2020 12:54:55	Hg			128	-0.004 [ ]
mbw76282 76285 76286 - 3	06 May 2020 12:54:55	Hg			132	-0.004 [ ]
mbw76282 76285 76286 - 4	06 May 2020 12:54:55	Hg			136	-0.003 [ ]
412289 - 1	06 May 2020 12:58:03	Hg			32030	4.325
412289 - 2	06 May 2020 12:58:03	Hg			32434	4.379
412289 - 3	06 May 2020 12:58:03	Hg			33190	4.482
412289 - 4	06 May 2020 12:58:03	Hg			34081	4.603
412289 - 1	06 May 2020 13:04:22	Hg		2	15524	2.085
412289 - 2	06 May 2020 13:04:22	Hg		2	15821	2.125
412289 - 3	06 May 2020 13:04:22	Hg		2	16076	2.160
412289 - 4	06 May 2020 13:04:22	Hg		2	16397	2.203
44376dup 412289 - 1	06 May 2020 13:07:32	Hg		2	15743	2.114
44376dup 412289 - 2	06 May 2020 13:07:32	Hg		2	15973	2.146
44376dup 412289 - 3	06 May 2020 13:07:32	Hg		2	16243	2.182
44376dup 412289 - 4	06 May 2020 13:07:32	Hg		2	16515	2.219
414377msw 412289 - 1	06 May 2020 13:10:42	Hg		2	22892	3.085
414377msw 412289 - 2	06 May 2020 13:10:42	Hg		2	23469	3.163
414377msw 412289 - 3	06 May 2020 13:10:42	Hg		2	23986	3.233
414377msw 412289 - 4	06 May 2020 13:10:42	Hg		2	24317	3.278
412405 - 1	06 May 2020 13:17:02	Hg			146	-0.002 [ ]
412405 - 2	06 May 2020 13:17:02	Hg			153	-0.001 [ ]
412405 - 3	06 May 2020 13:17:02	Hg			149	-0.002 [ ]
412405 - 4	06 May 2020 13:17:02	Hg			151	-0.001 [ ]
CCV - 1	06 May 2020 13:20:12	Hg			21819	98.0% 2.939
CCV - 2	06 May 2020 13:20:12	Hg			22263	100.0% 2.999
CCV - 3	06 May 2020 13:20:12	Hg			22681	101.9% 3.056
CCV - 4	06 May 2020 13:20:12	Hg			23113	103.8% 3.115
CCB - 1	06 May 2020 13:26:32	Hg			164	0.000
CCB - 2	06 May 2020 13:26:32	Hg			165	0.001
CCB - 3	06 May 2020 13:26:32	Hg			173	0.002
CCB - 4	06 May 2020 13:26:32	Hg			183	0.003
414395dup 412405 - 1	06 May 2020 13:29:41	Hg			162	0.000
414395dup 412405 - 2	06 May 2020 13:29:41	Hg			173	0.002
414395dup 412405 - 3	06 May 2020 13:29:41	Hg			167	0.001
414395dup 412405 - 4	06 May 2020 13:29:41	Hg			167	0.001
413136 - 1	06 May 2020 13:32:52	Hg			165	0.001
413136 - 2	06 May 2020 13:32:52	Hg			172	0.001
413136 - 3	06 May 2020 13:32:52	Hg			174	0.002

050620w detailed

Method: Hg WATER Operator: Admin Date of Analysis: 06 May 2020 11:11:34

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
413136 - 4	06 May 2020 13:32:52	Hg			177	0.002
414390dup 413136 - 1	06 May 2020 13:36:04	Hg			136	-0.003 [ ]
414390dup 413136 - 2	06 May 2020 13:36:04	Hg			136	-0.003 [ ]
414390dup 413136 - 3	06 May 2020 13:36:04	Hg			138	-0.003 [ ]
414390dup 413136 - 4	06 May 2020 13:36:04	Hg			147	-0.002 [ ]
413975 - 1	06 May 2020 13:39:13	Hg			190	0.004
413975 - 2	06 May 2020 13:39:13	Hg			194	0.004
413975 - 3	06 May 2020 13:39:13	Hg			197	0.005
413975 - 4	06 May 2020 13:39:13	Hg			200	0.005
414396msw 412405 - 1	06 May 2020 13:42:23	Hg			14527	1.949
414396msw 412405 - 2	06 May 2020 13:42:23	Hg			14878	1.997
414396msw 412405 - 3	06 May 2020 13:42:23	Hg			15198	2.041
414396msw 412405 - 4	06 May 2020 13:42:23	Hg			15469	2.077
414397msdw 412405 - 1	06 May 2020 13:45:32	Hg			14733	1.977
414397msdw 412405 - 2	06 May 2020 13:45:32	Hg			14989	2.012
414397msdw 412405 - 3	06 May 2020 13:45:32	Hg			15242	2.046
414397msdw 412405 - 4	06 May 2020 13:45:32	Hg			15455	2.075
414391msw 413136 - 1	06 May 2020 13:48:42	Hg			15042	2.019
414391msw 413136 - 2	06 May 2020 13:48:42	Hg			15180	2.038
414391msw 413136 - 3	06 May 2020 13:48:42	Hg			15366	2.063
414391msw 413136 - 4	06 May 2020 13:48:42	Hg			15666	2.104
414392msdw 413136 - 1	06 May 2020 13:51:51	Hg			15350	2.061
414392msdw 413136 - 2	06 May 2020 13:51:51	Hg			15615	2.097
414392msdw 413136 - 3	06 May 2020 13:51:51	Hg			15845	2.128
414392msdw 413136 - 4	06 May 2020 13:51:51	Hg			16084	2.161
lcsw76304 76284 76283 - 1	06 May 2020 13:58:11	Hg			14771	1.983
lcsw76304 76284 76283 - 2	06 May 2020 13:58:11	Hg			15046	2.020
lcsw76304 76284 76283 - 3	06 May 2020 13:58:11	Hg			15173	2.037
lcsw76304 76284 76283 - 4	06 May 2020 13:58:11	Hg			15353	2.062
CCV - 1	06 May 2020 14:01:21	Hg			21720	97.5% 2.926
CCV - 2	06 May 2020 14:01:21	Hg			22189	99.6% 2.989
CCV - 3	06 May 2020 14:01:21	Hg			22790	102.4% 3.071
CCV - 4	06 May 2020 14:01:21	Hg			23191	104.2% 3.125
CCB - 1	06 May 2020 14:07:40	Hg			176	0.002
CCB - 2	06 May 2020 14:07:40	Hg			176	0.002
CCB - 3	06 May 2020 14:07:40	Hg			181	0.003
CCB - 4	06 May 2020 14:07:40	Hg			188	0.004
mbw76304 76284 76283 - 1	06 May 2020 14:10:49	Hg			166	0.001
mbw76304 76284 76283 - 2	06 May 2020 14:10:49	Hg			177	0.002
mbw76304 76284 76283 - 3	06 May 2020 14:10:49	Hg			180	0.003
mbw76304 76284 76283 - 4	06 May 2020 14:10:49	Hg			182	0.003
414669 - 1	06 May 2020 14:13:59	Hg			124	-0.005 [ ]
414669 - 2	06 May 2020 14:13:59	Hg			125	-0.005 [ ]
414669 - 3	06 May 2020 14:13:59	Hg			125	-0.005 [ ]
414669 - 4	06 May 2020 14:13:59	Hg			129	-0.004 [ ]
414688 - 1	06 May 2020 14:17:10	Hg			152	-0.001 [ ]
414688 - 2	06 May 2020 14:17:10	Hg			152	-0.001 [ ]
414688 - 3	06 May 2020 14:17:10	Hg			156	-0.001 [ ]
414688 - 4	06 May 2020 14:17:10	Hg			160	-0.000 [ ]
414786msw 414688 - 1	06 May 2020 14:20:21	Hg			14864	1.995
414786msw 414688 - 2	06 May 2020 14:20:21	Hg			15090	2.026
414786msw 414688 - 3	06 May 2020 14:20:21	Hg			15281	2.052
414786msw 414688 - 4	06 May 2020 14:20:21	Hg			15548	2.088
414787msdw 414688 - 1	06 May 2020 14:23:32	Hg			14981	2.011
414787msdw 414688 - 2	06 May 2020 14:23:32	Hg			15306	2.055
414787msdw 414688 - 3	06 May 2020 14:23:32	Hg			15505	2.082
414787msdw 414688 - 4	06 May 2020 14:23:32	Hg			15684	2.106
414689 - 1	06 May 2020 14:29:51	Hg			105	-0.008 [ ]
414689 - 2	06 May 2020 14:29:51	Hg			107	-0.007 [ ]
414689 - 3	06 May 2020 14:29:51	Hg			112	-0.007 [ ]
414689 - 4	06 May 2020 14:29:51	Hg			113	-0.007 [ ]
414690 - 1	06 May 2020 14:33:01	Hg			143	-0.002 [ ]
414690 - 2	06 May 2020 14:33:01	Hg			153	-0.001 [ ]
414690 - 3	06 May 2020 14:33:01	Hg			154	-0.001 [ ]
414690 - 4	06 May 2020 14:33:01	Hg			161	0.000
414691 - 1	06 May 2020 14:36:11	Hg			131	-0.004 [ ]
414691 - 2	06 May 2020 14:36:11	Hg			136	-0.003 [ ]
414691 - 3	06 May 2020 14:36:11	Hg			139	-0.003 [ ]
414691 - 4	06 May 2020 14:36:11	Hg			142	-0.003 [ ]
414694 - 1	06 May 2020 14:39:21	Hg			126	-0.005 [ ]
414694 - 2	06 May 2020 14:39:21	Hg			129	-0.004 [ ]
414694 - 3	06 May 2020 14:39:21	Hg			127	-0.005 [ ]
414694 - 4	06 May 2020 14:39:21	Hg			128	-0.004 [ ]
CCV - 1	06 May 2020 14:42:30	Hg			22033	98.9% 2.968
CCV - 2	06 May 2020 14:42:30	Hg			22374	100.5% 3.014
CCV - 3	06 May 2020 14:42:30	Hg			22735	102.1% 3.063
CCV - 4	06 May 2020 14:42:30	Hg			23168	104.1% 3.122
CCB - 1	06 May 2020 14:48:49	Hg			181	0.003
CCB - 2	06 May 2020 14:48:49	Hg			186	0.003

050620w detailed

Method: Hg WATER Operator: Admin Date of Analysis: 06 May 2020 11:11:34

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
CCB - 3	06 May 2020 14:48:49	Hg			193	0.004
CCB - 4	06 May 2020 14:48:49	Hg			197	0.005
414695 - 1	06 May 2020 14:51:59	Hg			152	-0.001 [ ]
414695 - 2	06 May 2020 14:51:59	Hg			155	-0.001 [ ]
414695 - 3	06 May 2020 14:51:59	Hg			144	-0.002 [ ]
414695 - 4	06 May 2020 14:51:59	Hg			151	-0.001 [ ]
414696 - 1	06 May 2020 14:55:08	Hg			151	-0.001 [ ]
414696 - 2	06 May 2020 14:55:08	Hg			157	-0.001 [ ]
414696 - 3	06 May 2020 14:55:08	Hg			164	0.000
414696 - 4	06 May 2020 14:55:08	Hg			159	-0.000 [ ]
414697 - 1	06 May 2020 14:58:18	Hg			130	-0.004 [ ]
414697 - 2	06 May 2020 14:58:18	Hg			132	-0.004 [ ]
414697 - 3	06 May 2020 14:58:18	Hg			136	-0.003 [ ]
414697 - 4	06 May 2020 14:58:18	Hg			135	-0.004 [ ]
414698 - 1	06 May 2020 15:01:28	Hg			213	0.007
414698 - 2	06 May 2020 15:01:28	Hg			219	0.008
414698 - 3	06 May 2020 15:01:28	Hg			215	0.007
414698 - 4	06 May 2020 15:01:28	Hg			218	0.008
414699 - 1	06 May 2020 15:04:39	Hg			243	0.011
414699 - 2	06 May 2020 15:04:39	Hg			240	0.011
414699 - 3	06 May 2020 15:04:39	Hg			245	0.011
414699 - 4	06 May 2020 15:04:39	Hg			254	0.013
414700 - 1	06 May 2020 15:07:50	Hg			172	0.001
414700 - 2	06 May 2020 15:07:50	Hg			175	0.002
414700 - 3	06 May 2020 15:07:50	Hg			174	0.002
414700 - 4	06 May 2020 15:07:50	Hg			182	0.003
414701 - 1	06 May 2020 15:11:01	Hg			134	-0.004 [ ]
414701 - 2	06 May 2020 15:11:01	Hg			133	-0.004 [ ]
414701 - 3	06 May 2020 15:11:01	Hg			136	-0.003 [ ]
414701 - 4	06 May 2020 15:11:01	Hg			141	-0.003 [ ]
413405 - 1	06 May 2020 15:14:11	Hg			115	-0.006 [ ]
413405 - 2	06 May 2020 15:14:11	Hg			106	-0.007 [ ]
413405 - 3	06 May 2020 15:14:11	Hg			105	-0.008 [ ]
413405 - 4	06 May 2020 15:14:11	Hg			105	-0.008 [ ]
414386msw 413405 - 1	06 May 2020 15:17:20	Hg			14413	1.934
414386msw 413405 - 2	06 May 2020 15:17:20	Hg			14648	1.966
414386msw 413405 - 3	06 May 2020 15:17:20	Hg			14886	1.998
414386msw 413405 - 4	06 May 2020 15:17:20	Hg			15117	2.030
414387msdw 413405 - 1	06 May 2020 15:20:30	Hg			14521	1.949
414387msdw 413405 - 2	06 May 2020 15:20:30	Hg			14789	1.985
414387msdw 413405 - 3	06 May 2020 15:20:30	Hg			15075	2.024
414387msdw 413405 - 4	06 May 2020 15:20:30	Hg			15193	2.040
CCV - 1	06 May 2020 15:23:40	Hg			22353	100.4% 3.011
CCV - 2	06 May 2020 15:23:40	Hg			22713	102.0% 3.060
CCV - 3	06 May 2020 15:23:40	Hg			23051	103.5% 3.106
CCV - 4	06 May 2020 15:23:40	Hg			23444	105.3% 3.160
CCB - 1	06 May 2020 15:29:58	Hg			155	-0.001
CCB - 2	06 May 2020 15:29:58	Hg			150	-0.001
CCB - 3	06 May 2020 15:29:58	Hg			152	-0.001
CCB - 4	06 May 2020 15:29:58	Hg			151	-0.001
412395 - 1	06 May 2020 15:33:08	Hg			303	0.019
412395 - 2	06 May 2020 15:33:08	Hg			313	0.021
412395 - 3	06 May 2020 15:33:08	Hg			320	0.022
412395 - 4	06 May 2020 15:33:08	Hg			318	0.021
412543 - 1	06 May 2020 15:36:17	Hg			147	-0.002 [ ]
412543 - 2	06 May 2020 15:36:17	Hg			145	-0.002 [ ]
412543 - 3	06 May 2020 15:36:17	Hg			148	-0.002 [ ]
412543 - 4	06 May 2020 15:36:17	Hg			149	-0.002 [ ]
413094 - 1	06 May 2020 15:39:27	Hg			140	-0.003 [ ]
413094 - 2	06 May 2020 15:39:27	Hg			133	-0.004 [ ]
413094 - 3	06 May 2020 15:39:27	Hg			140	-0.003 [ ]
413094 - 4	06 May 2020 15:39:27	Hg			137	-0.003 [ ]
414380msw 413094 - 1	06 May 2020 15:42:37	Hg			15414	2.070
414380msw 413094 - 2	06 May 2020 15:42:37	Hg			15711	2.110
414380msw 413094 - 3	06 May 2020 15:42:37	Hg			16019	2.152
414380msw 413094 - 4	06 May 2020 15:42:37	Hg			16360	2.198
414381msdw 413094 - 1	06 May 2020 15:45:47	Hg			15200	2.041
414381msdw 413094 - 2	06 May 2020 15:45:47	Hg			15368	2.064
414381msdw 413094 - 3	06 May 2020 15:45:47	Hg			15520	2.084
414381msdw 413094 - 4	06 May 2020 15:45:47	Hg			15808	2.123
414382msw 412543 - 1	06 May 2020 15:48:58	Hg			15136	2.032
414382msw 412543 - 2	06 May 2020 15:48:58	Hg			15522	2.084
414382msw 412543 - 3	06 May 2020 15:48:58	Hg			15886	2.134
414382msw 412543 - 4	06 May 2020 15:48:58	Hg			16081	2.160
414383msdw 412543 - 1	06 May 2020 15:52:09	Hg			15129	2.031
414383msdw 412543 - 2	06 May 2020 15:52:09	Hg			15418	2.070
414383msdw 412543 - 3	06 May 2020 15:52:09	Hg			15677	2.106
414383msdw 412543 - 4	06 May 2020 15:52:09	Hg			15908	2.137
CCV - 1	06 May 2020 15:55:20	Hg			22882	102.8% 3.083

050620w detailed

Method: Hg WATER Operator: Admin Date of Analysis: 06 May 2020 11:11:34

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
CCV - 2	06 May 2020 15:55:20	Hg			23426	105.2% 3.157
CCV - 3	06 May 2020 15:55:20	Hg			23882	107.3% 3.219
CCV - 4	06 May 2020 15:55:20	Hg			24077	108.2% 3.245
CCB - 1	06 May 2020 16:01:38	Hg			126	-0.005
CCB - 2	06 May 2020 16:01:38	Hg			134	-0.004
CCB - 3	06 May 2020 16:01:38	Hg			138	-0.003
CCB - 4	06 May 2020 16:01:38	Hg			136	-0.003

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
170875 on 05/20/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	417126								MICP WATER QSM				
					ICV					0			
	417127								MICP WATER QSM				
					ICVLL					0			
	417128								MICP WATER QSM				
					ICB					0			
	417129								MICP WATER QSM				
					ICSA					0			
	417130								MICP WATER QSM				
					ICSAB					0			
	417131								MICP WATER QSM				
					ICVLL					0			
	417132								MICP WATER QSM				
					CCV1					0			
	417133								MICP WATER QSM				
					CCV2					0			
	417134								MICP WATER QSM				
					CCB					0			
	414408								ICP TOTAL QSM 5.0				
					LCSW					76290			
	414407								ICP TOTAL QSM 5.0				
					MBW					76290			
152962	413975		04/30/2020	1515			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP TOTAL QSM 5.0		GW	**4**	
		49IDW								76290			
	417135								ICP TOTAL QSM 5.0				
					L	413975				0			
	414409		04/30/2020	1515					ICP TOTAL QSM 5.0				
		49IDW			DUP	413975				76290			
	417136								MICP WATER QSM				
					CCV1					0			
	417137								MICP WATER QSM				
					CCV2					0			
	417138								MICP WATER QSM				
					CCB					0			
	417139								ICP TOTAL QSM 5.0				
					PDSW	413975				0			
	417140								MICP WATER QSM				
					CCV1					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM Analytical Run
170875 on 05/20/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	417141						MICP WATER QSM				
				CCV2				0			
	417142						MICP WATER QSM				
				CCB				0			
	419560						MICP WATER QSM				
				ICV				0			
	419561						MICP WATER QSM				
				ICVLL				0			
	419562						MICP WATER QSM				
				ICB				0			
	419563						MICP WATER QSM				
				ICSA				0			
	419564						MICP WATER QSM				
				ICSAB				0			
	419565						MICP WATER QSM				
				ICVLL				0			
	419566						MICP WATER QSM				
				CCV1				0			
	419567						MICP WATER QSM				
				CCV2				0			
	419568						MICP WATER QSM				
				CCB				0			
	414410		04/30/2020 1515				ICP TOTAL QSM 5.0				
		49IDW		MSW	413975			76290			
	414411		04/30/2020 1515				ICP TOTAL QSM 5.0				
		49IDW		MSDW	414410			76290			
	419569						MICP WATER QSM				
				CCV1				0			
	419570						MICP WATER QSM				
				CCV2				0			
	419571						MICP WATER QSM				
				CCB				0			

35 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
170876 on 05/20/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	417013								MICP WATER QSM K&Na				
					ICV					0			
	417014								MICP WATER QSM K&Na				
					ICVLL					0			
	417015								MICP WATER QSM K&Na				
					ICB					0			
	417016								MICP WATER QSM K&Na				
					MRL					0			
	417017								MICP WATER QSM K&Na				
					ICSA					0			
	417018								MICP WATER QSM K&Na				
					ICSAB					0			
	414408								ICP K TOTAL QSM 5.0				
					LCSW					76290			
	414408								ICP NA TOTAL QSM 5.0				
					LCSW					76290			
	414407								ICP K TOTAL QSM 5.0				
					MBW					76290			
	414407								ICP NA TOTAL QSM 5.0				
					MBW					76290			
	417019								MICP WATER QSM K&Na				
					CCV					0			
	417020								MICP WATER QSM K&Na				
					CCB					0			
152962	413975		04/30/2020	1515			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP K TOTAL QSM 5.0		GW	**4**	
		49IDW								76290			
152962	413975		04/30/2020	1515			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP NA TOTAL QSM 5.0		GW	**4**	
		49IDW								76290			
	417021								ICP K TOTAL QSM 5.0				
					L	413975				0			
	417021								ICP NA TOTAL QSM 5.0				
					L	413975				0			
	414409		04/30/2020	1515					ICP K TOTAL QSM 5.0				
		49IDW			DUP	413975				76290			
	414409		04/30/2020	1515					ICP NA TOTAL QSM 5.0				
		49IDW			DUP	413975				76290			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
170876 on 05/20/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	414410		04/30/2020 1515					ICP K TOTAL QSM 5.0				
		49IDW		MSW	413975				76290			
	414410		04/30/2020 1515					ICP NA TOTAL QSM 5.0				
		49IDW		MSW	413975				76290			
	414411		04/30/2020 1515					ICP K TOTAL QSM 5.0				
		49IDW		MSDW	414410				76290			
	414411		04/30/2020 1515					ICP NA TOTAL QSM 5.0				
		49IDW		MSDW	414410				76290			
	417022							ICP K TOTAL QSM 5.0				
				PDSW	413975				0			
	417022							ICP NA TOTAL QSM 5.0				
				PDSW	413975				0			
	417023							MICP WATER QSM K&Na				
				CCV					0			
	417024							MICP WATER QSM K&Na				
				CCB					0			

26 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
170961 on 05/18/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	416251								MERCURY QSM 5.0				
					ICV					0			
	416252								MERCURY QSM 5.0				
					ICB					0			
	414389								MERCURY TOTAL QSM 5.0				
					LCSW					76285			
	414388								MERCURY TOTAL QSM 5.0				
					MBW					76285			
	416253								MERCURY QSM 5.0				
					CCV					0			
	416254								MERCURY QSM 5.0				
					CCB					0			
152892	413136		04/28/2020	1438			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-54	MERCURY TOTAL QSM 5.0		GW	**4**	
		54IDW								76285			
	414390		04/28/2020	1438					MERCURY TOTAL QSM 5.0				
		54IDW			DUP	413136				76285			
152962	413975		04/30/2020	1515			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	MERCURY TOTAL QSM 5.0		GW	**4**	
		49IDW								76285			
	414391		04/28/2020	1438					MERCURY TOTAL QSM 5.0				
		54IDW			MSW	413136				76285			
	414392		04/28/2020	1438					MERCURY TOTAL QSM 5.0				
		54IDW			MSDW	414391				76285			
	416255								MERCURY QSM 5.0				
					CCV					0			
	416256								MERCURY QSM 5.0				
					CCB					0			

13 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 05/20/2020

Prep Batch **76,290** Date Prepped: 05/04/2020 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	414407	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	414407	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	414407	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	414408	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	414408	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	414408	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
152962	413975			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	413975			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	413975			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	414409	DUP	413975	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	414409	DUP	413975	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	414409	DUP	413975	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	414410	MSW	413975	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	414410	MSW	413975	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	414410	MSW	413975	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	414411	MSDW	414410	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	414411	MSDW	414410	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 05/20/2020

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	414411	MSDW	414410	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 05/18/2020

Prep Batch **76,285** Date Prepped: 05/05/2020 Prepped By MDS

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	414388	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	414389	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
152892	413136			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
152962	413975			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	414390	DUP	413136	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	414391	MSW	413136	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	414392	MSDW	414391	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

Program: QSM
*Matrix: Liquid

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	76290
Prep Method:	200.2
Analyst:	NAH
Date:	5/4/2020
Start Time:	11:26

Prep Analyst: BMM
Balance ID:

End Date: 5/4/2020
End Time: 22:00
Digestion Tube Lot #: MP3375
Block Used: D2
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 94
Final-Digestion Temp (ºC): 94

Reagent:	Ref. #
Nitric Acid:	AB.686
Hydrochloric Acid:	AB.689
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
414407	(MB)			50.0	50
414408	(LCS)			50.0	50
413975				50.0	50
	Comments:				50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
414409	DUP			50.0	50
414410	(MS)	Parent Sample		50.0	50
414411	(MSD)	413975		50.0	50
	(DUP)				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M14138
0.5	M14137
0.5	M14109
0.1	M14129
0.1	M14131

LCS Spike Amount (ml)	Spike Ref. #
0.2	M14138
0.5	M14137
0.5	M14109
0.1	M14129
0.1	M14131

Reviewed By/Date:

05/20/202010:42

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M14280
ICV/LCSW ID: M14281

*Matrix: GW
Balance ID:

Prep Batch #:	76285
Prep Method:	7470A
Analyst:	MDS
Date:	5/5/2020
Start Time:	14:15

7470A= Hg Liquids
7471A= Hg Solids

End Date: 5/5/2020
End Time: 16:15

Digestion Tube Lot #: 4120023
Block Used: B
Cell Position for Temp. Check: A-6
Initial-DigestionTemp (ºC): 91.8
Final-Digestion Temp (ºC): 91.8
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M14279

Reagent:	Ref. #
HNO3:	AB.691
H2SO4:	AB.690
NaCl/Hydrox.SO4:	M14284
KMnO4:	M14282
K2S2O8:	M14283
Aqua-Regia:	

	Sample			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	414388	(MB)			25.0	25
	414389	(LCS)			25.0	25
	413136				25.0	25
	413975				25.0	25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
	414390	(DUP)			25.0	25
	414391	(MS)	Parent Sample		25.0	25
	414392	(MSD)	413136		25.0	25
Leave >>		(DUP)				25
blank		(MS)	Parent Sample			25
		(MSD)				25
		(DUP)				25
		(MS)	Parent Sample			25
if N/A		(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100	M14281

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 5/6/2020	Data File: 000 results	Date of review: 5/18/2020
Cal Std ID: M141169 LIMS #: 170825	Analyst: [illegible]	Reviewer: MOS	Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			
Prep Batch Check			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≤ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓				
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 162290 Dig. Meth.: 200.7	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	Cu, Ag, Be, Se > LOD < ½ RL "B"
Spiked samples in batch:					MSDW possible not mixed properly after filling and capping. Reran Outmsw.
a) 413974 matrix = DW	✓	✓	✓	✓	Fe, Mn "M"
b)_____ matrix =					
c)_____ matrix =					
PDS: ±15% / 20% / 25% Sample#: a	0X✓	✓	✓	✓	
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					✓ ✓ ✓ ✓ ✓ ✓ ✓ ✓
a)_____ matrix =					Se, Ag, Tl, V, Zn, Ni, Sb, As
b)_____ matrix =					Ba, Cd, Cr, Co, Cu, Pb. "J"
c)_____ matrix =					✓ ✓ ✓
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					MS, MSD fail
Spiked samples in batch:					V, Al, Ba, Cd, Ca, Cu, Fe, Pb, Mg, Mn, Tl
a)_____ matrix =					
b)_____ matrix =					
c)_____ matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a)_____ matrix =					
b)_____ matrix =					
c)_____ matrix =					
PDS: ±15% / 20% / 25% Sample#:					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 5/7/2020	Data File: NuK050720v1249	Date of review: 5/14/2020
Cal Std ID: M14160 LIMS #: 170876	Analyst: MOS	Reviewer: [illegible]	Approved? Yes No
Is Audit Trail turned on or Manual Manipulations addressed? Yes No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)			

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r < 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO
Prep Batch ID#: 76290 Dig. Meth. 200.2	✓		✓	
LCS - generated limits or project specific limits	✓		✓	
MB - <LOD or ≤ ½ RL	✓		✓	
Spiked samples in batch:				
a) 413975 matrix = GW	✓		✓	
b)_____ matrix =_____				
c)_____ matrix =_____				
PDS: ±15% / 20% / 25% Sample#:_____				
Prep Batch ID#:_____ Dig. Meth._____				
LCS - generated limits or project specific limits				
MB - <LOD or ≤ ½ RL				
Spiked samples in batch:				
a)_____ matrix =_____				
b)_____ matrix =_____				
c)_____ matrix =_____				
PDS: ±15% / 20% / 25% Sample#:_____				
Prep Batch ID#:_____ Dig. Meth._____				
LCS - generated limits or project specific limits				
MB - <LOD or ≤ ½ RL				
Spiked samples in batch:				
a)_____ matrix =_____				
b)_____ matrix =_____				
c)_____ matrix =_____				
PDS: ±15% / 20% / 25% Sample#:_____				
Prep Batch ID#:_____ Dig. Meth._____				
LCS - generated limits or project specific limits				
MB - <LOD or ≤ ½ RL				
Spiked samples in batch:				
a)_____ matrix =_____				
b)_____ matrix =_____				
c)_____ matrix =_____				
PDS: ±15% / 20% / 25% Sample#:_____				

GFAA / FLAA / CVAA Data Review checklist		Method: 200.9	7000 series AA	245.1 & 245.2	245.7	7470a / 7471a
Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER			
Analysis Date: 5/6/2020	Data File: 050620w	Date Review: 5/7/2020	Analyte: Hg			
Cal Std ID: M14279	LIMS # : 170961	Analyst: MOS	Reviewer: [illegible]	Approved? Yes	No	

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 76285 Dig. Meth. 7470a	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 413136 matrix = GW	✓	✓	—	✓	Dup invalid
b)_____ matrix =_____					
c)_____ matrix =_____					
d)_____ matrix =_____					
e)_____ matrix =_____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix =_____					
b)_____ matrix =_____					
c)_____ matrix =_____					
d)_____ matrix =_____					
e)_____ matrix =_____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix =_____					
b)_____ matrix =_____					
c)_____ matrix =_____					
d)_____ matrix =_____					
e)_____ matrix =_____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. Std.	Alt. Source	Pressure (kPa) Comments	Analysis Tube Lot #	ICSA/ ICSAB
3/5/2020	1225 / 1618	MDS	NaK	169227, 169145, 169223, 169235, 169236, 169213, 169238,	NaK030520 v1234	M14160	M14162 M14163	350	290937	M14023 M14164
3/12/2020	0925 / 1145	MDS	NaK	169451, 169422, 169291	NaK031220 v1235	M14160	M14162 M14163	350	283466	M14023 M14164
3/16/2020	1027 / 1243	MDS	NaK	169501, 169498, 169503, 169496	NaK031620 v1236	M14160	M14162 M14163	350	283466	M14023 M14164
3/19/2020	1206 / 1625	MDS	NaK	169664, 169665, 169663 169644, 169589, 169587, 169597,	NaK031920 v1237	M14160	M14162 M14163	350	283466	M14023 M14164
3/27/2020	1017 / 1625	MDS	NaK	169790, 169898, 169894, 169892, 169771 169687, 169886, 169783, 169776, 169776	NaK032720 v1238	M14160	M14162 M14163	350	283466	M14023 M14164
4/2/2020	0950 / 1221	MDS	NaK	169990 169771, 169898, 169776, 169995,	NaK040220 v1239	M14160	M14162 M14163	350	283466	M14023 M14164
4/4/2020	0953 / 1150	MDS	NaK	170107, 170061	NaK040620 v1241 v1240	M14160	M14162 M14163	350	283466	M14023 M14164
4/8/2020	0941 / 1123	MDS	NaK	170144, 170113	NaK040820 v1242	M14160	M14162 M14163	350	284066	M14023 M14164
4/10/2020	1205 / 1628	MDS	NaK	170256, 170258, 170260, 170230, 170184, 170221, 170265,	NaK041020 v1243	M14160	M14162 M14163	350	297109	M14023 M14164
4/16/2020	0946 / 1225	MDS	NaK	170301, 170391, 170396, 170401	NaK041620 v1244	M14160	M14162 M14163	350	297109	M14023 M14164
4/20/2020	1155 / 1509	MDS	NaK	170453, 170458, 170459, 170455	NaK042020 v1245	M14160	M14162 M14163	350	297109	M14023 M14164
4/24/2020	0903 / 1303	MDS	NaK	170520, 170519, 170636, 170640 170453, 170543, 170541, 170523,	NaK042420 v1247 v1246	M14160	M14162 M14163	350	297109	M14023 M14164
5/1/2020	0841 / 1411	MDS	NaK	170721, 170788, 170799 170789, 170645 170794, 170797, 170796, 170733, 170643	NaK050120 v1248	M14160	M14162 M14163	350	297109	M14023 M14164
5/7/2020	1152 / 1653	MDS	NaK	170873, 170789, 170930, 170881 170926, 170876, 170856, 170895, 170879,	NaK050720 v1249	M14160	M14162 M14163	350	297109	M14023 M14164
5/12/2020	0659 / 1145	MDS	DOD Cal	MDL - DODMDL 05/12/20	DODMDL-05/12/20	M14169	M14170 M14174	350	297109	M14174 M14173
5/13/2020	1419 / 1808	MDS	NaK	171028, 170954 171087, 171123, 170881, 171085, 171039	NaK051320 v1250	M14160	M14162 M14163	350	297109	M14023 M14
5/15/2020	1002 / 1216	MDS	NaK	171087, 170954, 171159, 171166, 171170	NaK051520	M14160	M14162 M14163	350	297109	M14173
5/18/2020	0712 / 11:00	MDS	DOD Cal	MDL DOD v26	DODMDL	M14169	M14170 M14174	320	297109	M14173
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									

Checked by: _____ Verified by: _____

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version	Comments
4/8/2020	0749 / 1134	JA	040820	DODCal u	170162	260	M14169 M14170	V3813 V3811	M14230 M14173 M14171 M14174 M14023 M14172
4/10/2020	0946 / 0519	JA	041020	DODCal u	170185 170163 170224 170274 170229 170246 170287 170272 170237 170259 170200 170239	260	M14169 M14170	V3814 V3812	M14230 M14173 M14171 M14174 M14023 M14172
4/15/2020	1314 / 2040	JA	041420	DODCal u	170333 170332 170351 170300 170153 170330	260	M14169 M14170	V3820 V3816	M14230 M14173 M14171 M14174 M14023 M14172
4/17/2020	0905 / 0409	JA	041720	DODCal u	170460 170451 170392 170259 170454 170397 170395 170440 170456 170393 170229 170411	260	M14169 M14170	V3822 V3828 V3825	M14230 M14173 M14171 M14174 M14023 M14172
4/21/2020	1123 / 0614	JA	042120	DODCal u	170423 170397 170521 170451 170517 170461 170516 170452 170518 170515	260	M14169 M14170	V3838 V3830	M14230 M14173 M14171 M14174 M14023 M14172
4/24/2020	1019 / 0608	JA	042420	DODCal u	170542 170635 170634 170647 170573 170614 170646 170653 170544 170639 170642 170656	260	M14169 M14170	V3833 V3831	M14230 M14173 M14171 M14174 M14023 M14172
4/30/2020	1223 / 5-1-2020 1241	JA	042920	DODCal u	MDL, 170518 170787, 170641 170803 170593 170786 170637 170795 170791 170721, 22 170769	270 260	M14169 M14170	V3841 V3840 V3842	M14230 M14173 M14171 M14174 M14023 M14172
5/1/2020	1331 / 0303	JA	050120	DODCal u	170720 170711 170799 170781 170792 170801 170825 170802 170800 170824	270	M14169 M14170	V3843	M14230 M14173 M14171 M14174 M14023 M14172
5/6/2020	0824 / 5/7/2020 1047	JA	050620	DODCal u	170731 170927 170883 170875 170929 170855 170931 170874 170957 170884 170882 170855 170925 170880 170878 170929	270	M14169 M14170	V3850 V3852 V3849 V3851 V3848 V3853	M14230 M14173 M14171 M14174 M14023 M14172
5/8/2020	1134 / 1824	JA	050820	DODCal u	170802 171030 171037 171029 171031 171032	270	M14169 M14170	V3854 V3855 V3864	M14230 M14173 M14171 M14174 M14023 M14172
5/12/2020	1227 / 2311	JA	051220	DODCal u	170955 171088,89 171051 170987 171084 171052 171086 171036, 170408	270	M14169 M14170	V3865 V3864	M14230 M14173 M14171 M14174 M14023 M14172
5/14/2020	0950 / 1909	JA	051420	DODCal u	170825 171093 171125 171169 171171 171122 171168 171125	290	M14169 M14170	V3872	M14230 M14173 M14171 M14174 M14023 M14172

Comments: _____

Checked By / Date: _____

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: Cetac M-6000A

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
4/28/2020	0911	1056	MDS	170703, 170702, 170704, MDLW	042820W	M14268	9.860	Z834466	$SnCl_2$: M14274
4/29/2020	1057	1358	MDS	170746, 170745, MDLS	042920S	M14268	9.930	Z834466	$SnCl_2$: M14274
5/6/2020	0932	1100	MDS	170953, 170952	050620S	M14279	9.871	Z834466	$SnCl_2$: M14286
5/6/2020	1216	1601	MDS	170963, 170958, 170959, 170960, 170961, 170962	050620W	M14279	9.871	Z834466	$SnCl_2$: M14286

Reviewed By/Date:_____

Type	Date/Time	Message	User name	Application	Sequence Name
	05/07/2020 09:26:47	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:29:37	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:32:26	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:35:12	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:38:00	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:40:47	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:43:34	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:46:27	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:49:36	Running icv (10)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:52:23	Running ICVLL (17)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 09:54:54	Autosampler Run Completed	MDS	Analyst	S_Sodium and Pota
	05/07/2020 11:51:52	Autosampler Run Started	MDS	Analyst	
	05/07/2020 11:51:52	Sequence Started	MDS	Analyst	S_Sodium and Pota
	05/07/2020 11:52:13	Running Blank (1)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 11:55:12	Running CalibStd-0.5 (2)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 11:58:02	Running CalibStd-1.0 (3)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:00:52	Running CalibStd-5.0 (4)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:03:39	Running CalibStd-10.0 (5)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:06:26	Running CalibStd-50 (6)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:09:13	Running CalibStd-100 (7)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:12:00	Running CalibStd-200 (8)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:14:54	Running CalibStd-500 (9)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:18:02	Running icv (10)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:20:48	Running ICVLL (17)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:23:35	Running icb (11)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:26:25	Running mrl (16)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:29:14	Running icsa (12)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:32:24	Running icsab (13)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:35:30	Running lcss76300 (1)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:38:15	Running mbs76300 (2)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:41:04	Running 414665 (3)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:43:46	Running l414665 (4)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:46:27	Running dup414665 (5)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:49:08	Running mss414665 (6)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:51:50	Running pdss414665 (8)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:54:32	Running blank (9)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 12:57:23	Running lcsw76290 (10)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:00:10	Running mbw76290 (11)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:03:02	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:05:48	Running ccb (15)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:08:40	Running 413975 (12)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:11:26	Running l413975 (13)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:14:15	Running dup413975 (14)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:17:00	Running msw413975 (15)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:19:43	Running msdw413975 (16)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:22:27	Running pdsw413975 (17)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:25:11	Running lcsw (18)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:28:01	Running mbw (19)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:30:51	Running 413796 (20)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:33:41	Running msw413796 (21)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:36:30	Running ccv (14)	MDS	Analyst	S_Sodium and Pota
	05/07/2020 13:39:17	Running ccb (15)	MDS	Analyst	S_Sodium and Pota

Type	Date/Time	Message	User name	Application	Sequence Name
	05/02/2020 01:48:40	Running pdsw413405 (71)	NAH	Analyst	S_DOD Calibration
	05/02/2020 01:55:10	Running mbw 3 (72)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:01:30	Running mbw 3 (2)1 (73)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:07:50	Running MDL water 3 (74)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:14:05	Running MDL water 3 (2) (75)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:20:20	Running mbs 3 (76)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:26:40	Running mbs 3 (2) (77)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:33:00	Running mdl soil 3 (78)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:39:21	Running mdl soil 3 (2)1 (79)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:45:40	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:51:56	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	05/02/2020 02:57:39	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	05/02/2020 03:03:31	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	05/02/2020 03:09:52	Plasma extinguished successfully	NAH	Analyst	
	05/02/2020 03:09:53	Plasma off	NAH	iTEVA Control Center	
	05/02/2020 03:09:55	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	05/04/2020 06:59:55	E2208 - : Plasma ignition failed; RF seems OK. Check your sample intr	NAH	Analyst	
	05/04/2020 07:00:41	Plasma On	NAH	iTEVA Control Center	
	05/04/2020 07:00:47	Plasma ignition successful	NAH	Analyst	
	05/04/2020 07:01:34	D33534 - Debug:Wavelength check : x = 0.914, y =-0.709	NAH	Analyst	
	05/04/2020 14:54:15	E9006 - : Plasma went out unexpectedly; RF reported over current failu	NAH	iTEVA Control Center	
	05/05/2020 06:47:57	Plasma ignition successful	NAH	Analyst	
	05/05/2020 06:48:44	D33534 - Debug:Wavelength check : x = 0.983, y =-0.795	NAH	Analyst	
	05/05/2020 06:50:05	Plasma On	NAH	iTEVA Control Center	
	05/05/2020 13:46:13	Plasma off	NAH	iTEVA Control Center	
	05/05/2020 13:46:13	Plasma extinguished successfully	NAH	Analyst	
	05/06/2020 06:51:04	Plasma On	NAH	iTEVA Control Center	
	05/06/2020 06:51:09	Plasma ignition successful	NAH	Analyst	
	05/06/2020 06:51:56	D33534 - Debug:Wavelength check : x = 0.978, y =-0.714	NAH	Analyst	
	05/06/2020 08:06:52	Autosampler Run Started	NAH	Analyst	
	05/06/2020 08:06:52	Sequence Started	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:07:14	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:14:10	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:17:37	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:24:18	Sequence Started	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:24:18	Autosampler Run Started	NAH	Analyst	
	05/06/2020 08:24:35	Closing will close the method and all associated samples.	NAH	Analyst	
	05/06/2020 08:24:40	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:31:06	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:37:58	Running CalStd3=1 (3)	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:44:14	Running CalStd4=5 (4)	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:50:36	Running CalStd5=10 (5)	NAH	Analyst	S_DOD Calibration
	05/06/2020 08:56:59	Running CalStd6=20 (6)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:03:17	Running CalStd7=50 (7)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:09:32	Running CalStd8=100 (8)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:15:52	Running CalStd9=1000 (9)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:21:35	Running CalStd10=10000 (10)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:28:10	Running CalStd12=100K (11)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:34:52	Running CalStd13=100000 (12)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:41:12	Running CalStd14=500000 (13)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:48:20	Running CalibStd15=1000k (14)	NAH	Analyst	S_DOD Calibration
	05/06/2020 09:56:07	Running Ag Ba 1000, 50000 (15)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	05/06/2020 10:03:06	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:10:16	Running icv (16)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:16:57	Running icv (16)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:23:14	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:29:25	Running icb (17)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:34:43	Closing will close the method and all associated samples.	NAH	Analyst	
	05/06/2020 10:35:44	Running icb (17)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:42:03	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:48:18	Running ICSA (20)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:55:23	Running ICSAB (21)	NAH	Analyst	S_DOD Calibration
	05/06/2020 10:55:32	Closing will close the method and all associated samples.	NAH	Analyst	
	05/06/2020 11:02:07	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:08:23	Running ICVLL Ag (1)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:14:42	Running 412290 (2)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:16:48	Closing will close the method and all associated samples.	NAH	Analyst	
	05/06/2020 11:20:57	Running l412290 (3)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:27:12	Running dup412290 (4)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:33:27	Running msw412290 (5)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:39:53	Running lcss76267 (6)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:45:46	Running mbs76267 (7)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:52:05	Running 413625 (8)	NAH	Analyst	S_DOD Calibration
	05/06/2020 11:58:27	Running mss413625 (9)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:04:09	Running msds413625 (10)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:09:47	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:15:28	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:18:05	Closing will close the method and all associated samples.	NAH	Analyst	
	05/06/2020 12:21:19	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:27:40	Running pdss413625 (11)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:33:42	Running lcss76299 (12)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:35:39	Closing will close the method and all associated samples.	NAH	Analyst	
	05/06/2020 12:39:31	Running mbs76299 (13)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:45:50	Running 414665 (14)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:51:35	Running l414665 (15)	NAH	Analyst	S_DOD Calibration
	05/06/2020 12:58:04	Running dup414665 (16)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:03:55	Running mss414665 (17)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:09:47	Running pdss414665 (18)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:16:01	Running 414665 x10 (19)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:22:25	Running lcss76301 (20)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:28:39	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:34:21	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:40:12	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:46:33	Running mbs76301 (21)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:52:52	Running 414665 (22)	NAH	Analyst	S_DOD Calibration
	05/06/2020 13:54:03	Closing will close the method and all associated samples.	NAH	Analyst	
	05/06/2020 13:58:36	Running l414665 (23)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:04:49	Running dup414665 (24)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:10:36	Running mss414665 (25)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:16:20	Running pdss414665 (26)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:22:34	Running lcss76312 (141)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:28:29	Running mbs76312 (142)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:34:51	Running 414899 (143)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:41:34	Running l414899 (144)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	05/06/2020 14:47:43	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:53:23	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/06/2020 14:59:13	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:05:35	Running dup414899 (145)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:12:29	Running mss414899 (146)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:19:05	Running msds414899 (147)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:25:41	Running pdss414899 (148)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:32:31	Running 414919 (149)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:39:17	Running mbw76219 rr1 (150)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:45:37	Running 411497 (151)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:52:25	Running 411545 (152)	NAH	Analyst	S_DOD Calibration
	05/06/2020 15:59:14	Running 411570 (153)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:05:35	Running lcsw76269 (27)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:11:46	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:17:28	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:23:17	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:29:38	Running mbw76269 (28)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:35:58	Running 413792 (29)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:42:40	Running msw413792 (30)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:48:51	Running msdw413792 (31)	NAH	Analyst	S_DOD Calibration
	05/06/2020 16:55:01	Running pdsw413792 (32)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:01:15	Running 413793 (33)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:07:58	Running 413794 (34)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:14:43	Running 413795 (35)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:21:28	Running lcsw76265 (36)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:27:43	Running mbw76265 (37)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:34:02	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:39:43	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:45:32	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:51:52	Running 413561 (38)	NAH	Analyst	S_DOD Calibration
	05/06/2020 17:58:38	Running l413561 (39)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:05:16	Running dup413561 (40)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:12:03	Running msw413561 (41)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:18:11	Running msdw413561 (42)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:24:20	Running pdsw413561 (43)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:30:36	Running 413563 (44)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:37:24	Running 413565 (45)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:44:09	Running lcsw76264 (46)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:50:21	Running mbw76264 (47)	NAH	Analyst	S_DOD Calibration
	05/06/2020 18:56:40	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:02:22	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:08:12	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:14:32	Running 413562 (48)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:21:20	Running l413562 (49)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:27:58	Running dup413562 (50)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:34:46	Running msw413562 (51)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:40:56	Running msdw413562 (52)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:47:08	Running pdsw413562 (53)	NAH	Analyst	S_DOD Calibration
	05/06/2020 19:53:28	Running 413564 (54)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:00:14	Running 413566 (55)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:07:00	Running lcsw76289 (56)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:13:13	Running mbw76289 (57)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	05/06/2020 20:19:35	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:25:18	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:31:10	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:37:32	Running 413945 (58)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:44:16	Running 413947 (59)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:51:04	Running 413949 (60)	NAH	Analyst	S_DOD Calibration
	05/06/2020 20:57:39	Running 413951 (61)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:04:27	Running 413953 (62)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:11:13	Running l413953 (63)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:17:52	Running dup413953 (64)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:24:39	Running msw413953 (65)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:30:50	Running msdw413953 (66)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:37:02	Running pdsw413953 (67)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:43:24	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:49:08	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	05/06/2020 21:55:00	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:01:22	Running lcsw76291 (68)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:07:36	Running mbw76291 (69)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:13:56	Running 413944 (70)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:20:27	Running l413944 (71)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:26:58	Running dup413944 (72)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:33:30	Running msw413944 (73)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:39:30	Running msdw413944 (74)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:45:33	Running pdsw413944 (75)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:51:42	Running 413946 (76)	NAH	Analyst	S_DOD Calibration
	05/06/2020 22:58:28	Running 413948 (77)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:05:04	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:10:47	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:16:38	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:23:00	Running 413950 (78)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:29:44	Running 413952 (79)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:36:31	Running 413966 (80)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:42:52	Running lcsw76290 (81)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:49:05	Running mbw76290 (82)	NAH	Analyst	S_DOD Calibration
	05/06/2020 23:55:26	Running 413975 (83)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:01:45	Running l413975 (84)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:08:24	Running dup413975 (85)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:14:47	Running msw413975 (86)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:20:51	Running msdw413975 (87)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:26:56	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:32:39	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:38:31	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:44:53	Running pdsw413975 (88)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:51:11	Running lcsw76268 (89)	NAH	Analyst	S_DOD Calibration
	05/07/2020 00:57:25	Running mbw76268 (90)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:03:47	Running 413537 (91)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:10:30	Running msw413537 (92)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:17:03	Running msdw413537 (93)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:23:37	Running pdsw413537 (94)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:29:55	Running lcsw76297 (95)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:36:09	Running mbw76297 (96)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:42:30	Running 414728 (97)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	05/07/2020 01:49:34	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	05/07/2020 01:55:16	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:01:07	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:07:29	Running msw414728 (98)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:13:59	Running msdw414728 (99)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:20:30	Running pdsw414728 (100)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:26:48	Running 414729 (101)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:33:53	Running 414730 (102)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:40:58	Running 414731 (103)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:48:02	Running lcsw76298 (104)	NAH	Analyst	S_DOD Calibration
	05/07/2020 02:54:16	Running mbw76298 (105)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:00:36	Running 414691 (106)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:07:04	Running msw414691 (107)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:13:41	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:19:24	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:25:14	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:31:35	Running pdsw414691 (108)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:37:56	Running 414694 (109)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:44:26	Running 414695 (110)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:51:11	Running 414696 (111)	NAH	Analyst	S_DOD Calibration
	05/07/2020 03:57:55	Running 414697 (112)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:04:40	Running 414698 (113)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:11:27	Running 414699 (114)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:18:14	Running 414700 (115)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:25:00	Running 414701 (116)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:31:42	Running 413796 (117)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:38:13	Running ccv1 (31)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:43:57	Running ccv2 (29)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:49:50	Running ccb (30)	NAH	Analyst	S_DOD Calibration
	05/07/2020 04:56:13	Running msw413796 (118)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:02:35	Running msdw413796 (119)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:08:57	Running 413886 (120)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:15:41	Running 413887 (121)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:22:22	Running 413888 (122)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:28:54	Running 413889 (123)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:35:41	Running 413890 (124)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:42:39	Running 413891 (125)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:49:17	Running 413892 (126)	NAH	Analyst	S_DOD Calibration
	05/07/2020 05:56:09	Running 413893 (127)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:02:57	Running ccv1 (31)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:08:40	Running ccv2 (29)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:14:33	Running ccb (30)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:20:55	Running 413894 (128)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:27:42	Running 413895 (129)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:34:14	Running 413896 (130)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:40:35	Running 414669 (131)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:46:56	Running msw414669 (132)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:53:28	Running msdw414669 (133)	NAH	Analyst	S_DOD Calibration
	05/07/2020 06:59:58	Running 414688 (134)	NAH	Analyst	S_DOD Calibration
	05/07/2020 07:06:40	Running 414689 (135)	NAH	Analyst	S_DOD Calibration
	05/07/2020 07:13:27	Running 414690 (136)	NAH	Analyst	S_DOD Calibration
	05/07/2020 07:20:14	Running lcswtclp (137)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	05/12/2020 20:16:42	Running 416696 (40)	NAH	Analyst	S_DOD Calibration
	05/12/2020 20:23:03	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/12/2020 20:28:45	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/12/2020 20:34:34	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/12/2020 20:40:53	Running 416697 (41)	NAH	Analyst	S_DOD Calibration
	05/12/2020 20:47:17	Running 416698 (42)	NAH	Analyst	S_DOD Calibration
	05/12/2020 20:53:57	Running 416699 (43)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:00:39	Running 416700 (44)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:07:22	Running 416701 (45)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:13:45	Running 416702 (46)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:20:27	Running 416703 (47)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:27:03	Running 416704 (48)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:33:39	Running msw416704 (49)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:40:00	Running msdw416704 (50)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:46:21	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:52:03	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/12/2020 21:57:52	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:04:13	Running lcsw l2 (51)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:10:19	Running mbw l2 (52)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:16:40	Running 406789 (53)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:22:58	Running l406789 (54)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:29:19	Running dup406789 (55)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:35:36	Running msw406789 (56)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:41:59	Running 196127 (57)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:47:47	Running 336980 (58)	NAH	Analyst	S_DOD Calibration
	05/12/2020 22:54:06	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	05/12/2020 23:00:20	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/12/2020 23:06:01	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/12/2020 23:11:51	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/12/2020 23:18:12	Plasma extinguished successfully	NAH	Analyst	
	05/12/2020 23:18:12	Plasma off	NAH	iTEVA Control Center	
	05/12/2020 23:18:14	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	05/13/2020 06:45:56	Plasma On	NAH	iTEVA Control Center	
	05/13/2020 06:46:01	Plasma ignition successful	NAH	Analyst	
	05/13/2020 06:46:51	D33534 - Debug:Wavelength check : x = 0.834, y =-0.734	NAH	Analyst	
	05/13/2020 14:10:41	Plasma extinguished successfully	NAH	Analyst	
	05/13/2020 14:10:42	Plasma off	NAH	iTEVA Control Center	
	05/14/2020 07:12:01	Plasma On	NAH	iTEVA Control Center	
	05/14/2020 07:12:07	Plasma ignition successful	NAH	iTEVA Control Center	
	05/14/2020 07:12:54	D33534 - Debug:Wavelength check : x = 0.816, y =-0.693	NAH	iTEVA Control Center	
	05/14/2020 09:39:18	Autosampler Run Started	NAH	Analyst	
	05/14/2020 09:39:18	Sequence Started	NAH	Analyst	S_DOD Calibration
	05/14/2020 09:39:39	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	05/14/2020 09:45:02	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	05/14/2020 09:50:05	Autosampler Run Started	NAH	Analyst	
	05/14/2020 09:50:05	Sequence Started	NAH	Analyst	S_DOD Calibration
	05/14/2020 09:50:26	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	05/14/2020 09:56:51	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:03:40	Running CalStd3=1 (3)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:09:56	Running CalStd4=5 (4)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:16:19	Running CalStd5=10 (5)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:22:41	Running CalStd6=20 (6)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	05/14/2020 10:29:09	Running CalStd7=50 (7)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:35:25	Running CalStd8=100 (8)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:35:58	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 10:41:45	Running CalStd9=1000 (9)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:47:25	Running CalStd10=10000 (10)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:54:12	Running CalStd12=100K (11)	NAH	Analyst	S_DOD Calibration
	05/14/2020 10:58:49	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 11:01:05	Running CalStd13=100000 (12)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:07:31	Running CalStd14=500000 (13)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:14:36	Running CalibStd15=1000k (14)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:19:44	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 11:22:19	Running Ag Ba 1000, 50000 (15)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:31:18	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:37:39	Running icv (16)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:43:58	Running icv (16)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:50:17	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	05/14/2020 11:56:29	Running icb (17)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:02:50	Running icb (17)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:09:10	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:15:26	Running ICSA (20)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:22:28	Running ICSAB (21)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:29:09	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:35:28	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:41:48	Running lcss76381 (2)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:47:42	Running mbs76381 (3)	NAH	Analyst	S_DOD Calibration
	05/14/2020 12:53:43	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 12:53:47	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 12:54:01	Running 418048 (4)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:00:37	Running mss418048 (5)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:03:08	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 13:06:41	Running msds418048 (6)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:12:45	Running pdss418048 (7)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:19:10	Running lcsw76383 (8)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:25:25	Running mbw76383 (9)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:31:46	Running 417728 (10)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:38:37	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:44:22	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:50:13	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:56:34	Running l417728 (11)	NAH	Analyst	S_DOD Calibration
	05/14/2020 13:58:35	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 14:01:02	Starting time can not be greater than ending time.	NAH	Analyst	
	05/14/2020 14:04:13	Running dup417728 (12)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:11:44	Running msw417728 (13)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:13:15	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 14:18:10	Running msdw417728 (14)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:24:51	Running pdsw417728 (15)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:31:12	Running lcsw76372 (16)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:37:27	Running mbw76372 (17)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:43:48	Running 417558 (18)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:45:19	Closing will close the method and all associated samples.	NAH	Analyst	
	05/14/2020 14:50:27	Running msw417558 (19)	NAH	Analyst	S_DOD Calibration
	05/14/2020 14:57:05	Running msdw417558 (20)	NAH	Analyst	S_DOD Calibration

Type	Date/Time	Message	User name	Application	Sequence Name
	05/14/2020 15:03:12	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:08:55	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:14:48	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:21:08	Running pdsw417558 (21)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:27:31	Running lcsw76384 (22)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:33:46	Running mbw76384 (23)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:40:05	Running 417869 (24)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:46:31	Running msw417869 (25)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:52:50	Running msdw417869 (26)	NAH	Analyst	S_DOD Calibration
	05/14/2020 15:59:09	Running psdw417869 (27)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:05:36	Running 418025 (28)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:12:07	Running msw418025 (29)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:18:35	Running msdw418025 (30)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:25:02	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:30:45	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:36:37	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:42:58	Running 417982 (31)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:49:37	Running msw417982 (32)	NAH	Analyst	S_DOD Calibration
	05/14/2020 16:56:02	Running msdw417982 (33)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:02:28	Running 418012 (34)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:09:12	Running 418015 (35)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:15:57	Running 418427 (36)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:22:43	Running 418428 (37)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:29:27	Running 418432 (38)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:36:05	Running 418433 (39)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:42:41	Running 418434 (40)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:49:22	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/14/2020 17:55:05	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:00:56	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:07:17	Running 418435 (41)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:14:04	Running 418436 (42)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:20:50	Running 418437 (43)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:27:08	Running msw418437 (44)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:33:27	Running msdw418437 (45)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:39:51	Running msw413975 (46)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:45:54	Running msdw413975 (47)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:51:57	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	05/14/2020 18:58:11	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	05/14/2020 19:03:54	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	05/14/2020 19:09:46	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	05/14/2020 19:16:08	Plasma extinguished successfully	NAH	Analyst	
	05/14/2020 19:16:08	Plasma off	NAH	iTEVA Control Center	
	05/14/2020 19:16:10	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	05/15/2020 06:50:37	Plasma On	NAH	iTEVA Control Center	
	05/15/2020 06:50:42	Plasma ignition successful	NAH	Analyst	
	05/15/2020 06:51:29	D33534 - Debug:Wavelength check : x = 0.864, y =-0.699	NAH	Analyst	
	05/15/2020 09:30:31	iTEVA loaded	NAH	iTEVA Control Center	
	05/15/2020 09:30:50	Connected to instrument 20082101	NAH	iTEVA Control Center	
	05/15/2020 09:31:31	Plasma On	NAH	iTEVA Control Center	
	05/15/2020 09:45:42	Sequence Started	NAH	Analyst	S_DOD Calibration
	05/15/2020 09:45:42	Autosampler Run Started	NAH	Analyst	
	05/15/2020 09:46:02	Running Blank (1)	NAH	Analyst	S_DOD Calibration

Standard Log #:	M14291	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14292	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14293	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14294	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	05/13/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14295	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14288	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14289	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14290	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/12/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14287	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	05/08/2020	Expiration Date:	05/08/2021
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH WC07 and brought up to volume.		

Standard Log #:	M14282	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	06/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14283	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	06/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14284	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/06/2020	Expiration Date:	06/06/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14285	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	05/06/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14286	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/06/2020	Expiration Date:	06/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14279	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14280	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14281	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14277	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	05/05/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14278	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	05/05/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14276	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Sodium Chloride
Date Received:	05/01/2020	Lot #:	195918
Expiration Date (if any):		Catalog #:	S271-500

		Instrument:	CETAC
Standard Log #:	M14275	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/29/2020	Expiration Date:	04/30/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14271	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/27/2020	Expiration Date:	05/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14272	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/27/2020	Expiration Date:	05/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14273	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/28/2020	Expiration Date:	05/28/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14274	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/28/2020	Expiration Date:	05/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14268	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14269	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14270	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/27/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14266	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/22/2020	Expiration Date:	05/22/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13463 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14267	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/22/2020	Expiration Date:	05/22/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14262	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/21/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14263	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14264	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14265	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	04/22/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14259	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/21/2020	Expiration Date:	04/21/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M14260	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14261	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M14254	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	05/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14255	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	05/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14256	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/15/2020	Expiration Date:	05/15/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14257	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/15/2020	Expiration Date:	05/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14258	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	04/15/20220
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14251	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/14/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14252	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/14/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14253	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/14/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14250	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	04/14/2020	Expiration Date:	12/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	40	M13951	1000	2
Al	800	M13982	**10000**	4
As	40	M13863	1000	2
Ba	20	M14130	1000	1
Be	8	M14203	1000	0.4
Ca	1000	M13985	**10000**	5
Cd	10	M14201	1000	0.5
Co	20	M14204	1000	1
Cr	20	M14205	**10000**	0.1
Cu	20	M14199	**10000**	0.1
Fe	600	M14101	**10000**	3
Mg	1000	M14108	**10000**	5
Mn	20	M14200	**10000**	0.1
Mo	20	M14129	1000	1
Ni	20	M14196	1000	1
Pb	20	M14202	**10000**	0.1
Sb	40	M13950	1000	2
Se	40	M13948	1000	2
Tl	40	M14207	1000	2
V	20	M14198	1000	1
Zn	20	M14197	**10000**	0.1
Na	10000	M14103	**10000**	50
K	10000	M14104	**10000**	50
B	40	M13947	1000	2
Si	200	M14106	1000	10
S	2000	M14102	**10000**	10
Li	40	M14127	1000	2
Sr	20	M14007	1000	1
Sn	100	M14008	1000	5
Ti	20	M14009	1000	10

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14247	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14248	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14249	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M14246	Vendor:	Acros Organics
Analyst:	MDS	Chemical:	Potassium Persulfate
Date Received:	04/08/2020	Lot #:	A0412553
Expiration Date (if any):		Catalog #:	424185000

Standard Log #:	M14242	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14243	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14244	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/07/2020	Expiration Date:	05/07/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14245	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/07/2020	Expiration Date:	05/07/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14239	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/06/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14240	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/06/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14241	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/06/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14234	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/31/2020	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14235	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/31/2020	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14236	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	05/01/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14237	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	05/01/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14238	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	04/02/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14231	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/31/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14232	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/31/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14233	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/31/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

MRL BASE STD M14230 Analyst NAH

Prep Date 03/27/2020

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M14105	10000	2	07/2021
Ba	10	M14130	1000	0.5	07/2021
Be	4	M14203	1000	0.2	09/2021
Cd	5	M14201	1000	0.25	09/2021
Co	10	M14204	1000	0.5	09/2021
Cr	10	M14205	10000	0.05	09/2021
Cu	10	M14199	10000	0.05	09/2021
Mg	500	M14108	10000	2.5	07/2021
Mn	10	M14200	10000	0.05	09/2021
Mo	10	M14129	1000	0.5	07/2021
Ni	10	M14196	1000	0.5	09/2021
Pb	10	M14202	10000	0.05	09/2021
Sb	20	M13950	1000	1	02/2021
V	10	M14198	1000	0.5	09/2021
Zn	10	M14197	10000	0.05	09/2021
K	1000	M14104	10000	5	07/2021
Na	1000	M14103	10000	5	07/2021
As	20	M13863	1000	1	12/2020
Ca	500	M14107	10000	2.5	07/2021
Fe	300	M14101	10000	1.5	07/2021
Se	20	M13948	1000	1	02/2021
Tl	20	M14207	1000	1	09/2021
Si	100	M14106	1000	5	07/2021
B	20	M14131	1000	1	07/2021
Li	20	M14127	1000	1	07/2021
W	50	xxxxxxxd	1000	2.5	xxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	04/2021
Sn	50	M14008	1000	2.5	04/2021
S	300	M14102	10000	1.5	07/2021

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M14224	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	04/25/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14225	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	04/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14226	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	03/26/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

Standard ID#:	M14227	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	03/25/2020	Lot #:	R2-MEB691217
Expiration Date (if any):		Catalog #:	CTI-SPK-1

Standard ID#:	M14228	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	03/25/2020	Lot #:	R2-MEB691216
Expiration Date (if any):		Catalog #:	CTI-GFCAL-1

Standard ID#:	M14229	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal Standard 200 NTU
Date Received:	03/25/2020	Lot #:	A0038
Expiration Date (if any):	02/2022	Catalog #:	2660449

Standard Log #:	M14222	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/24/2020	Expiration Date:	04/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14223	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/24/2020	Expiration Date:	04/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14219	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14220	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14221	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14218	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/19/2020	Lot #:	54-035CR
Expiration Date (if any):	03/30/2021	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M14216	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	03/18/2020	Expiration Date:	03/19/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14217	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/18/2020	Expiration Date:	04/18/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

Standard Log #:	M14211	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14212	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14213	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

Standard ID#:	M14214	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/17/2020	Lot #:	54-027CR
Expiration Date (if any):	03/30/2021	Catalog #:	XSPIKE-1-250

Standard ID#:	M14215	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/17/2020	Lot #:	54-028CR
Expiration Date (if any):	03/30/2021	Catalog #:	XCTWI-5-500

		Instrument:	HydraII
Standard Log #:	M14208	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14209	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14210	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/17/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14201	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	03/11/2020	Lot #:	996631-64
Expiration Date (if any):	09/2021	Catalog #:	S4400-100081

Standard ID#:	M14202	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000
Date Received:	03/11/2020	Lot #:	168223-44
Expiration Date (if any):	09/2021	Catalog #:	4400-10M281

Standard ID#:	M14203	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	03/11/2020	Lot #:	998969-61
Expiration Date (if any):	09/2021	Catalog #:	S4400-100051

Standard ID#:	M14204	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	03/11/2020	Lot #:	1024904-44
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000131

Standard ID#:	M14205	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	03/11/2020	Lot #:	880115-56
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M121

Standard ID#:	M14206	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	03/11/2020	Lot #:	997484-19
Expiration Date (if any):	09/2021	Catalog #:	4400-10M671

Standard ID#:	M14207	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	03/11/2020	Lot #:	991734-85
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000581

Standard ID#:	M14195	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	03/09/2020	Lot #:	54-005CR
Expiration Date (if any):	3/30/2021	Catalog #:	XCTWI-4-500

Standard ID#:	M14196	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	03/11/2020	Lot #:	984273-111
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000361

Standard ID#:	M14197	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	03/11/2020	Lot #:	1025267-1
Expiration Date (if any):	09/2021	Catalog #:	4400-10M681

Standard ID#:	M14198	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	03/11/2020	Lot #:	990117-98
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000651

Standard ID#:	M14199	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	03/11/2020	Lot #:	982824-45
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M141

Standard ID#:	M14200	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	03/11/2020	Lot #:	985851-17
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M321

Standard ID#:	M14193	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	03/09/2020	Lot #:	189407
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M14194	Vendor:	Fisher
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	03/09/2020	Lot #:	193465
Expiration Date (if any):		Catalog #:	S271-500

		Instrument:	CETAC
Standard Log #:	M14189	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/10/2020	Expiration Date:	04/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M14190	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M14191	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M14192	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	HydraII
Standard Log #:	M14186	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14187	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14188	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14182	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/06/2020	Expiration Date:	04/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

Standard Log #:	M14183	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/06/2020	Expiration Date:	04/06/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

Standard Log #:	M14184	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14185	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14180	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/04/2020	Expiration Date:	04/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14181	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/04/2020	Expiration Date:	03/05/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14177	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/04/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14178	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/04/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14179	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/04/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14175	Vendor:	COLE-PARMER
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	03/02/2020	Lot #:	400168
Expiration Date (if any):		Catalog #:	FG77150MM

Standard Log #:	M14176	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/03/2020	Expiration Date:	03/03/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

		Instrument:	ICP 6500
Standard Log #:	M14172	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14173	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	02/25/2020	Expiration Date:	01/30/2021
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M14137 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14174	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.**
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14137, **15 mL** Fe (10,000 mg/L) M14004, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827, **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M14121, **2.5 mLs Na 10,000 ug/mL** M14103 ,**2.5 mLs k 10,000 ug/mL** M14126 **2.5 mLs S 10,000 ug/mL** M14102, **0.5 mls Si 1000 ug/mL** M13981 and brought up to volume with milli-Q .		

		Instrument:	ICP 6500
Standard Log #:	M14170	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14138, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14137, **0.5 mL** Mo (1000 mg/L) M14129, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M14008, **0.5 mL** Ti (1000 mg/L) M141009, **0.5 mL** W (1000 mg/L) Mxxxx, **0.5 mL** Si (1000 mg/L) M14106, **0.5 mL** S (10000 mg/L) M14102, **0.5 mL** K (10000 mg/L) M14126, and **0.5 mL** Na (10000 mg/L) M14103		

		Instrument:	ICP 6500
Standard Log #:	M14171	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M14168	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/24/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14169	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M14106 and 1 mL M13859 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M14104. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13615, **10 mL** of Zn (10,000 mg/L) M13610 and **10 mL** of Na (10,000 mg/L) M14103. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M14108, **10 mL** of Fe (10,000 mg/L) M14004, **10 mL** of Ca (10,000 mg/L) M14107 and **10 mL** Al (10,000 mg/L) M14105. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	HydraII
Standard Log #:	M14165	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14166	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14167	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14163	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	07/2021
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M14103 and **0.15 mL** K (10,000 µg/mL) M14109 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14164	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	02/21/2020	Expiration Date:	01/30/2021
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M14120, **2.5 mL** of K (10,000 mg/L) M14109, **2.5 mL** of Na (10,000 mg/L) M14103 and **7.5 mL** of Fe (10,000 mg/L) M14101 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M14159	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/20/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M14160	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	10/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13808 and K (1000 µg/mL) M13809 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14161	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	10/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13808 and **0.5 mL** K (1000 µg/mL) M13809 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14162	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	02/21/2020	Expiration Date:	07/2021
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M14109 and Na (10,000 mg/L) M14103 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6500
Standard Log #:	M14156	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	02/19/2020	Expiration Date:	01/30/21
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14138, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14120, **0.5 mL** Mo (1000 mg/L) M14129, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M141008, **0.5 mL** Ti (1000 mg/L) M14009, **0.5 mL** W (1000 mg/L) Mxxxxxxx, **0.5 mL** Si (1000 mg/L) M13981, **0.5 mL** S (10000 mg/L) M14102, **0.5 mL** K (10000 mg/L) M14109, and **0.5 mL** Na (10000 mg/L) M14103		

Standard ID#:	M14157	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	02/19/2020	Lot #:	J347-07
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14158	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	02/19/2020	Lot #:	J347-07
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14148	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/13/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

Standard Log #:	M14152	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14153	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14154	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14155	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14149	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14150	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14151	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/17/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M14145	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14146	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14147	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/11/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14144	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/06/2020	Expiration Date:	03/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14142	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	07/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14143	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	02/06/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14139	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14140	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14141	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14137	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	53-196CR
Expiration Date (if any):	01/30/2021	Catalog #:	XCTIWI-1-500

Standard ID#:	M14138	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	XSPIKE-1-250
Expiration Date (if any):	01/30/2021	Catalog #:	53-197CR

		Instrument:	CETAC
Standard Log #:	M14136	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/30/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14132	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14133	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14134	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/29/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14135	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/29/2020	Expiration Date:	01/30/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

Standard ID#:	M14125	Vendor:	CPI International
Analyst:	MDS	Chemical:	Mercury 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1009904-41
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000331

Standard ID#:	M14126	Vendor:	CPI International
Analyst:	MDS	Chemical:	Potassium 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	980507-31
Expiration Date (if any):	07/20/2021	Catalog #:	4400-10M411

Standard ID#:	M14127	Vendor:	CPI International
Analyst:	MDS	Chemical:	Lithium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1017511-7
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000291

Standard ID#:	M14128	Vendor:	CPI International
Analyst:	MDS	Chemical:	Phosphorus 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	979480-24
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-10M391

Standard ID#:	M14129	Vendor:	CPI International
Analyst:	MDS	Chemical:	Molybdenum 1000 µg/mL
Date Received:	01/24/2020	Lot #:	987189-55
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000343

Standard ID#:	M14130	Vendor:	CPI International
Analyst:	MDS	Chemical:	Barium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	994634-53
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100041

Standard ID#:	M14131	Vendor:	CPI International
Analyst:	MDS	Chemical:	Boron 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1024903-6
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100074

		Instrument:	HydraII
Standard Log #:	M14122	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14123	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14124	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/23/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14119	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Hg 1000 ug/mL
Date Received:	01/21/2020	Lot #:	CL11-96HGY
Expiration Date (if any):	01/30/2021	Catalog #:	CLHG4-2Y

Standard ID#:	M14120	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	01/21/2020	Lot #:	2-96JX
Expiration Date (if any):	01/30/2021	Catalog #:	INT-A1

Standard ID#:	M14121	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	01/21/2020	Lot #:	1-008DMP
Expiration Date (if any):	01/21/2021	Catalog #:	XCTWI-5-500

		Instrument:	CETAC
Standard Log #:	M14117	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/17/2020	Expiration Date:	02/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14118	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/17/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13951	1000	0.01
As	2	M13863	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13950	1000	0.1
Se	2	M13948	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	HydraII
Standard Log #:	M14114	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14115	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14116	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/16/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14111	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14112	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14113	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M14106	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	01/13/2020	Lot #:	175213-60
Expiration Date (if any):	07/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14107	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 ug/mL
Date Received:	01/13/2020	Lot #:	855297-68
Expiration Date (if any):	07/2021	Catalog #:	4400-10M91

Standard ID#:	M14108	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 ug/mL
Date Received:	01/13/2020	Lot #:	1013353-36
Expiration Date (if any):	07/2021	Catalog #:	4400-10M311

Standard ID#:	M14109	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000ug/mL
Date Received:	01/13/2020	Lot #:	980507-79
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard Log #:	M14110	Reagent:	TCLP EXTRACTION FLUID #2
Analyst:	BMM	pH:	2.88 ± 0.05
Prep Date:	01/14/2020	Expiration Date:	01/14/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 . Dilute to 20 L and mix.		

Standard ID#:	M14100	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	01/10/2020	Lot #:	1905324-500
Expiration Date (if any):	07/31/2021	Catalog #:	HP10M67-1-500

Standard ID#:	M14101	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 ug/mL
Date Received:	01/13/2020	Lot #:	998527-45
Expiration Date (if any):	07/2021	Catalog #:	4400-10M261

Standard ID#:	M14102	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/13/2020	Lot #:	9987745-28
Expiration Date (if any):	07/2021	Catalog #:	4400-10M544

Standard ID#:	M14103	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	752887-79
Expiration Date (if any):	01/2021	Catalog #:	4400-40M521

Standard ID#:	M14104	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	980507-31
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard ID#:	M14105	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 ug/mL
Date Received:	01/13/2020	Lot #:	992536-34
Expiration Date (if any):	07/2021	Catalog #:	4400-10M11

Standard Log #:	M14099revised below	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14099	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13862	**10000**	2.5
K	500	M14003	**10000**	2.5
B	20	M13947	1000	1
Si	100	M13981	1000	5
S	200	M13696	**10000**	1
Li	20	M13577	1000	1
Sr	20	M14007	1000	1
Sn	20	M14008	1000	1
Ti	20	M14009	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14097	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/09/2020	Expiration Date:	02/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14098	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	01/09/2020	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13696	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14096	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/08/2020	Expiration Date:	01/09/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14093	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14094	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14095	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/08/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14092	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/26/2019	Expiration Date:	01/26/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14088	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/20/2019	Expiration Date:	01/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14089	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14090	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14091	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14086	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/19/2019	Expiration Date:	12/20/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14087	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/24/2019	Expiration Date:	12/25/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14083	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14084	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14085	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14082	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Acid Washed TCLP Filters
Date Received:	12/11/2019	Lot #:	400168-9329-CM
Expiration Date (if any):		Catalog #:	FG77150MM

Standard ID#:	M14079	Vendor:	Thermofisher Scientific
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	12/12/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard ID#:	M14080	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14081	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M14078A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	02/21

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13947	1000	0.8
Si	200	M13810	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14078b Combined with	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	03/201

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13604	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14077	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	12/11/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13851	1000	0.2
Al	36	M13982	**10000**	0.18
As	24	M13863	1000	1.2
Ba	1.8	M13949	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13841	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13983	**10000**	0.5
Mg	40	M13752	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13860	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13950	1000	0.6
Se	13	M13948	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14076	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	12/10/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13951	1000	0.2
Al	9.6	M13982	**10000**	0.048
As	32	M13863	1000	1.6
Ba	2	M13949	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13841	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13983	**10000**	0.36
Mg	32	M13752	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13860	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13950	1000	1.6
Se	16	M13948	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14074	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	12/10/2019	Expiration Date:	02/2021
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13951 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M14075	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/10/2019	Expiration Date:	12/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	GFAA
Standard Log #:	M14072	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13950 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13948 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M14073	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13950 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13948 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M14071	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	12/10/2019	Expiration Date:	02/2020

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13948	10,000
Sb	1	1000	M13950	10,000
Ag	0.1	1000	M13951	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

		Instrument:	HydraII
Standard Log #:	M14068	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14069	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	12/10/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M14070	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/10/2019	Expiration Date:	01/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14065	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/05/2019	Expiration Date:	01/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14066	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/06/2019	Expiration Date:	01/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14067	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M14063	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14064	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/04/2019	Expiration Date:	12/05/2019
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14061	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/02/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14062	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	12/02/2019	Lot #:	400168-9305-CM
Expiration Date (if any):		Catalog #:	

		Instrument:	CETAC
Standard Log #:	M14058	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/20/2019	Expiration Date:	12/20/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14059	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14060	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M14056	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard Log #:	M14057	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard ID#:	M14054	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-042CR
Expiration Date (if any):	11/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M14055	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-041CR
Expiration Date (if any):	11/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M14051	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14052	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14053	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M14048	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14049	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/19/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14050	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/19/2019	Expiration Date:	11/20/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14045	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/11/2019	Expiration Date:	05/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14046	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/13/19	Expiration Date:	05/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14047	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

Standard Log #:	M14044	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/13/2019	Expiration Date:	11/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M14041	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/09/2019	Expiration Date:	11/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14042	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	11/13/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14043	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	04/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14038	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14039	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14040	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14035	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M14008 Sr (1000 µg/mL) M14007 Ti (1000 µg/mL) M14009 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M14036	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/04/2019	Expiration Date:	02/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXX	1000	5	XX/XXXX
Ti	10/30	M14009	1000	0.5	04/2021
Sr	10/30	M14007	1000	0.5	04/2021
Sn	20/60	M14008	1000	1	04/2021

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M14037	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/04/2019	Expiration Date:	05/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M14033	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/04/2019	Expiration Date:	05/30/2020
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M14034	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/28/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M14008, **0.1 mL** of Sr (1000 µg/mL) M14007, **0.1 mL** of Ti (1000 µg/mL) M14009, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	CETAC
Standard Log #:	M14032	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/31/2019	Expiration Date:	10/31/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M14028	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	10/2020
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13947 and Si (1000 mg/L) M13810 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14029	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/30/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738 , **0.05 mL** of B (1000 µg/mL) M13947 , **0.05 mL** of Si (1000 µg/mL) M13810 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M14030	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13839 and **1.0 mL** Si (1000 mg/L) M13981 and brought up to volume using milli-Q H_2O.		

Standard ID#:	M14031	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Acid Washed TCLP filters
Date Received:	10/31/2019	Lot #:	400165
Expiration Date (if any):		Catalog #:	FG77150MM

		Instrument:	HydraII
Standard Log #:	M14024	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14025	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14026	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/29/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14027	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/30/2019	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

MRL BASE STD M14024 Analyst NAH

Prep Date 10/30/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M13690	10000	2	06/2020
Ba	10	M13949	1000	0.5	02/2021
Be	4	M13579	1000	0.2	02/2020
Cd	5	M13570	1000	0.25	01/2020
Co	10	M13575	1000	0.5	01/2020
Cr	10	M13617	10000	0.05	03/2020
Cu	10	M13618	10000	0.05	03/2020
Mg	500	M13752	10000	2.5	09/2020
Mn	10	M13616	10000	0.05	03/2020
Mo	10	M13860	1000	0.5	12/2020
Ni	10	M13569	1000	0.5	01/2020
Pb	10	M13615	10000	0.05	03/2020
Sb	20	M13950	1000	1	02/2021
V	10	M13578	1000	0.5	02/2020
Zn	10	M13610	10000	0.05	03/2020
K	1000	M14003	10000	5	04/2021
Na	1000	M13862	10000	5	12/2020
As	20	M13763	1000	1	12/2020
Ca	500	M13985	10000	2.5	04/2021
Fe	300	M13751	10000	1.5	09/2020
Se	20	M13948	1000	1	02/2021
Tl	20	M13583	1000	1	02/2020
Si	100	M13810	1000	5	10/2020
B	20	M13947	1000	1	02/2021
Li	20	M13577	1000	1	02/2020
W	50	Mxxxxxx	1000	2.5	xxxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	03/2020
Sn	50	M14008	1000	2.5	04/2021
S	300	M13604	10000	1.5	03/2020

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14022	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14023	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	10/30/2019	Expiration Date:	02/2020
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13738 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

Standard Log #:	M14020	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14021	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

Standard ID#:	M14016	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14017	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14018	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	10/24/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14019	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14012	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14013	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14014	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/21/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14015	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/22/2019	Expiration Date:	09/30/2020
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13954 and **10 mL** Mg (10,000 mg/L) M13752 and brought up to volume.		

Standard Log #:	M14010	Reagent:	SPLP ACID MIX
Analyst:	BMM		60/40 H_2SO_4 - HNO_3
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 200 mL volumetric flask, partially filled with DI H_2O, add **12 g** H_2SO_4 AB.674 and **8 g** HNO_3 AB.677 and bring up to volume using DI H_2O.		

Standard Log #:	M14011	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 HNO_3 - H_2SO_4 M14010.		

Standard ID#:	M14005	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/17/2019	Lot #:	168189-30
Expiration Date (if any):	04/2021	Catalog #:	4400-110M671

Standard ID#:	M14006	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	10/17/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14007	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	10/17/2019	Lot #:	168227-95
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000531

Standard ID#:	M14008	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	10/17/2019	Lot #:	977645-2
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000613

Standard ID#:	M14009	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	10/17/2019	Lot #:	987438-36
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000623

		Instrument:	CETAC
Standard Log #:	M14000	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/16/2019	Expiration Date:	04/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M14001	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	10/17/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard Log #:	M14002	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	10/17/2019	Expiration Date:	10/17/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W47366 and brought up to volume.		

Standard ID#:	M14003	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/17/2019	Lot #:	980507-31
Expiration Date (if any):	04/2021	Catalog #:	4400-10M411

Standard ID#:	M14004	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/17/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13997	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13998	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13999	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M13993	Vendor:	Thermo fisher Scientific
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	10/15/2019	Lot #:	193463
Expiration Date (if any):	06/2024	Catalog #:	S271-500

Standard ID#:	M13994	Vendor:	Thermo Fisher Scientific
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	10/15/2019	Lot #:	189407
Expiration Date (if any):	05/2024	Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13995	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/15/2019	Expiration Date:	10/16/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13996	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/16/2019	Expiration Date:	10/16/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13992	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/15/2019	Expiration Date:	01/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M13989	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	06/2020
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13696 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13990	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13991	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/14/2019	Expiration Date:	12/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13861 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	HydraII
Standard Log #:	M13986	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13987	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13988	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13982	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10000 mg/L
Date Received:	10/09/2019	Lot #:	992536-16
Expiration Date (if any):	04/2021	Catalog #:	4400-10M11

Standard ID#:	M13983	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/09/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

Standard ID#:	M13984	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	10/09/2019	Lot #:	1013353-4
Expiration Date (if any):	04/2021	Catalog #:	4400-10M311

Standard ID#:	M13985	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/09/2019	Lot #:	855297-68
Expiration Date (if any):	04/2021	Catalog #:	4400-10M91

		Instrument:	CETAC
Standard Log #:	M13978	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/08/2019	Expiration Date:	04/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13979	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/09/2019	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M13980	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	10/08/2019	Lot #:	52-248CR
Expiration Date (if any):	10/30/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13981	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/l
Date Received:	10/09/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

		Instrument:	HydraII
Standard Log #:	M13976	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13975 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13977	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/07/2019	Expiration Date:	10/07/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13973	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13974	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13975	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13970	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13971	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13972	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13969	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	10/02/2019	Expiration Date:	10/02/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13967	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13966 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13968	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/01/2019	Expiration Date:	10/01/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13964	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13965	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13966	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13963	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/30/2019	Expiration Date:	09/30/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13961	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	09/24/2019	Lot #:	7-093AB
Expiration Date (if any):	09/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M13962	Reagent:	Stannous Chloride Solution
Analyst:	NAH		
Prep Date:	09/25/2019	Expiration Date:	09/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13960	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/19/2019	Expiration Date:	03/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.678 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M13958	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M13959	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13958 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13955	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/17/2019	Expiration Date:	09/17/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13956	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13957	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M13952	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13953	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13954	Vendor:	Environmental Expresss
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/13/2019	Lot #:	1925215
Expiration Date (if any):	09/30/2020	Catalog #:	HP1900-100

		Instrument:	CETAC
Standard Log #:	M13946	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/10/2019	Expiration Date:	03/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13947	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 mg/lL
Date Received:	09/10/2019	Lot #:	982524-80
Expiration Date (if any):	02/2021	Catalog #:	S4400-100074

Standard ID#:	M13948	Vendor:	CPI
Analyst:	NAH	Chemical:	Selenium 1000 mg/L
Date Received:	09/10/2019	Lot #:	982461-61
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000491

Standard ID#:	M13949	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	09/10/2019	Lot #:	994634-28
Expiration Date (if any):	02/2021	Catalog #:	S4400-100041

Standard ID#:	M13950	Vendor:	CPI
Analyst:	NAH	Chemical:	Antimony 1000 mg/L
Date Received:	09/10/2019	Lot #:	1013797-3
Expiration Date (if any):	02/2019	Catalog #:	S4400-100023

Standard ID#:	M13951	Vendor:	CPI
Analyst:	NAH	Chemical:	Silver 1000 mg/L
Date Received:	09/10/2019	Lot #:	975475-71
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000511

		Instrument:	HydraII
Standard Log #:	M13944	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13943 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13945	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/09/2019	Expiration Date:	09/09/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13941	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13942	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13943	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13938	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13939	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13940	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13937	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **2.5 mL** of K (10,000 mg/L) M13755, **2.5 mL** of Na (10,000 mg/L) M13691 and **7.5 mL** of Fe (10,000 mg/L) M13695 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13933	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13934	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13935	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13755 and Na (10,000 mg/L) M13691 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13936	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13691 and **0.15 mL** K (10,000 µg/mL) M13755 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M13929	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13928 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13930	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/03/2019	Expiration Date:	10/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard Log #:	M13931	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13932	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M13926	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13927	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13928	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13924	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	08/29/2019	Lot #:	1833905
Expiration Date (if any):	02/28/2021	Catalog #:	HP10M67-1

		Instrument:	HydraII
Standard Log #:	M13920	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13919 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13921	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/28/2019	Expiration Date:	09/28/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13922	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13923	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	HydraII
Standard Log #:	M13917	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13918	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13919	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13916	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13914	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13915	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M13913 (A)	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	12/19/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13861	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13913 combined with A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	06/20/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13696	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13911	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13912	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/21/2019	Expiration Date:	08/21/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13909	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13908 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13910	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/20/2019	Expiration Date:	08/20/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13906	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13907	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13908	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13904	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13905	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13902	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/15/2019	Expiration Date:	02/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13903	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/15/2019	Lot #:	52-161Cr
Expiration Date (if any):	8/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13898	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/13/2019	Expiration Date:	08/13/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13899	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13900	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13901	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/13/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13897	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	08/12/2019	Expiration Date:	10/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

Standard Log #:	M13896	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	08/09/2019	Expiration Date:	08/09/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13895	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/06/2019	Expiration Date:	02/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13894	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13893 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13891	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13892	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13893	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13890	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/29/2019	Expiration Date:	01/29/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13888	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13889	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M13884	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	07/22/2019	Expiration Date:	
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13885	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13886	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13887	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13883	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13879	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13880	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13881	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13882	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13881 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13876	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13877	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard Log #:	M13878	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M45383. Dilute to 20 L and mix.		

Standard Log #:	M13873	Reagent:	Potassium Permanganate Solution
Analyst:	NAH		
Prep Date:	07/17/2019	Expiration Date:	07/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13874	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	07/17/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard Log #:	M13875	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	NAH		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13872	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/12/2019	Expiration Date:	07/12/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13871	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/11/2019	Expiration Date:	07/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13870	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/10/2019	Expiration Date:	07/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13869	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/08/2019	Expiration Date:	07/08/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13868	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13864	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	07/02/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13865	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard Log #:	M13866	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13867	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13858	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/26/2019	Expiration Date:	06/26/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13859	Vendor:	CPI
Analyst:	NAH	Chemical:	Ce 1000 mg/L
Date Received:	06-26-2019	Lot #:	171633-12
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000101

Standard ID#:	M13860	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06-26-2019	Lot #:	987189-17
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000343

Standard ID#:	M13861	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06-26-2019	Lot #:	175213-60
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13862	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	06-26-2019	Lot #:	752887-32
Expiration Date (if any):	12/2020	Catalog #:	4400-10M521

Standard ID#:	M13863	Vendor:	CPI
Analyst:	NAH	Chemical:	As 1000 mg/L
Date Received:	06-26-2019	Lot #:	175385-105
Expiration Date (if any):	12/2020	Catalog #:	S4400-100031

Standard Log #:	M13856	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13857	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13855	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/19/2019	Expiration Date:	06/19/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13851	Vendor:	CPI
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06-19-2019	Lot #:	52-082CR
Expiration Date (if any):	06/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M13852	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13853	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13854	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	CETAC
Standard Log #:	M13850	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/14/2019	Expiration Date:	06/14/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13849	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	06/13/2019	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13458	1000	0.01
As	2	M13392	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13459	1000	0.1
Se	2	M13460	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13848	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13611	**10000**	0.18
As	24	M13753	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13692	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13697	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13609	**10000**	0.5
Mg	40	M13694	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13697	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13847	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13611	**10000**	0.048
As	32	M13753	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13692	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13697	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13609	**10000**	0.36
Mg	32	M13694	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13697	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13845	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M13811	10000	2.5
Na	600	M13691	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13846	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M13811	10000	13.2
Na	960	M13691	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13839	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	52-038CR
Expiration Date (if any):	05/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13840	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	5-244AB
Expiration Date (if any):	06/30/2020	Catalog #:	XCTWWI-1-500

Standard ID#:	M13841	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/11/2019	Lot #:	855297-41
Expiration Date (if any):	11/2020	Catalog #:	4400-10M91

Standard ID#:	M13842	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/11/2019	Lot #:	169484-36
Expiration Date (if any):	11/2020	Catalog #:	4400-10M11

Standard ID#:	M13843	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/11/2019	Lot #:	168189-30
Expiration Date (if any):	11/20	Catalog #:	4400-10M671

Standard ID#:	M13844	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06/11/2019	Lot #:	175213-60
Expiration Date (if any):	11/2020	Catalog #:	S4400-1000504F

		Instrument:	GFAA
Standard Log #:	M13838	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	06/07/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13836	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13837	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13835	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/06/2019	Expiration Date:	06/06/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13832	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13833	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13834	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13738, **15 mL** Fe (10,000 mg/L) M13751, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13830	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/03/2019	Expiration Date:	12/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13831	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M13810 and 1 mL M13703 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13811. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13610, **10 mL** of Zn (10,000 mg/L) M13615 and **10 mL** of Na (10,000 mg/L) M13691. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13752, **10 mL** of Fe (10,000 mg/L) M13751, **10 mL** of Ca (10,000 mg/L) M13690 and **10 mL** Al (10,000 mg/L) M13693. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	CETAC
Standard Log #:	M13829	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/31/2019	Expiration Date:	05/31/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13828	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/30/2019	Expiration Date:	05/30/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13827	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-29-2019	Lot #:	XCTWI-4-500
Expiration Date (if any):	5/30/2020	Catalog #:	5-116AB

		Instrument:	CETAC
Standard Log #:	M13823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13824	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13825	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13826	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13818	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	05/22/2019	Expiration Date:	05/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.676 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13819	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/22/2019	Expiration Date:	05/22/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13817	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/16/2019	Expiration Date:	05/16/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13813	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	05/14/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13694 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13814	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13815	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13816	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13812	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/13/2019	Expiration Date:	11/13/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13808	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	158237-121
Expiration Date (if any):	10/20	Catalog #:	4400-1000521-500

Standard ID#:	M13809	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	832313-110
Expiration Date (if any):	10/20	Catalog #:	4400-1000411-500

Standard ID#:	M13810	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	05-09-2019	Lot #:	175213-60
Expiration Date (if any):	10/20	Catalog #:	S400-1000504F

Standard ID#:	M13811	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	980507-14
Expiration Date (if any):	10/20	Catalog #:	4400-10M411-500

		Instrument:	CETAC
Standard Log #:	M13805	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/07/2019	Expiration Date:	05/07/2019
Prep:	Carefully mixed **3** parts HCl AB.677 with **1** part HNO_3 AB.676 in a hood.		

Standard Log #:	M13806	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13807	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

MRL BASE STD M13804 Analyst NAH

Prep Date 05/07/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/19
Al	400	M13611	10000	2	3/20
Ba	10	M13457	1000	0.5	10/19
Be	4	M13579	1000	0.2	2/20
Cd	5	M13570	1000	0.25	1/20
Co	10	M13575	1000	0.5	1/20
Cr	10	M13617	10000	0.05	3/20
Cu	10	M13618	10000	0.05	3/20
Mg	500	M13694	10000	2.5	6/20
Mn	10	M13616	10000	0.05	3/20
Mo	10	M13697	1000	0.5	6/20
Ni	10	M13569	1000	0.5	1/20
Pb	10	M13615	10000	0.05	3/20
Sb	20	M13579	1000	1	10/19
V	10	M13578	1000	0.5	2/20
Zn	10	M13610	10000	0.05	3/20
K	1000	M13755	10000	5	9/20
Na	1000	M13691	10000	5	6/20
As	20	M13753	1000	1	10000 std 0.1, 9/20
Ca	500	M13692	10000	2.5	6/20
Fe	300	M13695	10000	1.5	6/20
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	2/20
Si	100	M13754	1000	5	9/20
B	20	M13531	1000	1	12/19
Li	20	M13577	1000	1	2/20
W	50	xxxx	1000	2.5	xxxx
Ti	10	M13573	1000	0.5	1/20
Sr	10	M13580	1000	0.5	2/20
Sn	50	M13572	1000	2.5	1/20
S	300	M13604	10000	1.5	3/20

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/19

		Instrument:	CETAC
Standard Log #:	M13800	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/06/2019	Expiration Date:	11/06/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13801	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	12/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13531 and Si (1000 mg/L) M13731 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13802	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **1.0 mL** Si (1000 mg/L) M13754 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13803	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	05/06/2019	Expiration Date:	09/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13731 and **3 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13798	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M13799	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	05/03/2019	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXXX	1000	5	XX/XXXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M13795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/03/2019	Expiration Date:	05/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP
Standard Log #:	M13796	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	05/03/2019	Expiration Date:	02/28/2020
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13797	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	09/30/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard Log #:	M13793	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13793 and brought up to volume.		

Standard Log #:	M13794	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard ID#:	M13790	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	04/29/2019	Lot #:	1833905
Expiration Date (if any):	10/31/2020	Catalog #:	HP10M67-1

Standard ID#:	M13791	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	04/29/2019	Lot #:	51-239CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13792	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/29/2019	Expiration Date:	04/29/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13785	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678822
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-SPK-1

Standard ID#:	M13786	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678821
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-GFCAL-1

		Instrument:	GFAA
Standard Log #:	M13787	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13788	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13789	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

Standard Log #:	M13782	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/18/2019	Expiration Date:	04/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard ID#:	M13783	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	GFAA 1% Nickel Nitrate Matrix Mod.
Date Received:	04/18/2019	Lot #:	9166009
Expiration Date (if any):	09/30/2020	Catalog #:	39043

Standard Log #:	M13784	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/18/2019	Expiration Date:	10/18/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13780	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	10/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13781	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	04/17/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13779	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/12/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13778	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	04/11/2019	Expiration Date:	04/11/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13777	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/09/2019	Expiration Date:	04/09/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

Standard Log #:	M13775	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/02/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13776	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/03/2019	Expiration Date:	04/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13771	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13772	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13773	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13774	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	03/26/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13770	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/25/2019	Expiration Date:	03/25/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13768	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	03/21/2019	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13769	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	03/21/2019	Expiration Date:	09/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13765	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/21/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13766	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13767	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13763	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13764	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13761	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	03/19/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13762	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	09/19/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13758	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	03/13/2019	Expiration Date:	01/2020
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13759	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	03/13/2019	Expiration Date:	10/2019
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13760	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	03/13/2019	Expiration Date:	09/2019
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13756	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	03/13/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13757	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	03/13/2019	Expiration Date:	01/20
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q H_2O.		

Standard ID#:	M13751	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	03/12/2019	Lot #:	998527-19
Expiration Date (if any):	09/2020	Catalog #:	4400-10M261

Standard ID#:	M13752	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	03/12/2019	Lot #:	982185-12
Expiration Date (if any):	09/2020	Catalog #:	4400-10M311

Standard ID#:	M13753	Vendor:	CPI
Analyst:	NAH	Chemical:	As 10000 mg/L
Date Received:	03/12/2019	Lot #:	166531-32
Expiration Date (if any):	09/2020	Catalog #:	S4400--10M31

Standard ID#:	M13754	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	03/12/2019	Lot #:	175213-60
Expiration Date (if any):	09/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13755	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	03/12/2019	Lot #:	172053-77
Expiration Date (if any):	09/2020	Catalog #:	4400-10M411

		Instrument:	CETAC
Standard Log #:	M13749	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/08/2019	Expiration Date:	03/08/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13750	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	03/08/2019	Expiration Date:	03/08/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard ID#:	M13748	Vendor:	Potters Ind. LLC (Gainger)
Analyst:	NAH	Chemical:	Glass beads Extra Fine
Date Received:	03/07/2019	Lot #:	
Expiration Date (if any):	XXXXXX	Catalog #:	6ZC13

		Instrument:	ICP
Standard Log #:	M13746	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Standard Conc. (ug/L)	Pipette the following:
1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*
10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*
100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*
1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*
10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13747	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q H_2O.
(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M13743	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	02/26/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13458	1000	0.25
Al	10	M13611	**10000**	0.05
As	20	M13392	1000	1
Ba	2	M13457	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13692	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13609	**10000**	0.2
Mg	25	M13694	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13697	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13459	1000	1
Se	20	M13460	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13605	**10000**	2.5
K	500	M13733	**10000**	2.5
B	20	M13531	1000	1
Si	100	M13731	1000	5
S	200	M13604	**10000**	1
Li	20	M13537	1000	1
Sr	20	M13572	1000	1
Sn	20	M13580	1000	1
Ti	20	M13573	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	ICP 6000
Standard Log #:	M13740	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/26/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13741	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02-26-2019	Lot #:	3-153AB
Expiration Date (if any):	02/28/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13742	Vendor:	IKOHE Blasting Media
Analyst:	NAH	Chemical:	Glass Neads X-fine-20u
Date Received:	02/26/2019	Lot #:	52-144
Expiration Date (if any):	*********	Catalog #:	UL-49/52-1544

		Instrument:	CETAC
Standard Log #:	M13739	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/22/2019	Expiration Date:	02/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13734	Vendor:	SPEX CERTIPREP
Analyst:	LJF	Chemical:	HG 1000 ug/mL
Date Received:	02/21/2019	Lot #:	CL10-136HGY
Expiration Date (if any):	02/28/2020	Catalog #:	CLHG4-2Y

Standard Log #:	M13735	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13737	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	51-117CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13738	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	2-230SGX
Expiration Date (if any):	02/28/2020	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13730	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/14/2019	Expiration Date:	02/14/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13731	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	02/14/2019	Lot #:	175213-60
Expiration Date (if any):	08/20	Catalog #:	S4400-1000504F

Standard ID#:	M13732	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	139448-54
Expiration Date (if any):	08/20	Catalog #:	4400-10M671

Standard ID#:	M13733	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	172053-36
Expiration Date (if any):	08/20	Catalog #:	4400-10M411

Standard ID#:	M13727	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	02/08/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13728	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	02/08/2019	Lot #:	186819
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M13729	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/11/2019	Expiration Date:	08/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13724	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13725	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/07/2019	Expiration Date:	08/07/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13721	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	02/05/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13722	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13723	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13720	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/31/2019	Expiration Date:	01/31/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13716	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13717	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13718	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13719	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	01/30/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13713	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	01/29/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard ID#:	M13714	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	01/29/2019	Lot #:	A0391673
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13715	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	1/29/2019	Lot #:	51-013CR
Expiration Date (if any):	01/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	GFAA
Standard Log #:	M13711	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13712	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13710	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/22/2019	Expiration Date:	01/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13709	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13705	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13706	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13707	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13708	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13703	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13704	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13701	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	12/13/2018	Expiration Date:	06/13/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

Standard ID#:	M13696	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	12/11/2018	Lot #:	167967-42
Expiration Date (if any):	06/20	Catalog #:	4400-10M544

Standard ID#:	M13697	Vendor:	CPI
Analyst:	NAH	Chemical:	Moybdenum 1000 mg/L
Date Received:	12/11/2018	Lot #:	169424-59
Expiration Date (if any):	06/20	Catalog #:	4400-1000343

Standard ID#:	M13698	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/L
Date Received:	12/11/2018	Lot #:	175213-60
Expiration Date (if any):	06/20	Catalog #:	S4400-10005044F

Standard ID#:	M13699	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/11/2018	Lot #:	50-120CR
Expiration Date (if any):	12/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13700	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/12/2018	Expiration Date:	12/12/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13689	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13690	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13691	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	752887-32
Expiration Date (if any):	06/20	Catalog #:	4400-10M521

Standard ID#:	M13692	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	855297-1
Expiration Date (if any):	06/20	Catalog #:	4400-10M91

Standard ID#:	M13693	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

Standard ID#:	M13694	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	148250-72
Expiration Date (if any):	06/20	Catalog #:	4400-10M311

Standard ID#:	M13695	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13686	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13687	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13688	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13684	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/04/2018	Expiration Date:	06/04/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13683	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	10000 mg/L
Date Received:	11/30/2018	Lot #:	1805105
Expiration Date (if any):	5/31/2020	Catalog #:	HP10M67-1

Standard Log #:	M13681	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13531	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13682	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/29/2018	Expiration Date:	11/29/2018

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.

Standard Log #:	M13679	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M13517	1000	0.72
Sn	20	M13572	1000	1
Sr	3.2	M13586	1000	0.16
Ti	9.6	M13573	1000	0.48
W	24	xxxxxxxx	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13680	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13394	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13677	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13562	**10000**	0.048
As	32	M13392	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13324	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13463	**10000**	0.36
Mg	32	M13319	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13608	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13610	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13676	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13462	**10000**	0.18
As	24	M13392	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13324	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13463	**10000**	0.5
Mg	40	M13319	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13608	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13610	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13675	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/26/2018	Expiration Date:	11/26/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13671	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	11/21/2018	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13672	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13673	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13674	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13668	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/21/2018	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13669	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13670	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP
Standard Log #:	M13666	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	11/19/2018	Expiration Date:	07/2019
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13667	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/19/2018	Expiration Date:	11/19/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard Log #:	M13664	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13665	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13659	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/01/2018	Expiration Date:	11/01/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13660	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2018	Expiration Date:	09/19
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13661	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/06/2018	Expiration Date:	10/19
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M13657	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) XXX		

		Instrument:	ICP 6000
Standard Log #:	M13658	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/2/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13655	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13656	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	GFAA
Standard Log #:	M13651	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13652	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13653	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance std
Date Received:	10/29/2018	Lot #:	2-036AB
Expiration Date (if any):	10/30/2019	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M13648	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13649	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/30/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13650	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/27/2018	Expiration Date:	02/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13645	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/24/2018	Expiration Date:	10/24/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13646	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	10/25/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

Standard ID#:	M13647	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/24/2018	Lot #:	H226-02
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M13643	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M13639	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13640	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13641	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	10/23/2018	Expiration Date:	07/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13634	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,0000 mg/L
Date Received:	10/18/2018	Lot #:	139448-54
Expiration Date (if any):	04/20	Catalog #:	4400-10m671

Standard ID#:	M13635	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	10/18/2018	Lot #:	2-230sgx
Expiration Date (if any):	09/30/2019	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13636	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/18/2018	Expiration Date:	10/18/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13637	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance standard
Date Received:	10/18/2018	Lot #:	50-0007CR
Expiration Date (if any):	10/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13633	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/2018	Expiration Date:	10/16/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13632	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/16/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13627	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13628	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

MRL BASE STD M13626

Analyst NAH

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/2019
Al	400	M13462	10000	2	10/2019
Ba	10	M13457	1000	0.5	10/2019
Be	4	M13579	1000	0.2	02/20
Cd	5	M13570	1000	0.25	01/20
Co	10	M13575	1000	0.5	01/20
Cr	10	M13617	10000	0.05	03/20
Cu	10	M13618	10000	0.05	03/20
Mg	500	M13319	10000	2.5	04/19
Mn	10	M13616	10000	0.05	03/20
Mo	10	M13608	1000	0.5	03/20
Ni	10	M13569	1000	0.5	03/20
Pb	10	M13610	10000	0.05	03/20
Sb	20	M13459	1000	1	03/20
V	10	M13578	1000	0.5	02/20
Zn	10	M13610	10000	0.05	02/20
K	1000	M13341	10000	5	05/19
Na	1000	M13402	10000	5	08/19
As	20	M13392	1000	1	07/19
Ca	500	M13324	10000	2.5	04/19
Fe	300	M13463	10000	1.5	10/19
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	02/20
Si	100	M13394	1000	5	07/19
B	20	M13531	1000	1	07/19
Li	20	M13517	1000	1	02/20
W	50	xxxxxxx	1000	2.5	xxxxxxx
Ti	10	M13573	1000	0.5	02/20
Sr	10	M13586	1000	0.5	02/20
Sn	50	M13572	1000	2.5	02/20
S	300	M13391	10000	1.5	07/19

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M13625	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/03/2018	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume.		

Standard ID#:	M13618	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	09/20/2018	Lot #:	148796-39
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M141

		Instrument:	CETAC
Standard Log #:	M13619	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/19/2018	Expiration Date:	09/19/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13620	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/04/2018	Lot #:	177409
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13611	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	09/20/2018	Lot #:	169484-18
Expiration Date (if any):	03/2020	Catalog #:	4400-10M11

Standard ID#:	M13612	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	09/20/2018	Lot #:	172053-36
Expiration Date (if any):	03/2020	Catalog #:	440010M411

Standard ID#:	M13613	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	09/20/2018	Lot #:	855297-1
Expiration Date (if any):	03/2020	Catalog #:	4400-10M91

Standard ID#:	M13614	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	09/20/2018	Lot #:	148250-72
Expiration Date (if any):	03/2020	Catalog #:	4400-10M311

Standard ID#:	M13615	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000 mg/L
Date Received:	09/20/2018	Lot #:	168223-17
Expiration Date (if any):	03/2020	Catalog #:	4400-10M281

Standard ID#:	M13616	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	09/20/2018	Lot #:	167540-6
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M321

Standard ID#:	M13617	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	09/20/2018	Lot #:	158236-7
Expiration Date (if any):	03/2020	Catalog #:	s4400-10M121

Standard ID#:	M13604	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 mg/L
Date Received:	09/20/2018	Lot #:	167967-37
Expiration Date (if any):	03/2020	Catalog #:	4400-10M544

Standard ID#:	M13605	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 mg/L
Date Received:	09/20/2018	Lot #:	752887-3
Expiration Date (if any):	03/2020	Catalog #:	4400-10M521

Standard ID#:	M13606	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	09/20/2018	Lot #:	144467-179
Expiration Date (if any):	03/2020	Catalog #:	4400-1000411-500

Standard ID#:	M13607	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	09/20/2018	Lot #:	158237-113
Expiration Date (if any):	03/2020	Catalog #:	4400-1000521-500

Standard ID#:	M13608	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	09/20/2018	Lot #:	169424-37
Expiration Date (if any):	03/2020	Catalog #:	S4400-1000343

Standard ID#:	M13609	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	09/20/2018	Lot #:	156651-53
Expiration Date (if any):	03/2020	Catalog #:	4400-10M261

Standard ID#:	M13610	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	09/20/2018	Lot #:	979871-2
Expiration Date (if any):	03/2020	Catalog #:	4400-10M681

Standard Log #:	M13601	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/12/2018	Expiration Date:	09/12/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13602	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09-12-2018	Lot #:	1-124AB
Expiration Date (if any):	09-30-2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13600	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/11/2018	Lot #:	1808015
Expiration Date (if any):	09/30/2019	Catalog #:	HP1900-100

Standard Log #:	M13599	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/08/2018	Expiration Date:	09/08/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13595	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	08/29/2018	Lot #:	49-151CR
Expiration Date (if any):	08/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13596	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/30/2018	Expiration Date:	08/30/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13597	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13598	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13588	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13589	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13590	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity std 2.0 ntu
Date Received:	08/21/2018	Lot #:	18272791
Expiration Date (if any):	08/2019	Catalog #:	8008

		Instrument:	ICP 6000
Standard Log #:	M13586	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXX		

		Instrument:	ICP 6000
Standard Log #:	M13587	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	08/20/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13584	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	08/20/2018	Expiration Date:	07/30/2019
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M13585	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13463, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard ID#:	M13577	Vendor:	CPI
Analyst:	NAH	Chemical:	Li 1000 mg/L
Date Received:	08/17/2018	Lot #:	751942-25
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000291

Standard ID#:	M13578	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	08/17/2018	Lot #:	152207-68
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000651

Standard ID#:	M13579	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	08/17/2018	Lot #:	660981-5
Expiration Date (if any):	02/2020	Catalog #:	S4400-100051

Standard ID#:	M13580	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	08/17/2018	Lot #:	168227-29
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000531

Standard ID#:	M13581	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	08/17/2018	Lot #:	172053-36
Expiration Date (if any):	02/2020	Catalog #:	4400-10411

Standard ID#:	M13582	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	08/17/2018	Lot #:	1805105
Expiration Date (if any):	02/2020	Catalog #:	HP10M67-1

Standard ID#:	M13583	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	08/17/2018	Lot #:	148983-70
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000581

Standard ID#:	M13576	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/04/2018	Lot #:	49-045CR
Expiration Date (if any):	07/30/2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13569	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	07/27/2018	Lot #:	166665-86
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000361

Standard ID#:	M13570	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	07/27/2018	Lot #:	160499-32
Expiration Date (if any):	01/2020	Catalog #:	s4400-100081

Standard ID#:	M13571	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	07/27/2018	Lot #:	175213-28
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000504F

Standard ID#:	M13572	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	07/27/2018	Lot #:	144466-74
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000613

Standard ID#:	M13573	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	07/27/2018	Lot #:	152616-55
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000623

Standard ID#:	M13574	Vendor:	CPI
Analyst:	NAH	Chemical:	Hg 1000 mg/L
Date Received:	07/27/2018	Lot #:	175191-22
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000331

Standard ID#:	M13575	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	07/27/2018	Lot #:	161693-10
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000131

Standard Log #:	M13563	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/19/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13466	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13557	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	07/17/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

		Instrument:	ICP 6000
Standard Log #:	M13558	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/17/2018	Expiration Date:	05/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q H_2O.		

Standard Log #:	M13559	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/17/2018	Expiration Date:	01/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13559 and brought up to volume.		

Standard Log #:	M13554	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	05/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13390	1000	0.8
Si	200	M13338	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13555	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13466	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M13553	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	07/12/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13547	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	07/09/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13548	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/10/2018	Expiration Date:	01/10/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13549	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/10/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

Standard Log #:	M13534	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	07/02/2018	Expiration Date:	09/16/2018

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13169	10,000
Tl	1	1000	M13124	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13535	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/02/2018	Lot #:	48-179CR
Expiration Date (if any):	06/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13526	Vendor:	CPI
Analyst:	NAH	Chemical:	YTTRIUM 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	138448-54
Expiration Date (if any):	12/2019	Catalog #:	4400-10M671

Standard ID#:	M13527	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10,000
Date Received:	06/22/2018	Lot #:	172053-32
Expiration Date (if any):	12/2019	Catalog #:	4400-104411

Standard ID#:	M13528	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	06/22/2018	Lot #:	142610-115
Expiration Date (if any):	12/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13529	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	156651-42
Expiration Date (if any):	12/2019	Catalog #:	4400-10M261

Standard ID#:	M13530	Vendor:	CPI
Analyst:	NAH	Chemical:	SULFUR 10,000ug/mL
Date Received:	06/22/2018	Lot #:	129880-46
Expiration Date (if any):	12/2019	Catalog #:	4400-10M544

Standard ID#:	M13531	Vendor:	CPI
Analyst:	NAH	Chemical:	BORON 1000 ug/mL
Date Received:	06/22/2018	Lot #:	158372-91
Expiration Date (if any):	12/2019	Catalog #:	S4400-100074

Standard ID#:	M13532	Vendor:	CPI
Analyst:	NAH	Chemical:	CUSTOM ASSURANCE STANDARD
Date Received:	06/22/2018	Lot #:	48-146CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-1-500

Standard ID#:	M13520	Vendor:	FRISCOLYT
Analyst:	NAH	Chemical:	Electrolyte Solution
Date Received:	06/13/2018	Lot #:	1DO71H
Expiration Date (if any):	12/03/2021	Catalog #:	51 340 053

		Instrument:	ICP
Standard Log #:	M13521	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	06/13/2018	Expiration Date:	10/20/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard ID#:	M13518	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2018	Lot #:	48-060CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6500
Standard Log #:	M13519	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/11/2018	Expiration Date:	06/30/2019

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M13166, **10 mL** of Mn (10,000 mg/L) M13167, **10 mL** of Cr (10,000 mg/L) M13165, **10 mL** Pb (10,000 mg/L) M13169, **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M13319, **10 mL** of Fe (10,000 mg/L) M13463, **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

		Instrument:	CETAC
Standard Log #:	M13510	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/01/2018	Expiration Date:	06/01/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13511	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/04/2018	Lot #:	176877
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13506	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-042CR
Expiration Date (if any):	05/30/2019	Catalog #:	XCTWI-4-500

Standard ID#:	M13507	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-041CR
Expiration Date (if any):	05/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13508	Vendor:	RESTEK
Analyst:	NAH	Chemical:	Diatomaceous earth (Celite 566)
Date Received:	05/22/2018	Lot #:	811030-BG
Expiration Date (if any):	N/A	Catalog #:	26033

Standard ID#:	M13495	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/15/2018	Lot #:	H052-17
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M13485	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13486	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13487	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13488	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13484	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	05/03/2018	Lot #:	1805105
Expiration Date (if any):	10/31/2019	Catalog #:	HP10M67-1

		Instrument:	ICP 6000
Standard Log #:	M13471	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13472	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/02/2018
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13473	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	04/26/2018	Expiration Date:	10/30/2018
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13467	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	04/20/2018	Lot #:	147497-47
Expiration Date (if any):	10/2019	Catalog #:	4400-10M91

Standard ID#:	M13468	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/24/2018	Lot #:	174236
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13469	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/24/2018	Expiration Date:	04/24/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13462	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	04/20/2018	Lot #:	158058-23
Expiration Date (if any):	10/2019	Catalog #:	4400-10M11

Standard ID#:	M13463	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	04/20/2018	Lot #:	156651-18
Expiration Date (if any):	10/2019	Catalog #:	4400-10M261

Standard ID#:	M13464	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	04/20/2018	Lot #:	148250-67
Expiration Date (if any):	10/2019	Catalog #:	4400-10M311

Standard ID#:	M13465	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	04/20/2018	Lot #:	172053-2
Expiration Date (if any):	10/2019	Catalog #:	4400-10M411

Standard ID#:	M13466	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	04/20/2018	Lot #:	129880-37
Expiration Date (if any):	10/2019	Catalog #:	4400-10M544

Standard ID#:	M13457	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	04/20/2018	Lot #:	158364-3
Expiration Date (if any):	10/2019	Catalog #:	S4400-100041

Standard ID#:	M13458	Vendor:	CPI
Analyst:	NAH	Chemical:	Ag 1000 mg/L
Date Received:	04/20/2018	Lot #:	162712-9
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000511

Standard ID#:	M13459	Vendor:	CPI
Analyst:	NAH	Chemical:	Sb 1000 mg/L
Date Received:	04/20/2018	Lot #:	153992-1
Expiration Date (if any):	10/2019	Catalog #:	S4400-100023

Standard ID#:	M13460	Vendor:	CPI
Analyst:	NAH	Chemical:	Se 1000 mg/L
Date Received:	04/20/2018	Lot #:	154366-16
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000491

Standard ID#:	M13461	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	04/20/2018	Lot #:	107139-108
Expiration Date (if any):	10/2019	Catalog #:	4400-10M521

Standard Log #:	M13445	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/19/2018	Expiration Date:	10/19/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12652 and brought up to volume.		

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M13446	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	04/19/2018	Expiration Date:	12/2019
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20.		

LPMT1-04
Metals Reagents and Standards
Prep Logbook
Created: 12/19/17

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

		Instrument:	ICP 6000
Standard Log #:	M13438	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	07/2019
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13439	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	01/19/2019
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M13437	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/10/2018	Expiration Date:	07/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13390	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

Standard ID#:	M13436a	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal 200 NTU
Date Received:	04/10/2018	Lot #:	A7354
Expiration Date (if any):	12/2019	Catalog #:	2660449

Standard ID#:	M13400	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	106958-116
Expiration Date (if any):	08/2019	Catalog #:	4400-10M411

Standard ID#:	M13401	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	139448-54
Expiration Date (if any):	08/2019	Catalog #:	4400-10M671

Standard ID#:	M13402	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	107139-126
Expiration Date (if any):	08/2019	Catalog #:	4400-10M521

Standard Log #:	M13388	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard Log #:	M13389	Reagent:	SPLP EXTRACTION FLUID WEST #
Analyst:	BMM	pH:	5.00 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard ID#:	M13390	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 ug/mL
Date Received:	01/23/2018	Lot #:	158372-29
Expiration Date (if any):	07/2019	Catalog #:	S4400-100074

Standard ID#:	M13391	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/23/2018	Lot #:	129880-28
Expiration Date (if any):	07/2019	Catalog #:	4400-10M544

Standard ID#:	M13392	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 ug/mL
Date Received:	01/23/2018	Lot #:	143356-61
Expiration Date (if any):	07/2019	Catalog #:	S4400-100031

Standard ID#:	M13393	Vendor:	CPI
Analyst:	NAH	Chemical:	Molybdenum 1000 ug/mL
Date Received:	01/23/2018	Lot #:	134169R-102
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000343

Standard ID#:	M13394	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	01/23/2018	Lot #:	142610-58
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13350	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	12/12/2017	Lot #:	1729606
Expiration Date (if any):	06//2019	Catalog #:	10M67-1

Standard ID#:	M13226	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	07/21/2017	Lot #:	170229
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13199	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana I soil
Date Received:	05/15/2017	Lot #:	2710a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13200	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana II soil
Date Received:	05/15/2017	Lot #:	2711a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13186	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	05/22/2017	Lot #:	166161
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13187	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	05/22/2017	Lot #:	1705408
Expiration Date (if any):	11/16/2018	Catalog #:	HP10M67-1

Standard ID#:	M13080	Vendor:	FISHER
Analyst:	LJF	Chemical:	POTASSIUM PERMANGANATE
Date Received:	01/30/2017	Lot #:	164080
Expiration Date (if any):		Catalog #:	P279-212

Standard ID#:	M13059	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	12/19/2016	Lot #:	A0375670
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

INORGANIC
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412563
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 05:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.4		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.26	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	39	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412563
Analytical Method:	EPA 9060A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 11:01
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.71	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412558
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 02:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412558
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 03:50
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	80		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412558
Analytical Method:	EPA 9060A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 10:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.7	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412553
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 02:33
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.7		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	U	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	25		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412553
Analytical Method:	EPA 9060A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 09:53
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.6	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412559
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 04:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.6		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412559
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 04:29
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	82		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412559
Analytical Method:	EPA 9060A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 10:24
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	2.6	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413571
Analytical Method:	EPA 9060A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 13:52
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.3	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413571
Analytical Method:	EPA 9056A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170809	Analysis Date/Time	04/30/2020 16:10
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	8.4		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.1		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413571
Analytical Method:	EPA 9056A	Date Received:	04/30/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170809	Analysis Date/Time	04/30/2020 16:24
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	190		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413574
Analytical Method:	EPA 9060A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 14:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413574
Analytical Method:	EPA 9056A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170809	Analysis Date/Time	04/30/2020 17:34
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.7		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	47		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413576
Analytical Method:	EPA 9060A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 15:12
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.62	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413576
Analytical Method:	EPA 9056A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170809	Analysis Date/Time	04/30/2020 18:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.3	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.93		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	6.1		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413972
Analytical Method:	EPA 9060A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 15:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413972
Analytical Method:	EPA 9056A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170840	Analysis Date/Time	05/01/2020 16:45
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	6.2		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	29		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413973
Analytical Method:	EPA 9060A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 15:47
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413973
Analytical Method:	EPA 9056A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170840	Analysis Date/Time	05/01/2020 16:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.6	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	6.2		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	28		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413572
Analytical Method:	EPA 9060A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 14:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EQB-48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413572
Analytical Method:	EPA 9056A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170809	Analysis Date/Time	04/30/2020 16:38
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.5	U	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	U	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413975
Analytical Method:	EPA 410.4	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170862	Analysis Date/Time	05/04/2020 14:00
Analytical Prep Batch #:	76294	Prep. Date/Time:	05/04/2020 08:34
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	35	U	15	35	75	75

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49IDW

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413975
Analytical Method:	EPA 9040C	Date Received:	05/01/2020
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170848	Analysis Date/Time	05/01/2020 15:30
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.81					

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413575
Analytical Method:	EPA 9060A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 14:31
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413575
Analytical Method:	EPA 9056A	Date Received:	04/30/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170809	Analysis Date/Time	04/30/2020 17:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.38	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.1	J	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413974
Analytical Method:	EPA 9060A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 16:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413974
Analytical Method:	EPA 9056A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170840	Analysis Date/Time	05/01/2020 17:13
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.7	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.31	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	17	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412562
Analytical Method:	EPA 9056A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170726	Analysis Date/Time	04/29/2020 04:48
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	6.2		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.44		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	54		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	412562
Analytical Method:	EPA 9060A	Date Received:	04/28/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 10:38
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	6.3		0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413971
Analytical Method:	EPA 9060A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170892	Analysis Date/Time	05/05/2020 15:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0381 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.59	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	152873
% Solids:		Lab Sample ID:	413971
Analytical Method:	EPA 9056A	Date Received:	05/01/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	170840	Analysis Date/Time	05/01/2020 16:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	7.9		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.4		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	68		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809 Lab Sample ID: 415016

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/23/20	12:39	15.00	14.02	93	90	110
Nitrate Nitrogen	4/23/20	12:39	3.500	3.369	96	90	110
Sulfate	4/23/20	12:39	25.00	23.66	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726 Lab Sample ID: 415081

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/23/20	15:07	15.00	13.79	92	90	110
Nitrate Nitrogen	4/23/20	15:07	3.500	3.332	95	90	110
Sulfate	4/23/20	15:07	25.00	23.20	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170862 Lab Sample ID: 419032

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	3/25/20	08:32	400.0	399.3	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809

Lab Sample ID: 413985

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/30/20	19:55	15.00	14.87	99	90	110
Nitrate Nitrogen	4/30/20	19:55	3.500	3.668	105	90	110
Sulfate	4/30/20	19:55	25.00	25.03	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809

Lab Sample ID: 413989

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/30/20	17:06	15.00	14.38	96	90	110
Nitrate Nitrogen	4/30/20	17:06	3.500	3.669	105	90	110
Sulfate	4/30/20	17:06	25.00	24.44	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809

Lab Sample ID: 413992

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/30/20	14:03	15.00	14.32	95	90	110
Nitrate Nitrogen	4/30/20	14:03	3.500	3.642	104	90	110
Sulfate	4/30/20	14:03	25.00	24.36	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726

Lab Sample ID: 414001

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/28/20	23:20	15.00	14.35	96	90	110
Nitrate Nitrogen	4/28/20	23:20	3.500	3.523	101	90	110
Sulfate	4/28/20	23:20	25.00	23.99	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170840

Lab Sample ID: 414351

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/1/20	12:41	15.00	14.67	98	90	110
Nitrate Nitrogen	5/1/20	12:41	3.500	3.738	107	90	110
Sulfate	5/1/20	12:41	25.00	24.92	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170840

Lab Sample ID: 414353

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/1/20	16:16	15.00	14.76	98	90	110
Nitrate Nitrogen	5/1/20	16:16	3.500	3.769	108	90	110
Sulfate	5/1/20	16:16	25.00	25.19	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170840

Lab Sample ID: 415044

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/1/20	18:09	15.00	14.81	99	90	110
Nitrate Nitrogen	5/1/20	18:09	3.500	3.778	108	90	110
Sulfate	5/1/20	18:09	25.00	25.16	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726

Lab Sample ID: 415078

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/28/20	11:25	15.00	14.42	96	90	110
Nitrate Nitrogen	4/28/20	11:25	3.500	3.542	101	90	110
Sulfate	4/28/20	11:25	25.00	24.01	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726 Lab Sample ID: 415084

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/29/20	07:03	15.00	14.37	96	90	110
Nitrate Nitrogen	4/29/20	07:03	3.500	3.517	100	90	110
Sulfate	4/29/20	07:03	25.00	23.85	95	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726 Lab Sample ID: 415088

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	4/29/20	03:12	15.00	14.47	96	90	110
Nitrate Nitrogen	4/29/20	03:12	3.500	3.500	100	90	110
Sulfate	4/29/20	03:12	25.00	24.16	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892 Lab Sample ID: 415563

ICAL Calibration #: ICAL 0381 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/5/20	09:08	50.00	49.63	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892

Lab Sample ID: 415569

ICAL Calibration #: ICAL 0381 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/5/20	12:09	50.00	49.06	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892

Lab Sample ID: 415574

ICAL Calibration #: ICAL 0381 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/5/20	14:42	50.00	48.82	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892

Lab Sample ID: 415577

ICAL Calibration #: ICAL 0381 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	5/5/20	16:32	50.00	48.53	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170862

Lab Sample ID: 418489

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	5/4/20	14:00	400.0	394.4	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170862

Lab Sample ID: 418491

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	5/4/20	14:00	400.0	394.4	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170862

Lab Sample ID: 419033

Analytical Prep Batch #

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	03/25/2020 08:32	-9.200			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-1

ICB

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809 Lab Sample ID: 415017

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/23/2020 12:53	0.5160	U	1.0	1.5
Nitrate Nitrogen	04/23/2020 12:53	0.07220	U	0.12	0.20
Sulfate	04/23/2020 12:53	0.6879	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-1

ICB

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726 Lab Sample ID: 415082

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/23/2020 15:46	0.6169	U	1.0	1.5
Nitrate Nitrogen	04/23/2020 15:46	0.09870	U	0.12	0.20
Sulfate	04/23/2020 15:46	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809 Lab Sample ID: 413988

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/30/2020 17:20	0.5270	U	1.0	1.5
Nitrate Nitrogen	04/30/2020 17:20	0.07170	U	0.12	0.20
Sulfate	04/30/2020 17:20	0.6925	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170840

Lab Sample ID: 414352

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/01/2020 16:31	0.5185	U	1.0	1.5
Nitrate Nitrogen	05/01/2020 16:31	0.07230	U	0.12	0.20
Sulfate	05/01/2020 16:31	0.6841	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892

Lab Sample ID: 415570

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0381 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/05/2020 12:23	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892

Lab Sample ID: 415575

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0381 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/05/2020 14:57	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892

Lab Sample ID: 415578

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0381 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/05/2020 16:47	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170862

Lab Sample ID: 418490

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	05/04/2020 14:00	0.6000			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170862

Lab Sample ID: 418492

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	05/04/2020 14:00	0.6000			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726

Lab Sample ID: 414002

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/28/2020 23:39	0.5838	U	1.0	1.5
Nitrate Nitrogen	04/28/2020 23:39	0	U	0.12	0.20
Sulfate	04/28/2020 23:39	0.7962	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809

Lab Sample ID: 415020

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/30/2020 20:23	0.5513	U	1.0	1.5
Nitrate Nitrogen	04/30/2020 20:23	0.07400	U	0.12	0.20
Sulfate	04/30/2020 20:23	0.7026	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170840

Lab Sample ID: 415045

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/01/2020 18:23	0.5171	U	1.0	1.5
Nitrate Nitrogen	05/01/2020 18:23	0.07330	U	0.12	0.20
Sulfate	05/01/2020 18:23	0.6784	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726

Lab Sample ID: 415083

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/29/2020 07:23	0	U	1.0	1.5
Nitrate Nitrogen	04/29/2020 07:23	0.09800	U	0.12	0.20
Sulfate	04/29/2020 07:23	0.7868	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726 Lab Sample ID: 415089

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/29/2020 03:31	0.5874	U	1.0	1.5
Nitrate Nitrogen	04/29/2020 03:31	0	U	0.12	0.20
Sulfate	04/29/2020 03:31	0.8010		0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170809 Lab Sample ID: 413990

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/30/2020 14:31	0.5290	U	1.0	1.5
Nitrate Nitrogen	04/30/2020 14:31	0.07320	U	0.12	0.20
Sulfate	04/30/2020 14:31	0.6934	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170840 Lab Sample ID: 414349

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/01/2020 13:40	0.5016	U	1.0	1.5
Nitrate Nitrogen	05/01/2020 13:40	0.06920	U	0.12	0.20
Sulfate	05/01/2020 13:40	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170862 Lab Sample ID: 414432

Analytical Prep Batch # 76294 Preparation Date/Time: 05/04/2020 08:34

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	05/04/2020 14:00	5.400	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170892 Lab Sample ID: 415565

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0381 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	05/05/2020 09:38	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 152873

Analytical Run #: 170726 Lab Sample ID: 415080

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	04/28/2020 12:04	0.5857	U	1.0	1.5
Nitrate Nitrogen	04/28/2020 12:04	0	U	0.12	0.20
Sulfate	04/28/2020 12:04	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	mg/L
Sample No	413986	Parent Sample No.:	413576
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	170809	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	04/30/2020	Analysis Time: --------	18:30

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	9.62		2.3	J	8.00	92		
Nitrate Nitrogen	88-111	2.99		0.93		2.00	103		
Sulfate	87-112	13.4		6.1		8.00	91		

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	mg/L
Sample No	416190	Parent Sample No.:	412563
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	170892	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	05/05/2020	Analysis Time: --------	11:14

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	46.7		0.71	J	50.0	92		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	mg/L
Sample No	415042	Parent Sample No.:	413974
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	170840	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	05/01/2020	Analysis Time: --------	17:41

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	9.07		1.7	J	8.00	92		IC	
Nitrate Nitrogen	88-111	2.40		0.31	J	2.00	104		IC	
Sulfate	87-112	23.8		17		8.00	85		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solids for Sample:
Concentration Units: mg/L
Sample No 415086
Parent Sample No.: 412563
Analytical Prep Batch #
Analytical Preparation Date/Time:
Analytical Run #: 170726
ICAL Calibration #:

Analysis Type *Initial Analysis* Analysis Date: ----- 04/29/2020 Analysis Time: -------- 05:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.6		4.4		8.00	90		IC	
Nitrate Nitrogen	88-111	2.30		0.26	J	2.00	102		IC	
Sulfate	87-112	45.6		39		8.00	82		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **13MW2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	mg/L
Sample No	416191	Parent Sample No.:	416190
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	170892	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 05/05/2020 Analysis Time: -------- 11:27

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	46.6		0.71	J	50.0	92		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	mg/L
Sample No	415007	Parent Sample No.:	413986
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	170809	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 04/30/2020 Analysis Time: -------- 18:44

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	9.78		2.3	J	8.00	94		IC
Nitrate Nitrogen	88-111	3.03		0.93		2.00	105		IC
Sulfate	87-112	13.6		6.1		8.00	94		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	152873
% Solids for Sample:		Concentration Units:	mg/L
Sample No	415043	Parent Sample No.:	415042
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	170840	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	05/01/2020	Analysis Time: --------	17:55

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	9.16		1.7	J	8.00	93		IC	
Nitrate Nitrogen	88-111	2.43		0.31	J	2.00	106		IC	
Sulfate	87-112	23.8		17		8.00	85		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solids for Sample:
Concentration Units: mg/L
Sample No: 415087
Parent Sample No.: 415086
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 170726
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 04/29/2020 Analysis Time: -------- 06:05

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	11.7		4.4		8.00	91		IC	
Nitrate Nitrogen	88-111	2.31		0.26	J	2.00	102		IC	
Sulfate	87-112	45.4		39		8.00	80		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

48MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 152873

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 170809

ICAL Calibration #:

Sample #: 413987

Parent Sample #: 413576

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/30/2020	18:16	10	2.3	J	2.31	J	0		
Nitrate Nitrogen	04/30/2020	18:16	10	0.93		0.930		0		
Sulfate	04/30/2020	18:16	10	6.1		6.04		1		

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49IDW

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 152873

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 170848

ICAL Calibration #:

Sample #: 414343

Parent Sample #: 413975

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	05/01/2020	15:30	1	7.81		7.84		0		ELEC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 152873

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 170892

ICAL Calibration #:

Sample #: 416192

Parent Sample #: 412563

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	05/05/2020	16:16	20	0.71	J	0.50	U	200		TOC	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49MW02

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 152873

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 170840

ICAL Calibration #:

Sample #: 415041

Parent Sample #: 413974

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	05/01/2020	17:27	10	1.7	J	1.67	J	2		IC
Nitrate Nitrogen	05/01/2020	17:27	10	0.31	J	0.305	J	2		IC
Sulfate	05/01/2020	17:27	10	17		16.7		2		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID
SDG No.: 152873

% Solid for Sample:
Concentration Units: mg/L

Analytical Prep Batch # 1
Analytical Preparation Date/Time

Analytical Run #: 170726
ICAL Calibration #:

Sample #: 415085
Parent Sample #: 412563

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/29/2020	05:27	10	4.4		4.34		1		IC
Nitrate Nitrogen	04/29/2020	05:27	10	0.26	J	0.245	J	6		IC
Sulfate	04/29/2020	05:27	10	39		38.8		1		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 170892
ICAL Calibration #:
Sample #: 416191
Parent Sample #: 416190

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	05/05/2020	11:27	20	46.7		46.6		0		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 170809
ICAL Calibration #:
Sample #: 415007
Parent Sample #: 413986

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/30/2020	18:44	15	9.62		9.78		2		IC
Nitrate Nitrogen	04/30/2020	18:44	15	2.99		3.03		1		IC
Sulfate	04/30/2020	18:44	15	13.4		13.6		1		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49MW02**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 170840
ICAL Calibration #:
Sample #: 415043
Parent Sample #: 415042

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	05/01/2020	17:55	15	9.07		9.16		1		IC
Nitrate Nitrogen	05/01/2020	17:55	15	2.40		2.43		1		IC
Sulfate	05/01/2020	17:55	15	23.8		23.8		0		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 152873
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 170726
ICAL Calibration #:
Sample #: 415087
Parent Sample #: 415086

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	04/29/2020	06:05	15	11.6		11.7		1		IC
Nitrate Nitrogen	04/29/2020	06:05	15	2.30		2.31		0		IC
Sulfate	04/29/2020	06:05	15	45.6		45.4		0		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 152873

Concentration Units: mg/L

Analytical Run #: 170809 Sample No.:#: 413991

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	04/30/2020 14:17	87-111	14.88		15.00	99		
Nitrate Nitrogen	04/30/2020 14:17	88-111	3.560		3.500	102		
Sulfate	04/30/2020 14:17	87-112	25.00		25.00	100		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 152873

Concentration Units: mg/L

Analytical Run #: 170840

Sample No.:#: 414350

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	05/01/2020 12:55	87-111	14.99		15.00	100		
Nitrate Nitrogen	05/01/2020 12:55	88-111	3.604		3.500	103		
Sulfate	05/01/2020 12:55	87-112	24.56		25.00	98		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 152873

Concentration Units: mg/L

Analytical Run #: 170862 Sample No.:#: 414433

Analytical Prep Batch #: 76294 Preparation Date/Time: 05/04/2020 08:34

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	05/04/2020 14:00	90-110	423.8		400.0	106		SP

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 152873

Concentration Units: mg/L

Analytical Run #: 170892

Sample No.:#: 415564

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0381 I

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	05/05/2020 09:23	85-111	49.96		50.00	100		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 152873

Concentration Units: mg/L

Analytical Run #: 170726

Sample No.:#: 415079

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	04/28/2020 11:45	87-111	14.36		15.00	96		IC
Nitrate Nitrogen	04/28/2020 11:45	88-111	3.446		3.500	98		IC
Sulfate	04/28/2020 11:45	87-112	23.89		25.00	96		IC

INORGANICS
RAW DATA
DOCUMENTS

Schedule File: C:\INSTARCH\Sequences\System 2\042320 - IC2990B.sch

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
3	STD1	Calibration St	1	ic2990.met	std1_003.dxd	1	1
4	STD2	Calibration St	2	ic2990.met	std2_004.dxd	1	1
5	STD3	Calibration St	3	ic2990.met	std3_005.dxd	1	1
6	STD4	Calibration St	4	ic2990.met	std4_006.dxd	1	1
7	STD5	Calibration St	5	ic2990.met	std5_007.dxd	1	1
8	STD6	Calibration St	6	ic2990.met	std6_008.dxd	1	1
9	STD7	Calibration St	7	ic2990.met	std7_009.dxd	1	1
10	STD8	Calibration St	8	ic2990.met	std8_010.dxd	1	1
11	STD9	Calibration St	9	ic2990.met	std9_011.dxd	1	1
12	ICV	Sample		ic2990.met	icv_012.dxd	1	1
14	ICB	Sample		ic2990.met	icb_014.dxd	1	1

Calibration Concentrations

Instrument:	DX-120 (2)	Cal. File:	IC2990		ICV	IC2995 IC2998		Analyst/Date: TMG 04/23/2020		
Analyte	Cal Level 1 (mg/L)	Cal Level 2 (mg/L)	Cal Level 3 (mg/L)	Cal Level 4 (mg/L)	Cal Level 5 (mg/L)	Cal Level 6 (mg/L)	Cal Level 7 (mg/L)	Cal Level 8 (mg/L)	Cal Level 9 (mg/L)	ICV (mg/L)
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0		3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

RJ 05/05/2020

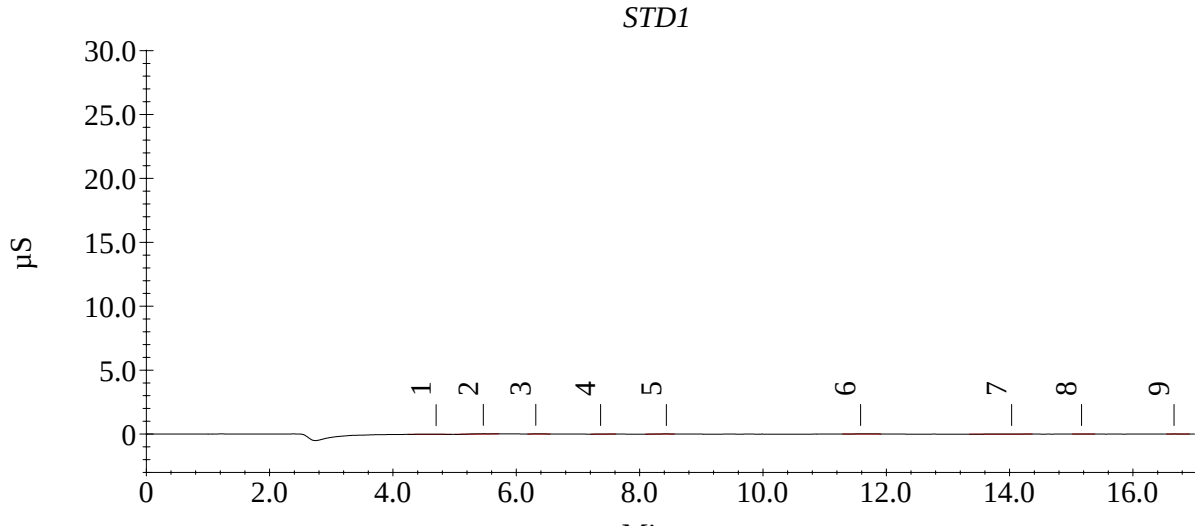
Calibration Update Report

Sample Name : STD1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD1_003.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 12:14
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Chloride	5.47	3571	4603	4603
3	Nitrite	6.32	1038	1038	1038
5	Nitrate	8.43	0	1994	1994
6	O.Phos	11.58	1860	1860	1860
7	Sulfate	14.03	3209	3209	3209



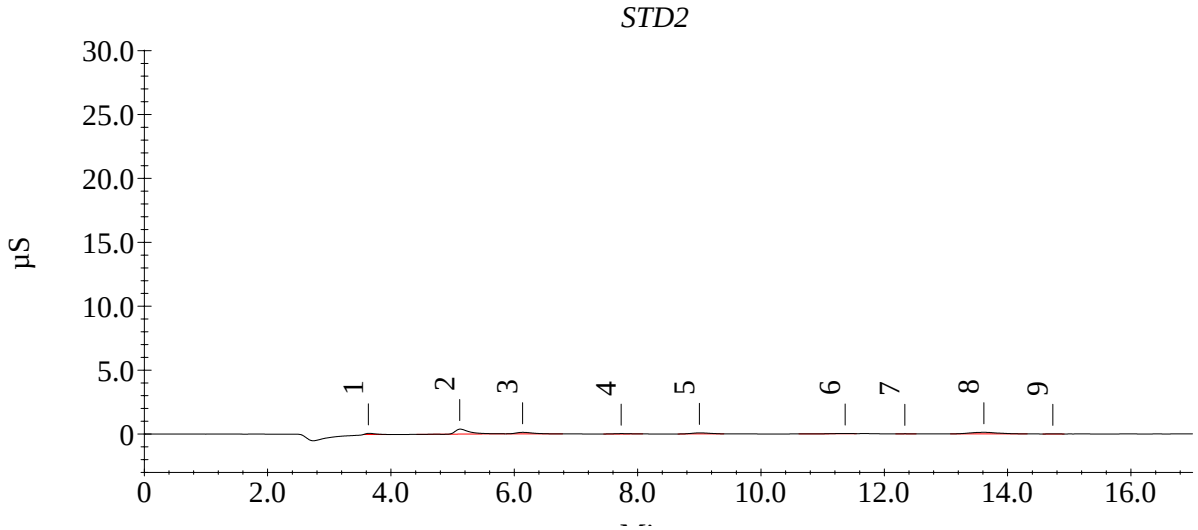
Calibration Update Report

Sample Name : STD2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD2_004.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 12:33
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
1	Fluoride	3.63	10356	10356	10356
2	Chloride	5.12	62872	62872	62872
3	Nitrite	6.13	22291	22291	22291
4	Bromide	7.73	4794	4794	4794
5	Nitrate	9.00	4275	16705	16705
6	O.Phos	11.37	2862	2862	2862
8	Sulfate	13.62	39930	39930	39930



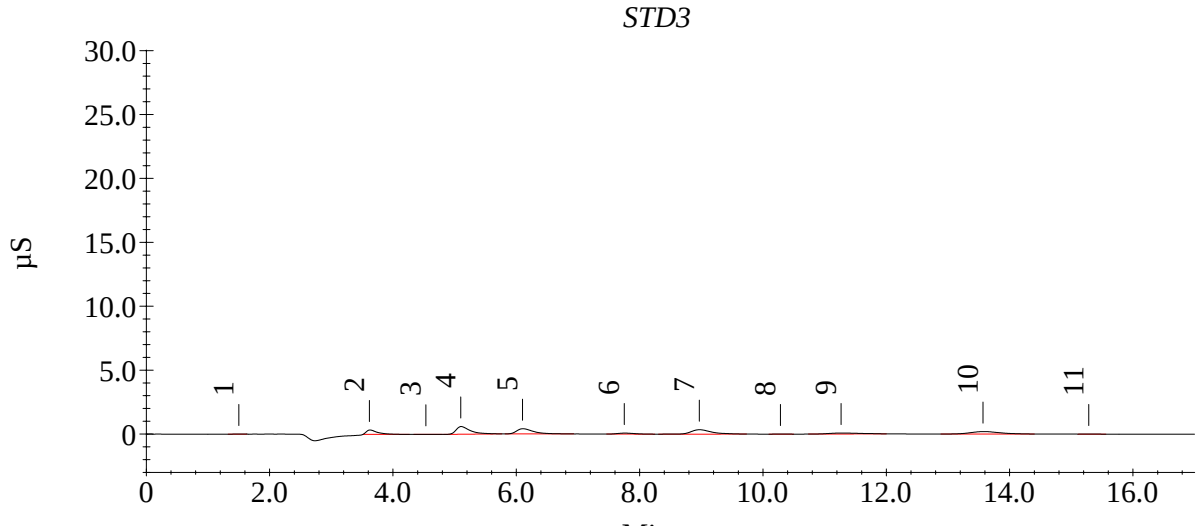
Calibration Update Report

Sample Name : STD3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD3_005.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 12:53
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.62	44537	44537	44537
4	Chloride	5.10	96895	96895	96895
5	Nitrite	6.10	76599	76599	76599
6	Bromide	7.75	15137	15137	15137
7	Nitrate	8.97	14256	81126	81126
9	O.Phos	11.27	26945	26945	26945
10	Sulfate	13.57	65305	65305	65305



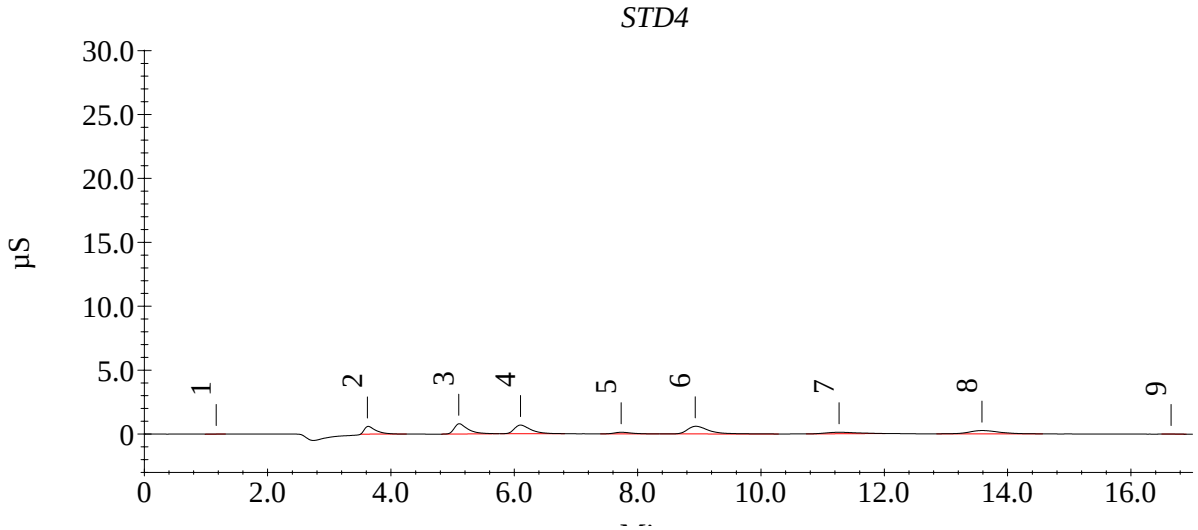
Calibration Update Report

Sample Name : STD4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD4_006.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 13:12
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.62	79162	79162	79162
3	Chloride	5.10	124427	124427	124427
4	Nitrite	6.10	124313	124313	124313
5	Bromide	7.73	25301	25301	25301
6	Nitrate	8.93	23215	146173	146173
7	O.Phos	11.27	42685	42685	42685
8	Sulfate	13.58	88320	88320	88320



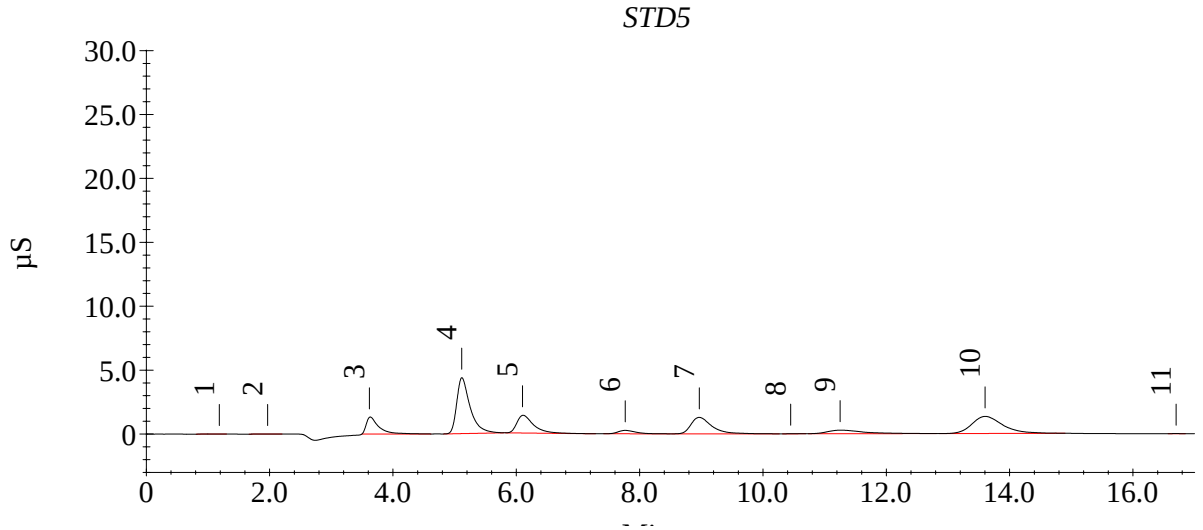
Calibration Update Report

Sample Name : STD5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD5_007.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 13:31
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.62	186200	186200	186200
4	Chloride	5.12	657829	657829	657829
5	Nitrite	6.10	260383	260383	260383
6	Bromide	7.77	52529	52529	52529
7	Nitrate	8.97	45718	303361	303361
9	O.Phos	11.25	114537	114537	114537
10	Sulfate	13.60	464610	464610	464610



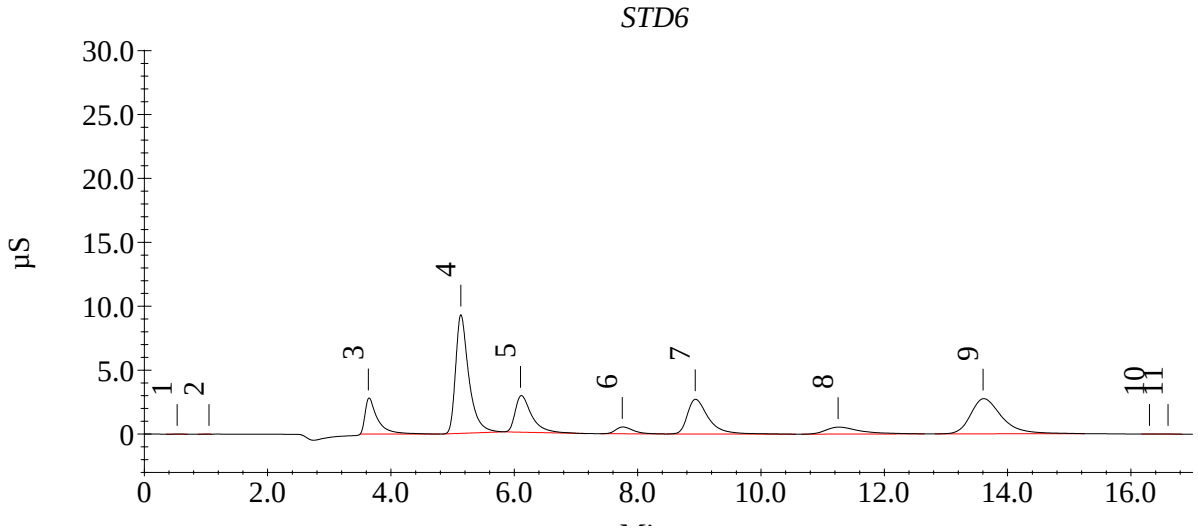
Calibration Update Report

Sample Name : STD6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD6_008.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 13:50
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.63	394974	394974	394974
4	Chloride	5.13	1381740	1381740	1381740
5	Nitrite	6.10	529773	529773	529773
6	Bromide	7.75	105267	105267	105267
7	Nitrate	8.93	93290	644899	644899
8	O.Phos	11.25	211520	211520	211520
9	Sulfate	13.60	964513	964513	964513



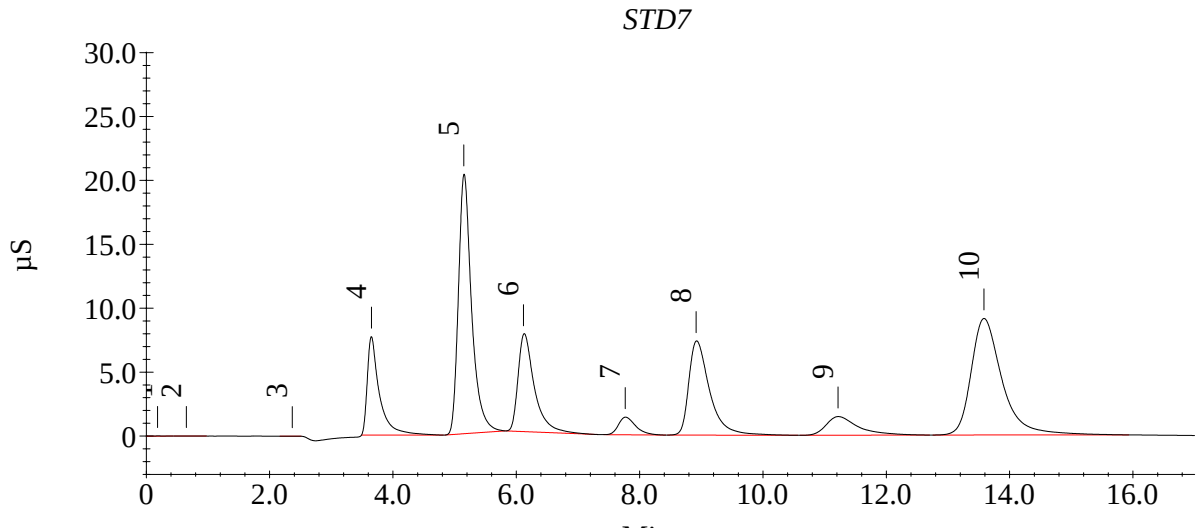
Calibration Update Report

Sample Name : STD7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD7_009.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 14:09
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
4	Fluoride	3.65	1220964	1056648	1056648
5	Chloride	5.15	3011457	3011457	3011457
6	Nitrite	6.12	1406322	1406322	1406322
7	Bromide	7.77	267163	267163	267163
8	Nitrate	8.92	239055	1729361	1729361
9	O.Phos	11.22	524784	524784	524784
10	Sulfate	13.58	3172135	3172135	3172135



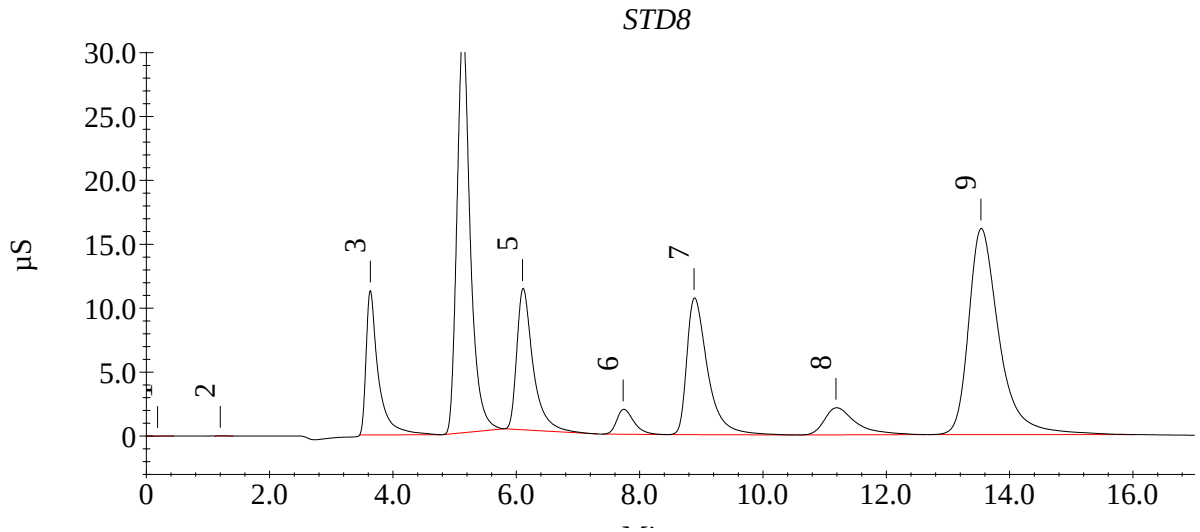
Calibration Update Report

Sample Name : STD8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD8_010.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 14:29
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.63		1560626	
4	Chloride	5.13	4747088	4747088	4747088
5	Nitrite	6.10		2028260	
6	Bromide	7.73		376006	
7	Nitrate	8.88	320764	2512474	2512474
8	O.Phos	11.18		752890	
9	Sulfate	13.53	5543107	5543107	5543107



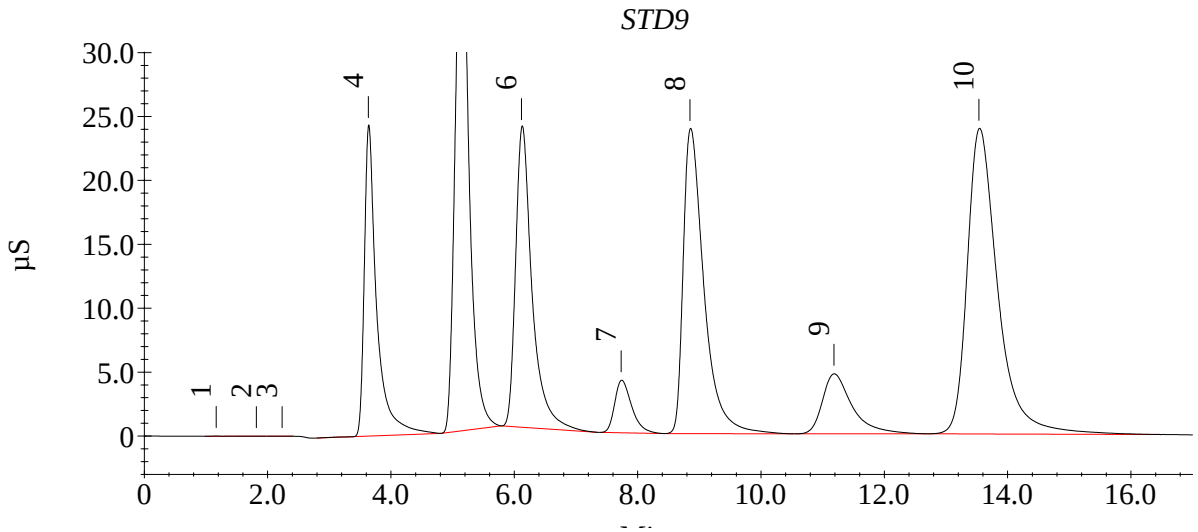
Calibration Update Report

Sample Name : STD9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\STD9_011.DXD

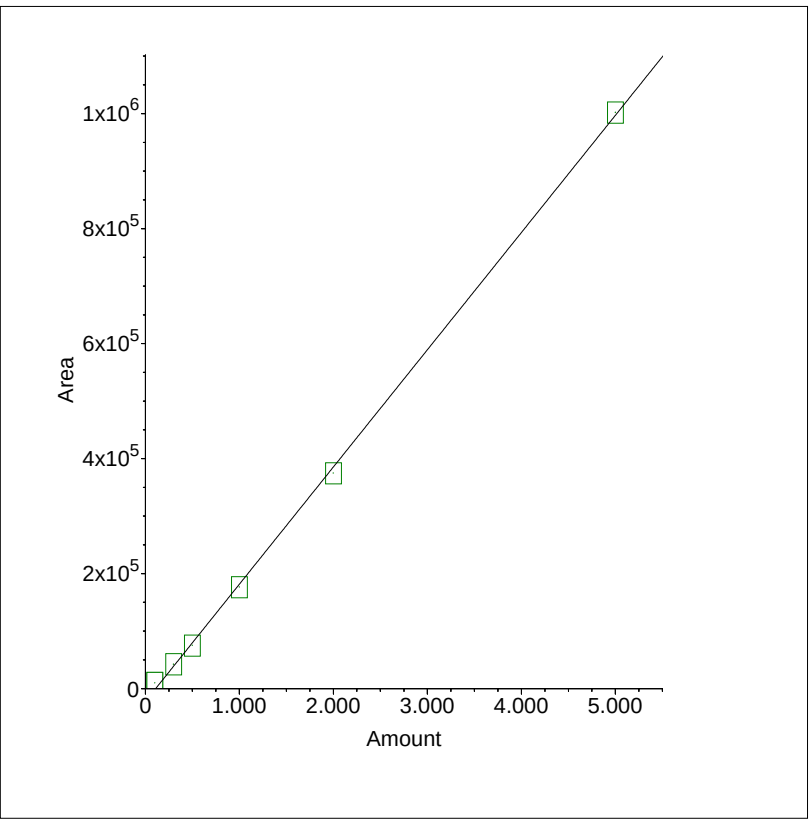
Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Schedule File Name : c:\instarch\sequences\system 2\042320 - ic2990b.sch
Date Time Collected : 4/23/20 14:48
Calibration Date : 4/24/20 07:19
System Operator : TMG

Peak Information : All Components

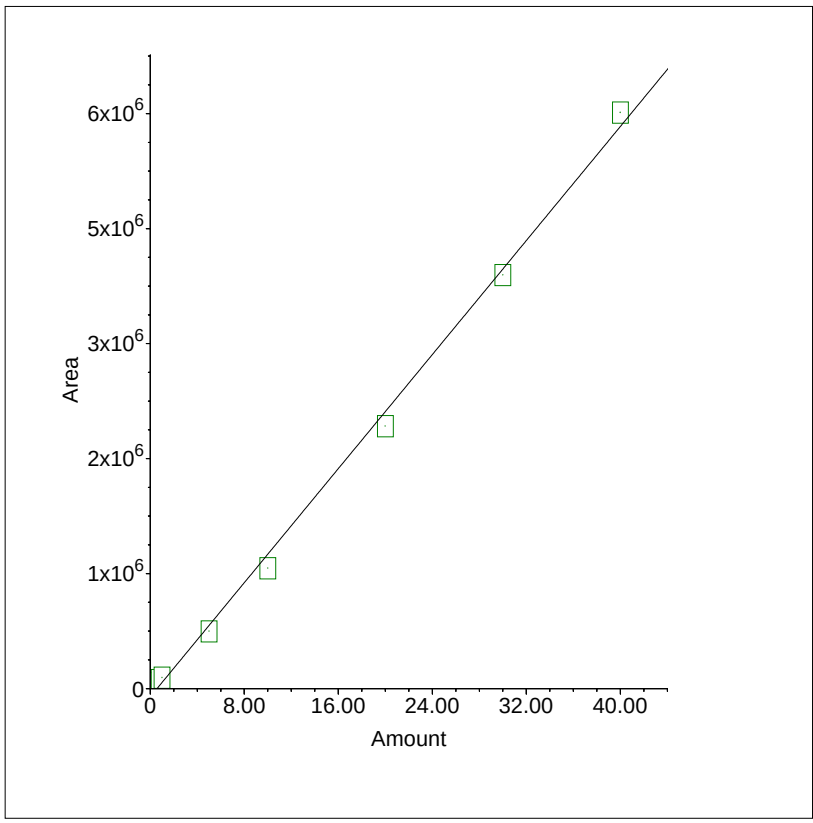
Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
4	Fluoride	3.63		3392586	
5	Chloride	5.13	6611600	6611600	6611600
6	Nitrite	6.12		4366724	
7	Bromide	7.73		786370	
8	Nitrate	8.85		5571554	
9	O.Phos	11.18		1569741	
10	Sulfate	13.53	8214734	8214734	8214734



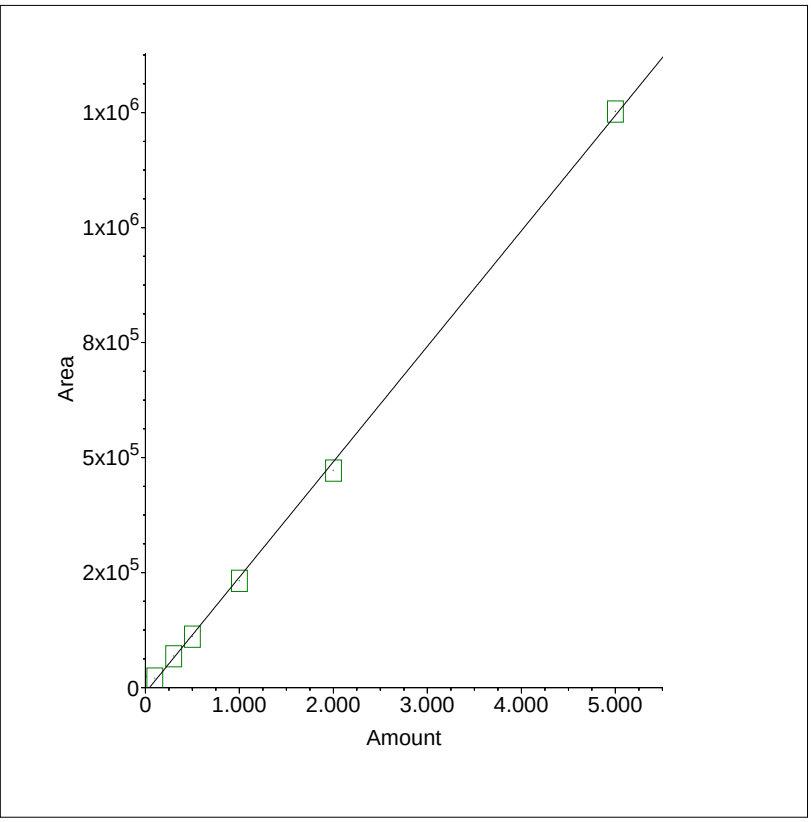
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999526
Amt=4.651e-006*Resp+0.1098



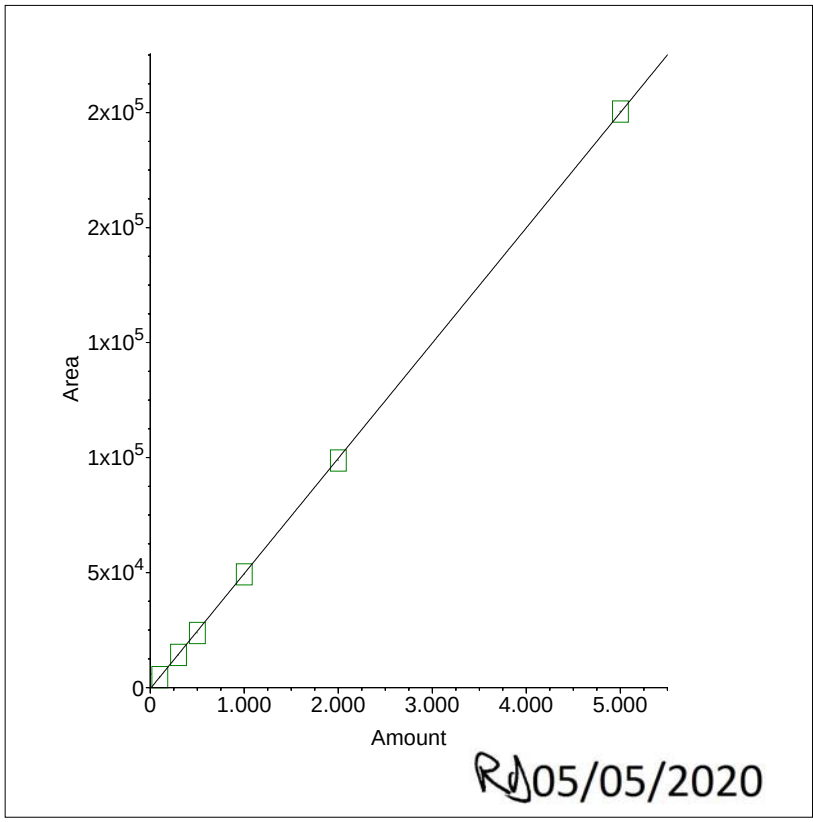
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.997620
Amt=6.112e-006*Resp+0.5771



3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999408
Amt=3.548e-006*Resp+0.04436

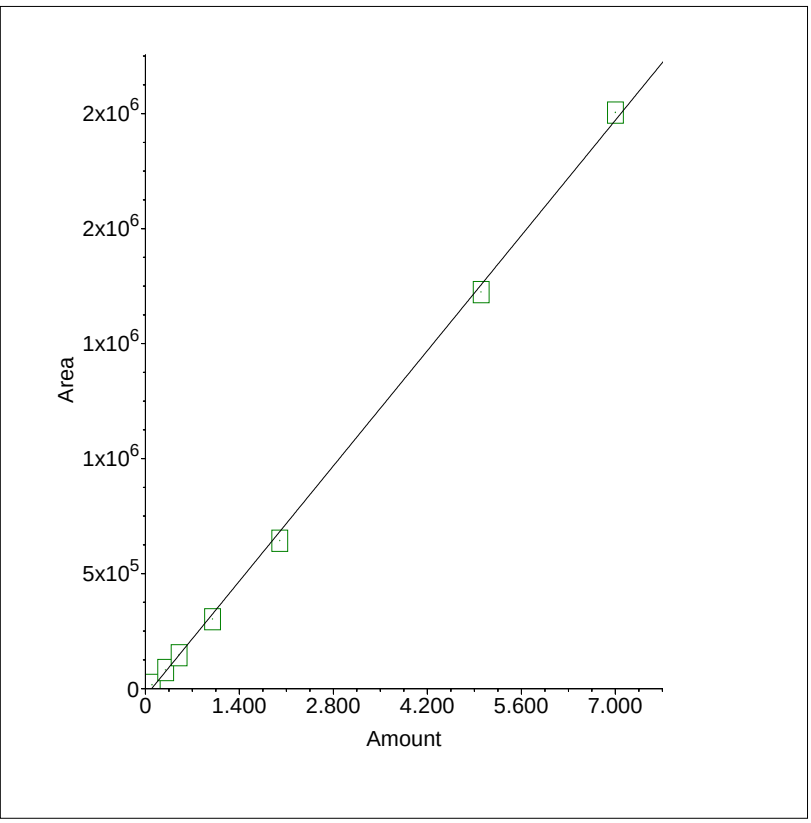


4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999892
Amt=1.871e-005*Resp+0.01098

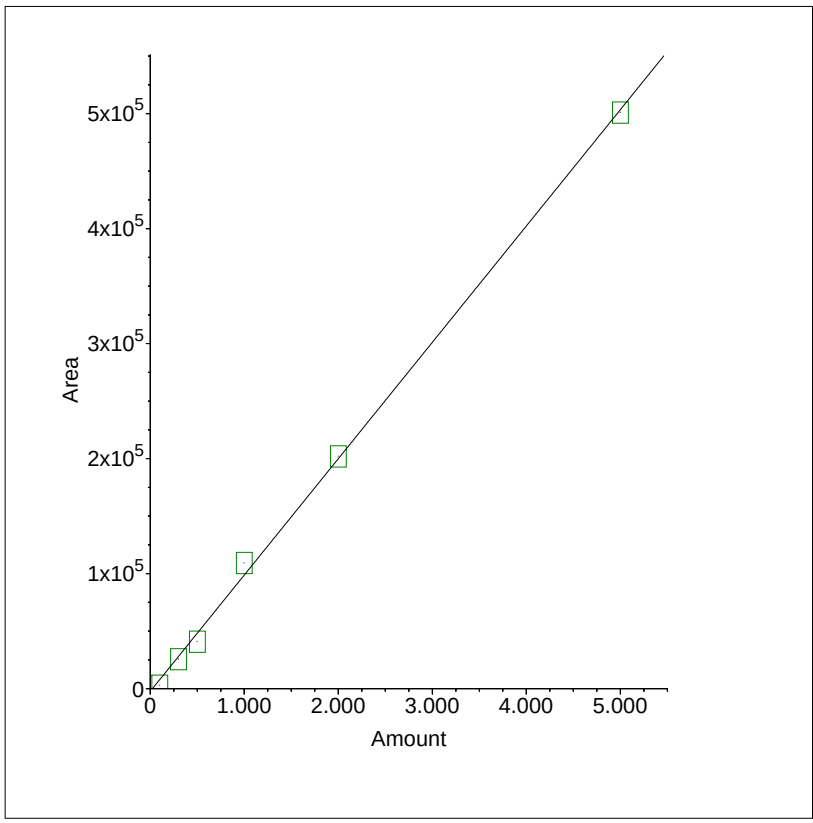


RJ 05/05/2020

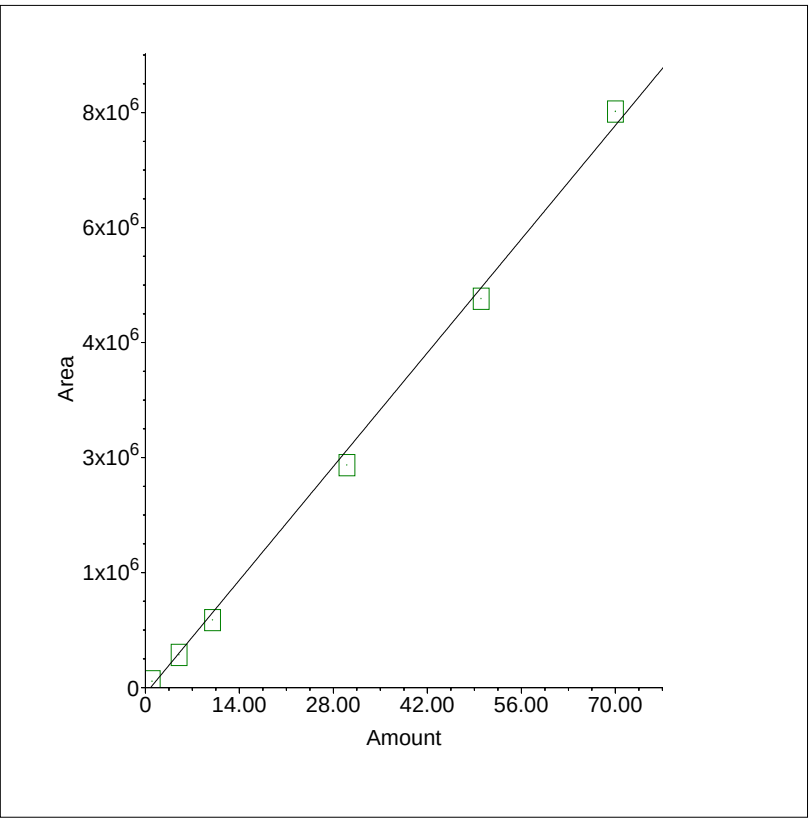
5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999076
Amt=2.786e-006*Resp+0.09429



6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998849
Amt=9.436e-006*Resp+0.02428



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.997998
Amt=8.636e-006*Resp+0.7779



RJ 05/05/2020

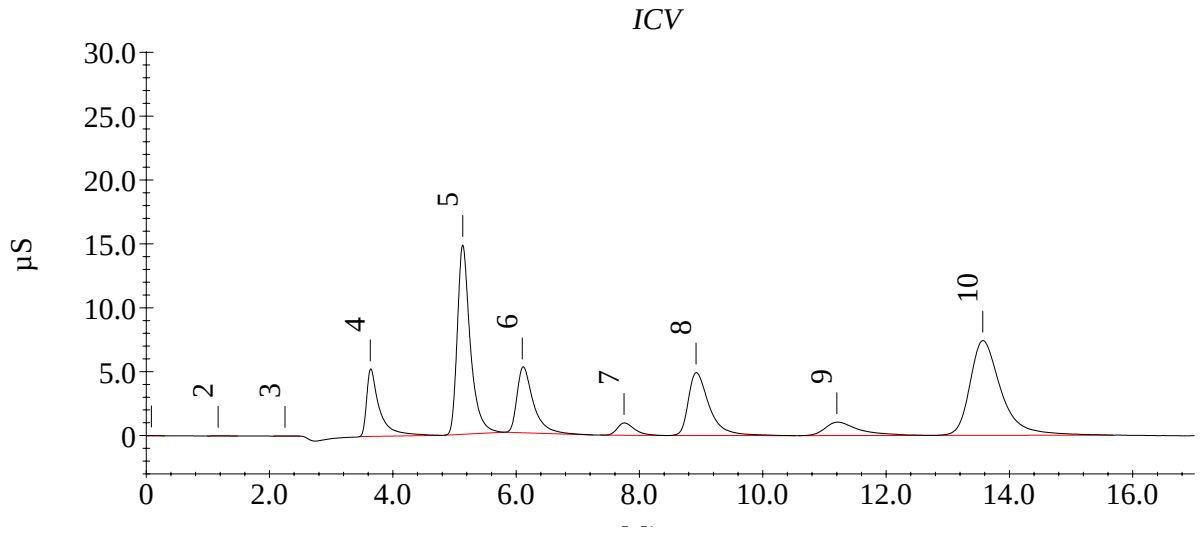
Sample Analysis Report

Sample Name : ICV
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\ICV_012.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Date Time Collected : 4/23/20 15:07
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.63	3.6896	769654	52355	
5	Chloride	5.13	13.7894	2161811	147950	
6	Nitrite	6.10	3.4211	951635	51054	
7	Bromide	7.75	3.5186	187447	9599	
8	Nitrate	8.92	3.3323	1162199	49122	
9	O.Phos	11.20	3.7967	399796	10459	
10	Sulfate	13.57	23.1977	2596077	74021	



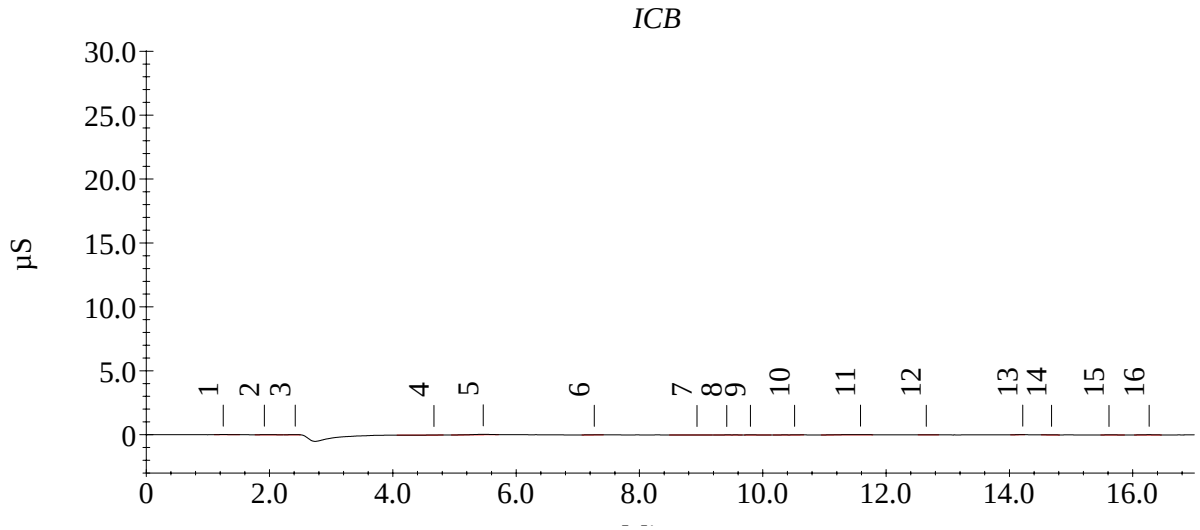
Sample Analysis Report

Sample Name : ICB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042320 -\ICB_014.DXD

Method File Name : C:\INSTARCH\METHODS\SYSTEM 2\IC2990.met
Date Time Collected : 4/23/20 15:46
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
5	Chloride	5.47	0.6169	6515	316	
7	Nitrate	8.93	0.0987	1569	63	
11	O.Phos	11.58	0.0635	4156	134	



Schedule File: C:\INSTARCH\Sequences\System 2\042820 -.sch

Line	Sample	Sample Type	Level	Method
1	CCV	Sample		system 2\ic2990.met
2	LCSW	Sample		system 2\ic2990.met
3	MBW	Sample		system 2\ic2990.met
38	CCV	Sample		c:\instarch\methods\system 2\ic2990.met
39	CCB	Sample		c:\instarch\methods\system 2\ic2990.met
48	412553	Sample		c:\instarch\methods\system 2\ic2990.met
49	412558	Sample		c:\instarch\methods\system 2\ic2990.met
50	CCV	Sample		c:\instarch\methods\system 2\ic2990.met
51	CCB	Sample		c:\instarch\methods\system 2\ic2990.met
52	412558X5	Sample		c:\instarch\methods\system 2\ic2990.met
53	412559	Sample		c:\instarch\methods\system 2\ic2990.met
54	412559X5	Sample		c:\instarch\methods\system 2\ic2990.met
55	412562	Sample		c:\instarch\methods\system 2\ic2990.met
56	412563	Sample		c:\instarch\methods\system 2\ic2990.met
57	DUP412563	Sample		c:\instarch\methods\system 2\ic2990.met
58	MSW412563	Sample		c:\instarch\methods\system 2\ic2990.met
59	MSDW412563	Sample		c:\instarch\methods\system 2\ic2990.met
62	CCV	Sample		c:\instarch\methods\system 2\ic2990.met
63	CCB	Sample		c:\instarch\methods\system 2\ic2990.met

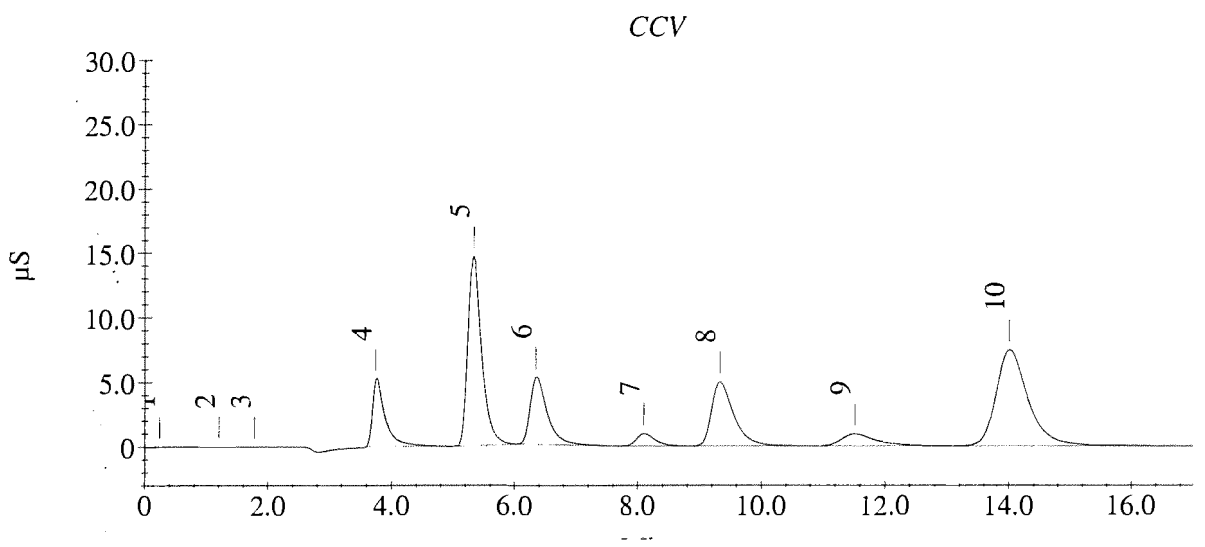
Sample Analysis Report

Sample Name : CCV
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042820 -\CCV_001.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/28/20 11:25
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.75	3.5754	745091	51789	
5	Chloride	5.33	14.4153	2264224	146317	
6	Nitrite	6.35	3.6699	1021763	51773	
7	Bromide	8.10	3.6856	196370	9487	
8	Nitrate	9.33	3.5421	1237495	49394	
9	O.Phos	11.52	3.4007	357823	9281	
10	Sulfate	14.00	24.0109	2690237	74195	



After

TMG 5/5/2020

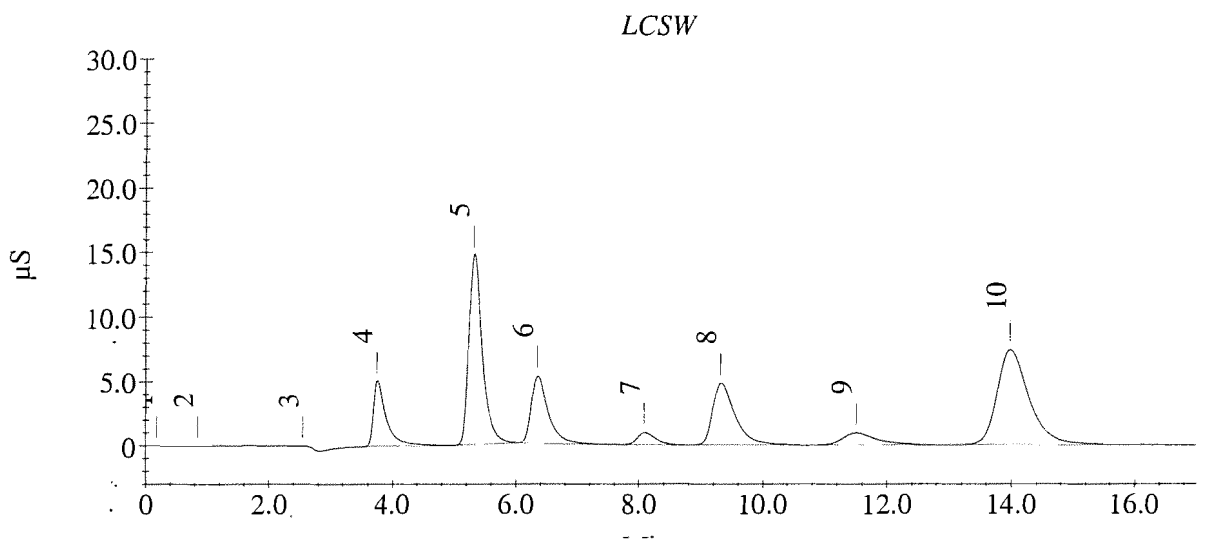
Sample Analysis Report

Sample Name : LCSW
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042820 -\LCSW_002.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/28/20 11:45
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.75	3.5503	739711	50304	
5	Chloride	5.32	14.3598	2255134	146390	
6	Nitrite	6.35	3.6452	1014815	52158	
7	Bromide	8.08	3.6693	195500	9294	
8	Nitrate	9.32	3.4464	1203133	47778	
9	O.Phos	11.50	3.3952	357242	9320	
10	Sulfate	13.98	23.8891	2676144	73876	



RD 5/5/2020

Before
Reason #4
TMG 5/5/2020

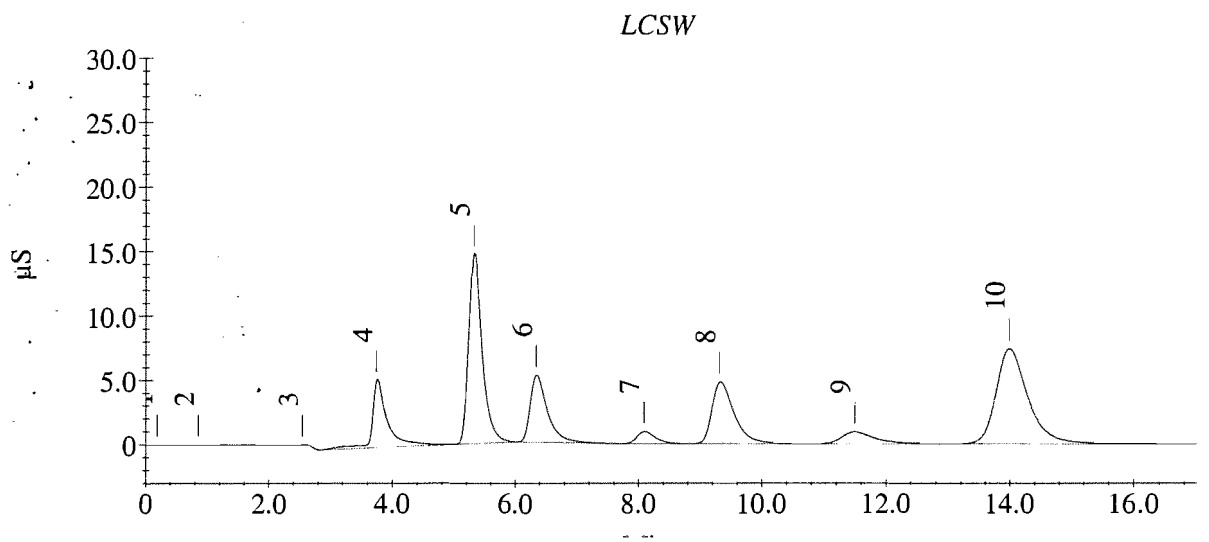
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\042820 -\LCSW_002.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/28/20 11:45
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.75	4.2394	887853	52056	
5	Chloride	5.32	14.3598	2255134	146390	
6	Nitrite	6.35	3.6452	1014815	52158	
7	Bromide	8.08	3.6693	195500	9294	
8	Nitrate	9.32	3.4464	1203133	47778	
9	O.Phos	11.50	3.3952	357242	9320	
10	Sulfate	13.98	23.8891	2676144	73876	



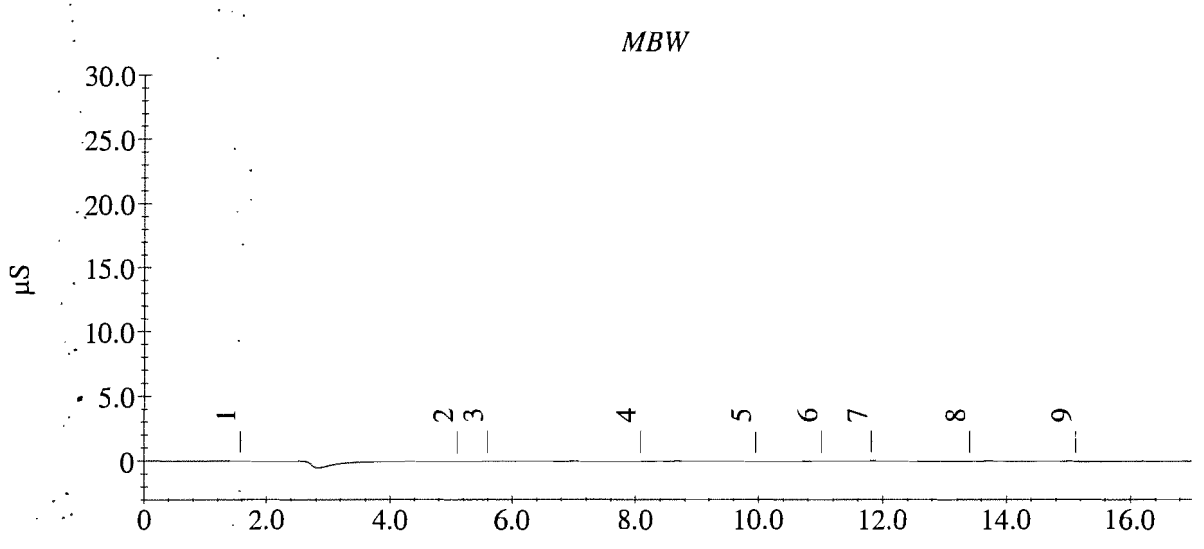
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\042820 -\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/28/20 12:04
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.10	0.5857	1419	87	
3	Nitrite	5.58	0.0546	2899	198	
6	O.Phos	11.02	0.0434	2032	97	



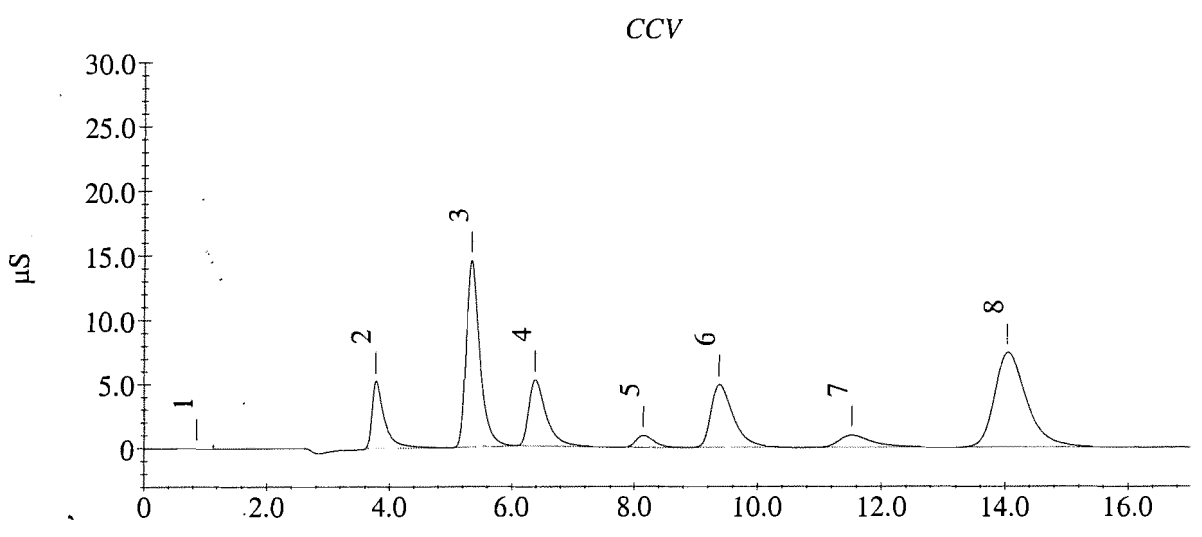
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\042820 -\CCV_038.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/28/20 23:20
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.77	3.5547	740653	51679	
3	Chloride	5.35	14.3459	2252869	144878	
4	Nitrite	6.38	3.6402	1013388	51398	
5	Bromide	8.15	3.7022	197256	9372	
6	Nitrate	9.38	3.5227	1230537	49028	
7	O.Phos	11.52	3.4126	359091	9511	
8	Sulfate	14.03	23.9850	2687247	73696	



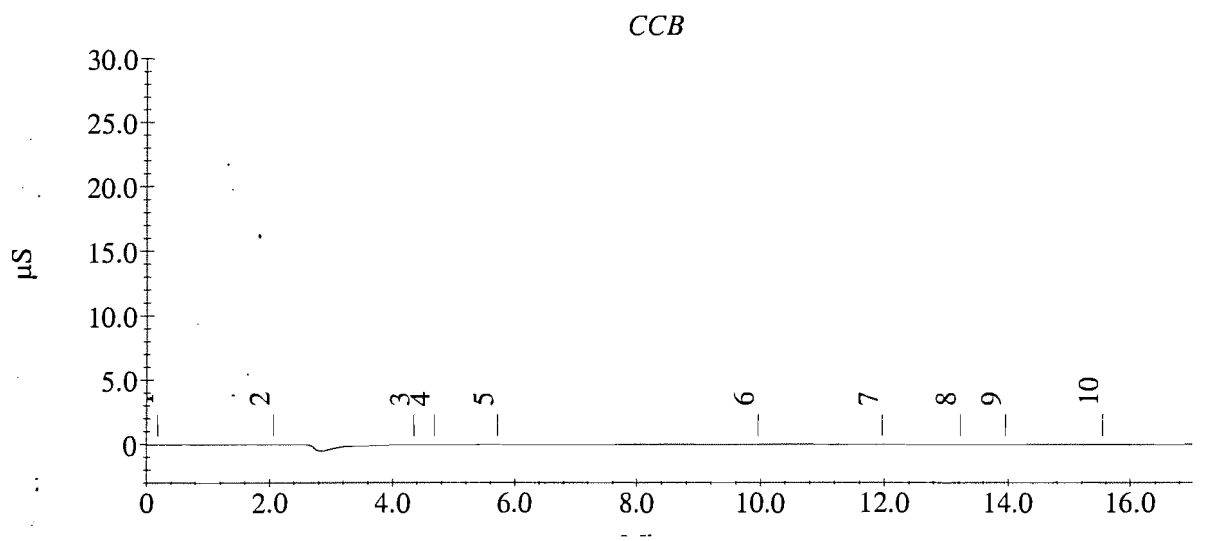
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\042820 -\CCB_039.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/28/20 23:39
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Chloride	4.68	0.5838	1109	90	
5	Nitrite	5.72	0.0661	6133	242	
7	O.Phos	11.97	0.0790	5803	132	
8	Sulfate	13.22	0.7962	2123	111	



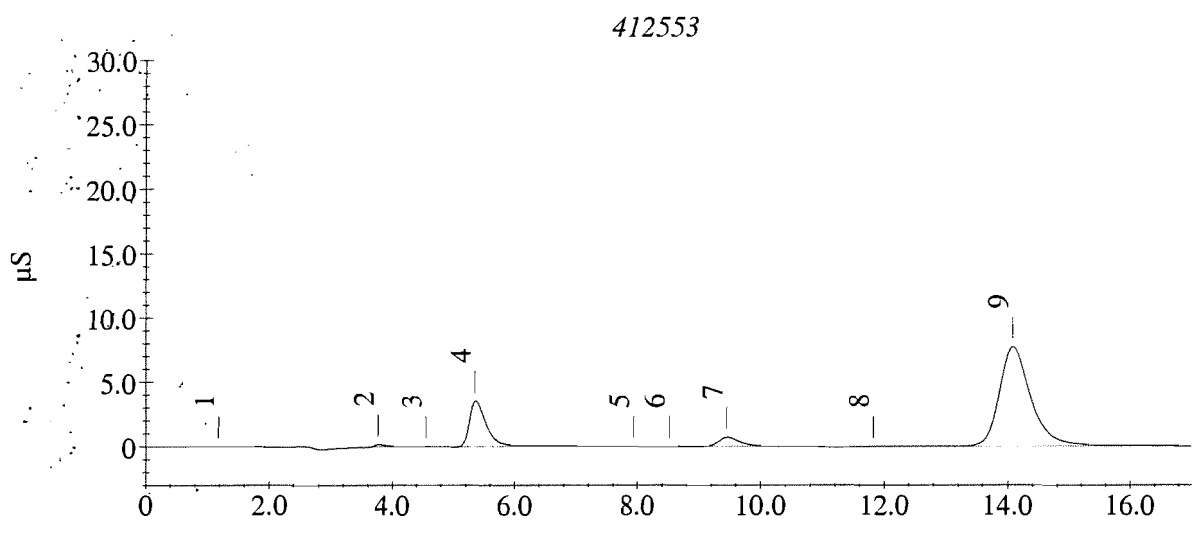
Sample Analysis Report

Sample Name : 412553
Data File Name : c:\instarch\data\system 2\042820 -\412553_048.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 02:33
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.77	0.2154	22712	1706	
4	Chloride	5.35	4.7033	675140	35370	
6	Nitrate	8.52	0.0972	1062	89	
8	O.Phos	11.82	0.0403	1701	103	
9	Sulfate	14.07	24.5467	2752288	77261	



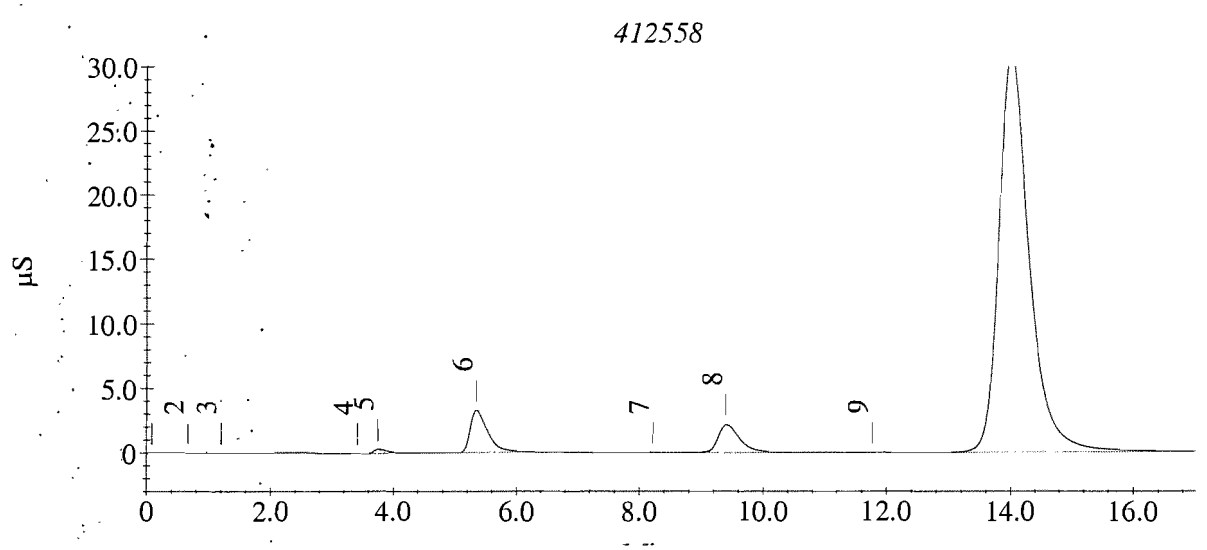
Sample Analysis Report

Sample Name : 412558
Data File Name : c:\instarch\data\system 2\042820 -\412558_049.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 02:52
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
5	Fluoride	3.75	0.3447	50514	3201	
6	Chloride	5.35	4.5442	649096	32811	
8	Nitrate	9.40	1.5689	529274	21584	
9	O.Phos	11.77	0.0380	1453	76	
10	Sulfate	14.00	93.7413	10764607	310492	+



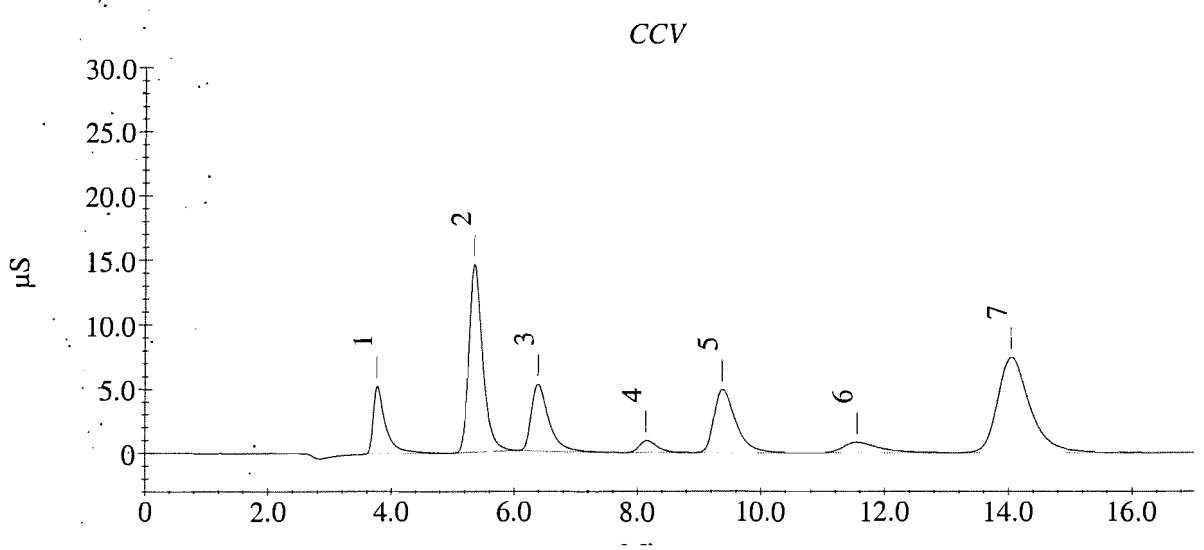
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\042820 -\CCV_050.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 03:12
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.77	3.4919	727155	52073	
2	Chloride	5.35	14.4748	2273949	145611	
3	Nitrite	6.38	3.6658	1020599	51833	
4	Bromide	8.13	3.6317	193488	9332	
5	Nitrate	9.37	3.5000	1222381	49185	
6	O.Phos	11.55	3.2109	337707	8232	
7	Sulfate	14.03	24.1565	2707103	74132	



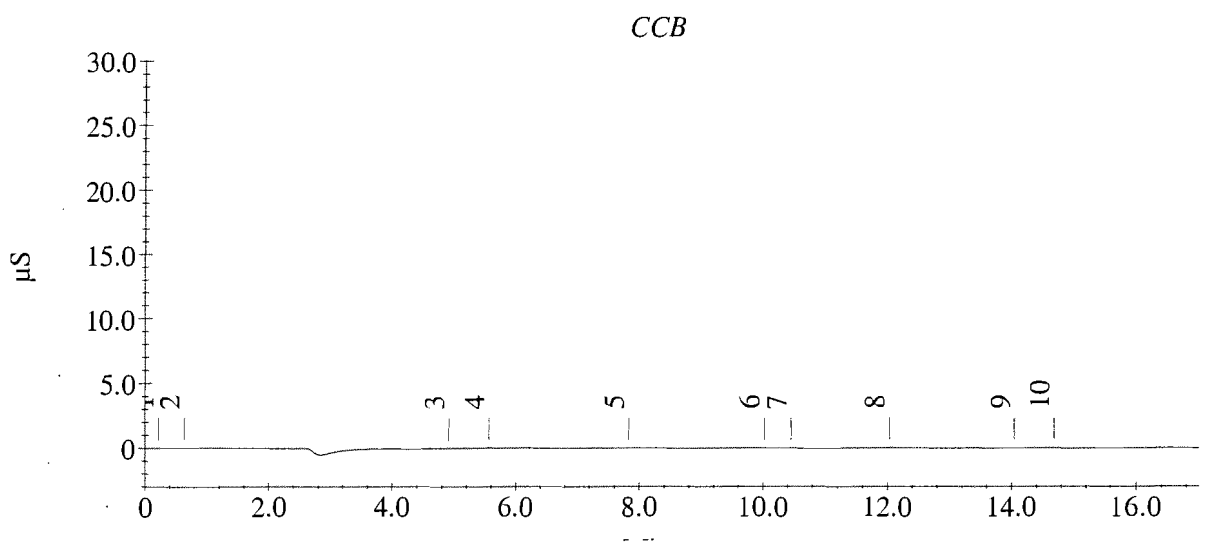
Sample Analysis Report

Sample Name : CCB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\042820 -\CCB_051.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 03:31
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Chloride	4.92	0.5874	1691	101	
4	Nitrite	5.57	0.0517	2065	166	
7	O.Phos	10.45	0.0395	1610	121	
9	Sulfate	14.05	0.7982	2348	112	



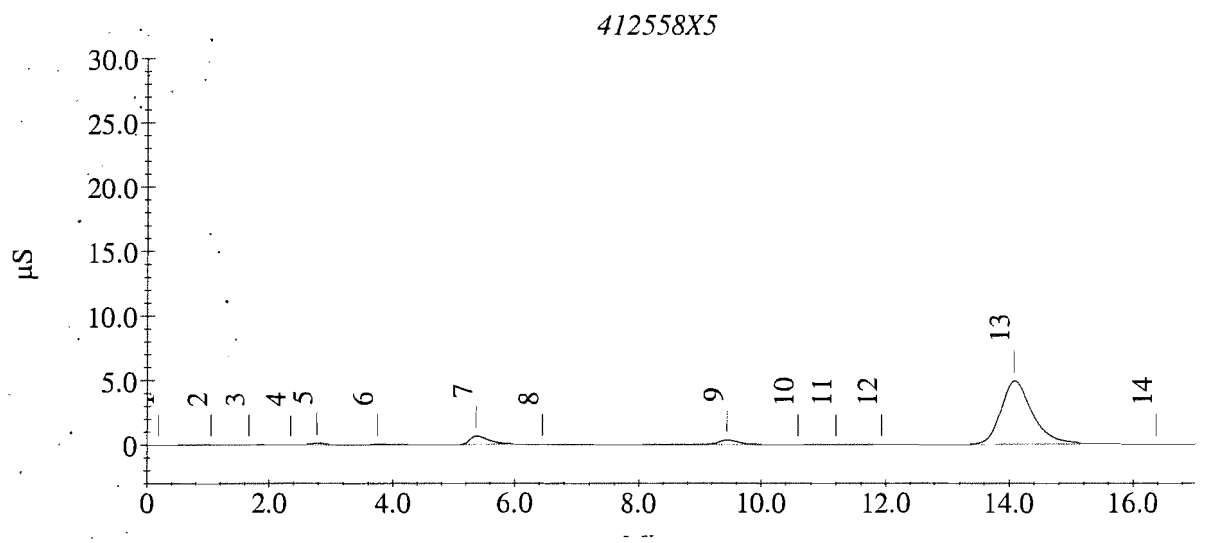
Sample Analysis Report

Sample Name : 412558X5
Data File Name : c:\instarch\data\system 2\042820 -\412558X5_052.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 03:50
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
6	Fluoride	3.75	0.1430	7144	545	
7	Chloride	5.37	1.4649	145271	6474	
8	Nitrite	6.45	0.0596	4282	260	
9	Nitrate	9.45	0.3401	88216	3700	
11	O.Phos	11.20	0.0342	1047	73	
13	Sulfate	14.07	16.0771	1771554	49068	



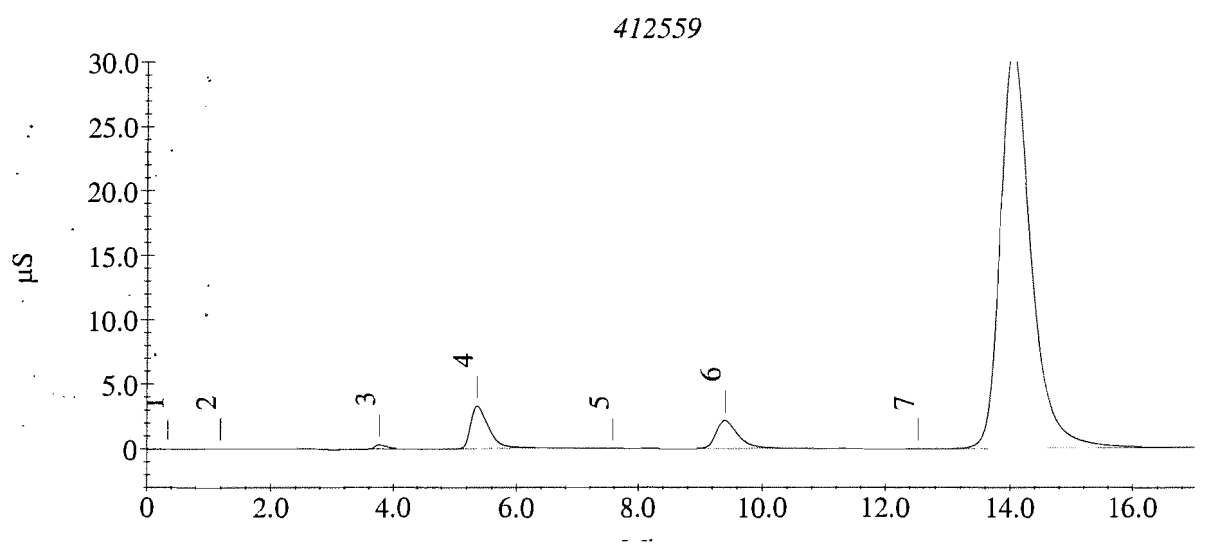
Sample Analysis Report

Sample Name : 412559
Data File Name : c:\instarch\data\system 2\042820 -\412559_053.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 04:10
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.77	0.3237	45999	3065	
4	Chloride	5.37	4.5111	643688	32726	
5	Bromide	7.58	0.0320	1125	66	
6	Nitrate	9.40	1.5574	525151	21636	
8	Sulfate	14.02	93.9883	10793208	309440	+



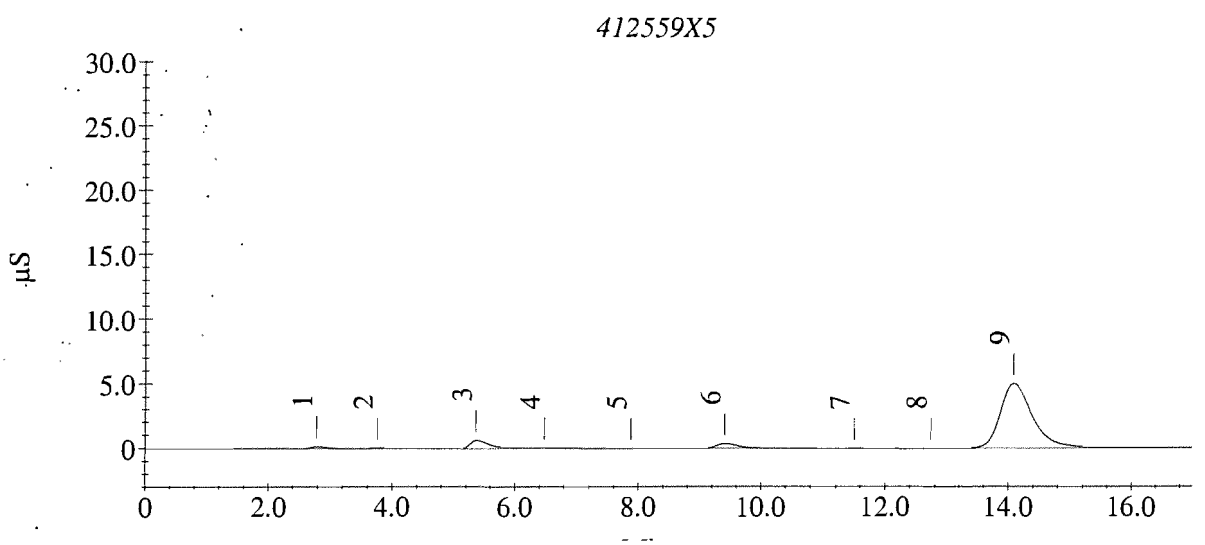
Sample Analysis Report

Sample Name : 412559X5
Data File Name : c:\instarch\data\system 2\042820 -\412559X5_054.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 04:29
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.77	0.1466	7926	553	
3	Chloride	5.37	1.4656	145378	6477	
4	Nitrite	6.48	0.0617	4890	265	
5	Bromide	7.88	0.0313	1088	103	
6	Nitrate	9.42	0.3435	89454	3628	
7	O.Phos	11.50	0.0380	1454	134	
9	Sulfate	14.08	16.3806	1806704	49751	



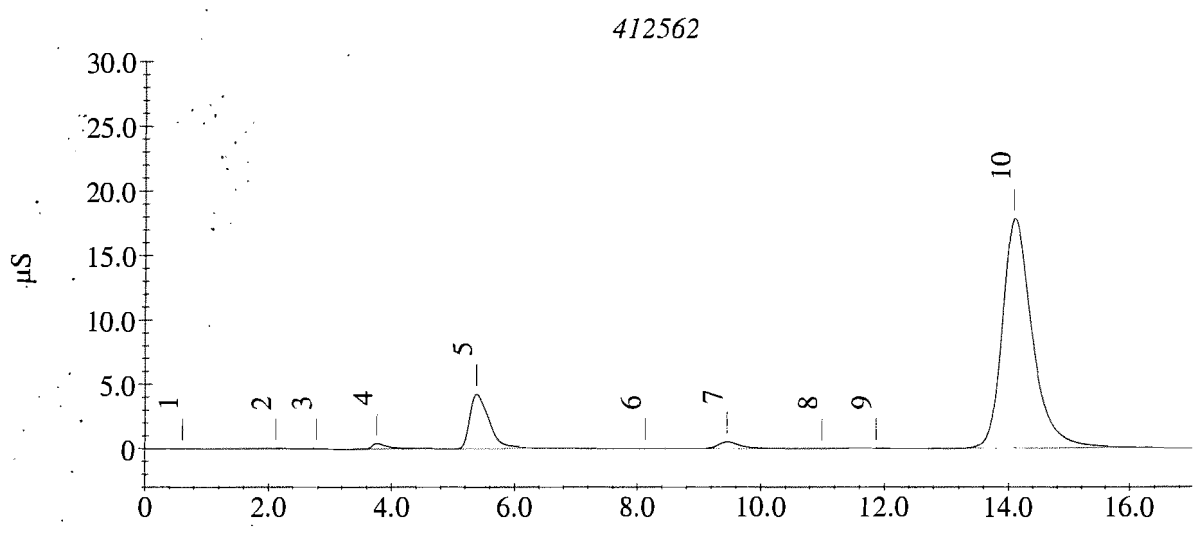
Sample Analysis Report

Sample Name : 412562
Data File Name : c:\instarch\data\system 2\042820 -\412562_055.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 04:48
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.77	0.4820	80033	4319	
5	Chloride	5.38	6.2149	922468	42113	
6	Bromide	8.13	0.0788	3626	150	
7	Nitrate	9.45	0.4442	125574	5290	
9	O.Phos	11.87	0.1477	13085	376	
10	Sulfate	14.08	53.6236	6119219	177775	



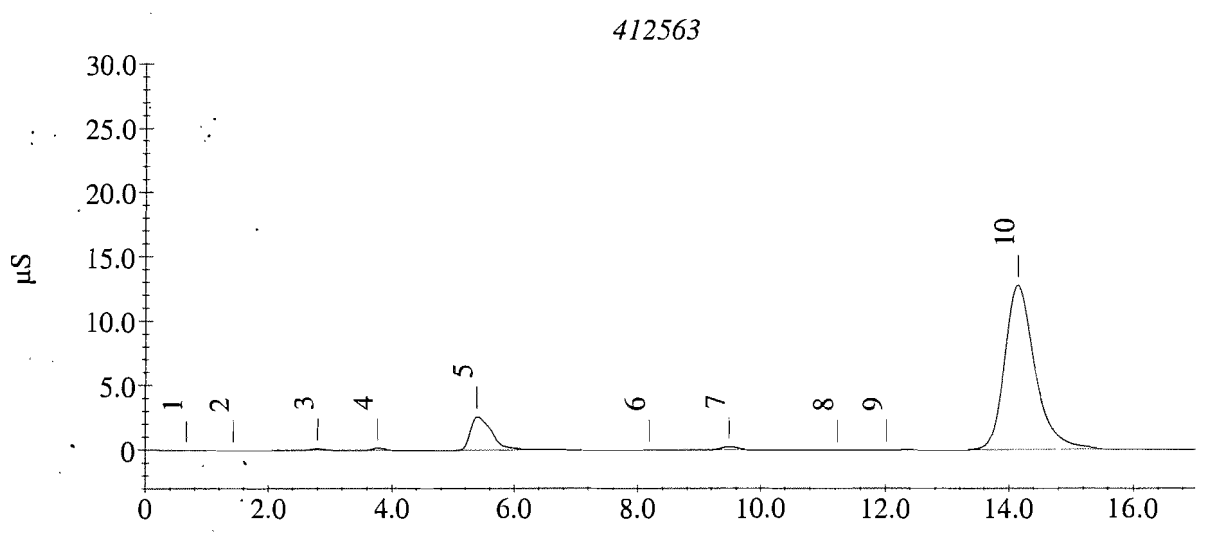
Sample Analysis Report

Sample Name : 412563
Data File Name : c:\instarch\data\system 2\042820 -\412563_056.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 05:08
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.77	0.2547	31160	1743	
5	Chloride	5.38	4.4386	631833	25790	
7	Nitrate	9.48	0.2554	57840	2398	
9	O.Phos	12.02	0.0554	3298	169	
10	Sulfate	14.13	38.5491	4373675	127237	



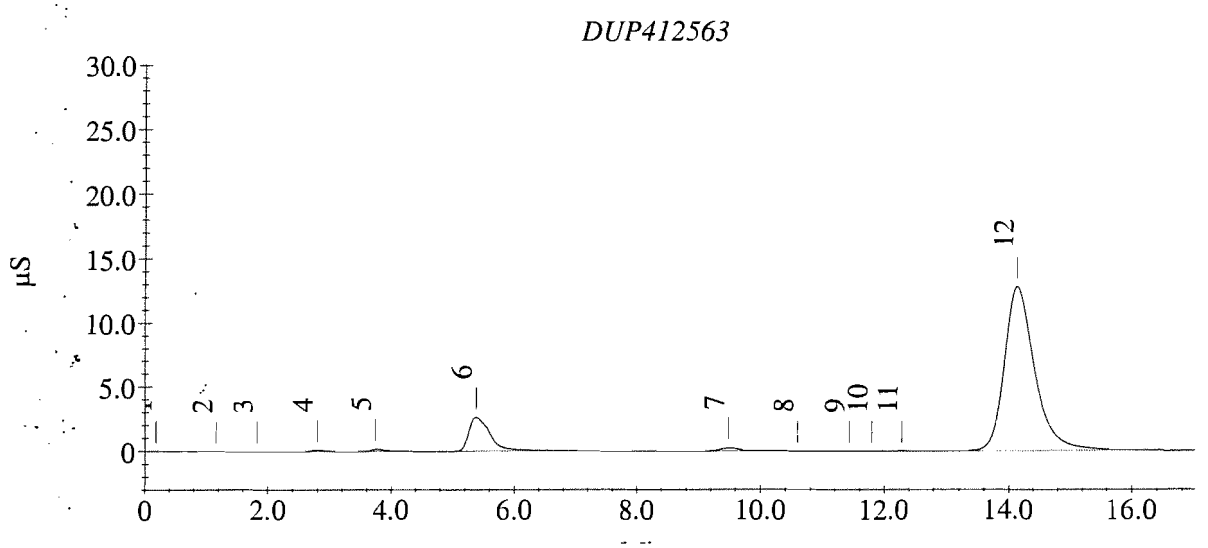
Sample Analysis Report

Sample Name : DUP412563
Data File Name : c:\instarch\data\system 2\042820 -\DUP412563_057.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 05:27
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
5	Fluoride	3.75	0.2442	28914	1688	
6	Chloride	5.38	4.3435	616268	26239	
7	Nitrate	9.48	0.2450	54109	2374	
10	O.Phos	11.80	0.0379	1440	121	
12	Sulfate	14.13	38.7564	4397685	127366	



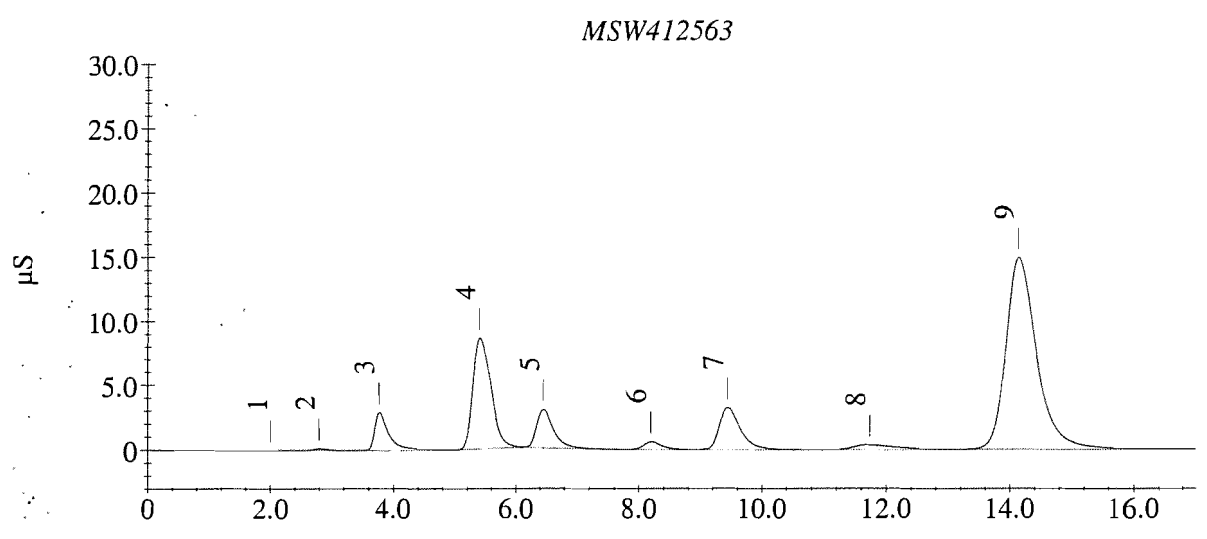
Sample Analysis Report

Sample Name : MSW412563
Data File Name : c:\instarch\data\system 2\042820 -\MSW412563_058.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 05:46
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.77	2.3214	475502	29301	
4	Chloride	5.40	11.6183	1806572	86254	
5	Nitrite	6.45	2.0864	575494	29519	
7	Nitrate	9.43	2.3032	792812	32650	
8	O.Phos	11.73	1.7737	185401	3841	
9	Sulfate	14.13	45.5742	5187145	149004	



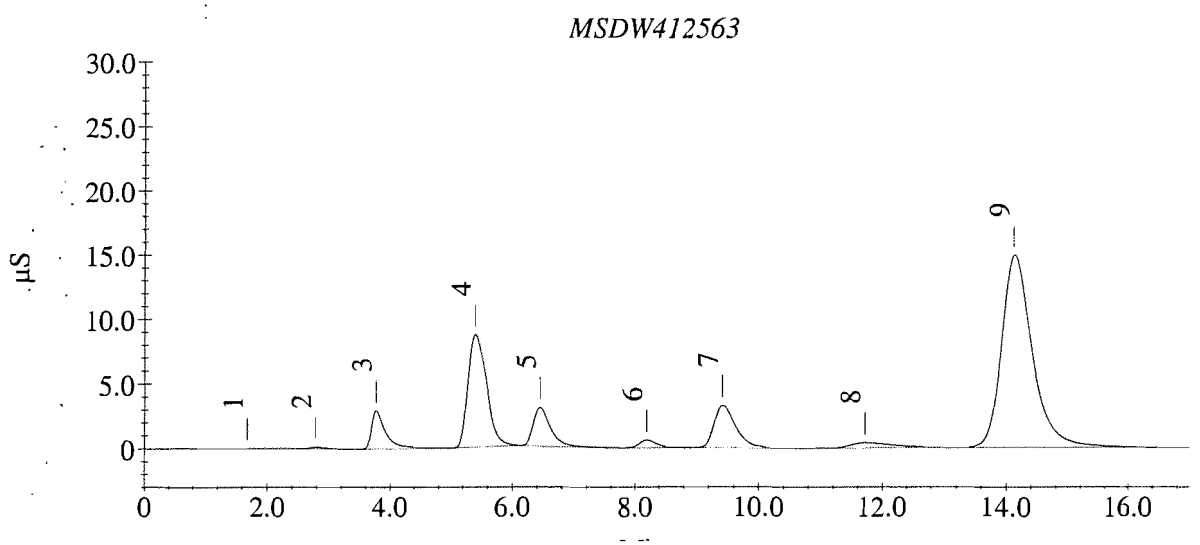
Sample Analysis Report

Sample Name : MSDW412563
Data File Name : c:\instarch\data\system 2\042820 -\MSDW412563_059.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 06:05
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.77	2.3387	479214	29601	
4	Chloride	5.40	11.7445	1827218	87201	
5	Nitrite	6.45	2.1301	587819	29975	
7	Nitrate	9.42	2.3140	796699	32955	
8	O.Phos	11.72	1.8859	197289	4025	
9	Sulfate	14.12	45.3652	5162939	148726	



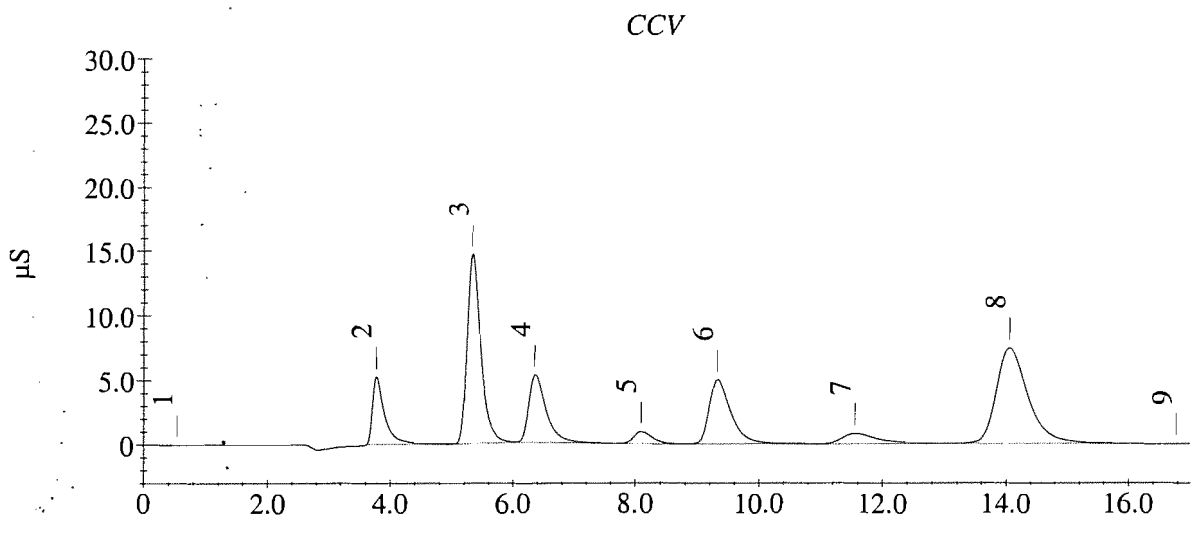
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\042820 -\CCV_062.DXD

Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 07:03
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.77	3.4591	720104	52001	
3	Chloride	5.33	14.3729	2257280	146186	
4	Nitrite	6.35	3.6793	1024423	51723	
5	Bromide	8.08	3.6790	196017	9410	
6	Nitrate	9.32	3.5169	1228455	49617	
7	O.Phos	11.55	3.1518	331447	8191	
8	Sulfate	14.05	23.8521	2671848	74023	



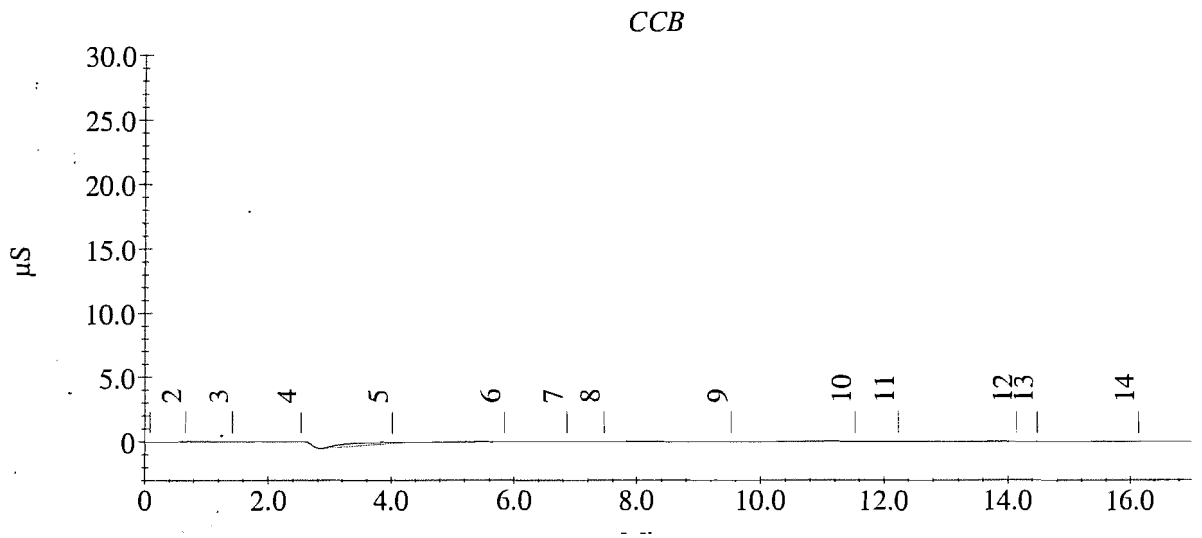
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\042820 -\CCB_063.DXD

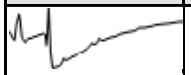
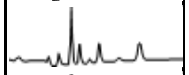
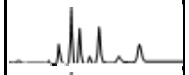
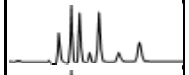
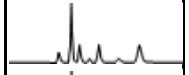
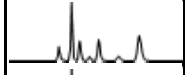
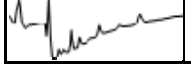
Method File Name : c:\instarch\methods\system 2\ic2990.met
Date Time Collected : 4/29/20 07:23
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
6	Nitrite	5.85	0.0685	6810	218	
8	Bromide	7.47	0.0339	1224	53	
9	Nitrate	9.53	0.0980	1349	70	
10	O.Phos	11.53	0.0378	1434	95	
13	Sulfate	14.48	0.7868	1037	106	



Sequence: 042320 - IC2990A
Last Update Operator: AQUION

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	IB	1.0000	Unknown		2	5000	Anions 1.0	IC2990A	Finished
	STD1	1.0000	Calibration Standard	1	3	5000	Anions 1.0	IC2990A	Finished
	STD2	1.0000	Calibration Standard	2	4	5000	Anions 1.0	IC2990A	Finished
	STD3	1.0000	Calibration Standard	3	5	5000	Anions 1.0	IC2990A	Finished
	STD4	1.0000	Calibration Standard	4	6	5000	Anions 1.0	IC2990A	Finished
	STD5	1.0000	Calibration Standard	5	7	5000	Anions 1.0	IC2990A	Finished
	STD6	1.0000	Calibration Standard	6	8	5000	Anions 1.0	IC2990A	Finished
	STD7	1.0000	Calibration Standard	7	9	5000	Anions 1.0	IC2990A	Finished
	STD8	1.0000	Calibration Standard	8	10	5000	Anions 1.0	IC2990A	Finished
	STD9	1.0000	Calibration Standard	9	11	5000	Anions 1.0	IC2990A	Finished
	ICV	1.0000	Unknown		12	5000	Anions 1.0	IC2990A	Finished
	ICB	1.0000	Unknown		13	5000	Anions 1.0	IC2990A	Finished

Calibration Concentrations

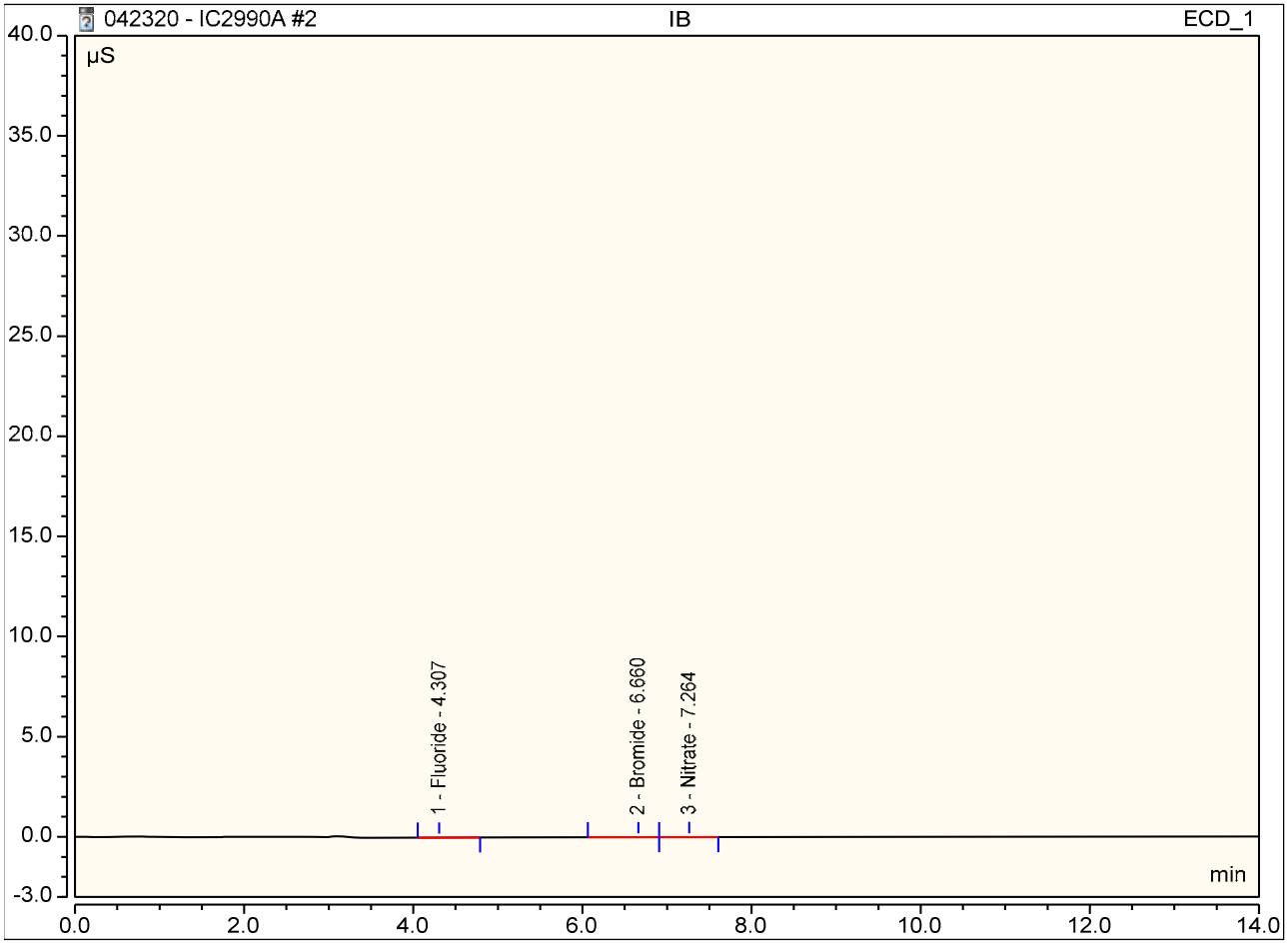
Instrument:AQUION 4	Cal. File:	IC2990A		ICV	IC2995 IC2998		Analyst/Date: TMG 04/23/2020		
Analyte	Cal Level 1 (mg/L)	Cal Level 2 (mg/L)	Cal Level 3 (mg/L)	Cal Level 4 (mg/L)	Cal Level 5 (mg/L)	Cal Level 6 (mg/L)	Cal Level 7 (mg/L)	Cal Level 8 (mg/L)	Cal Level 9 (mg/L)	ICV (mg/L)
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0		3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

RJ05/05/2020

Peak Integration Report

Sample Name:	**IB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 10:18**	*Run Time:*	**14.00**

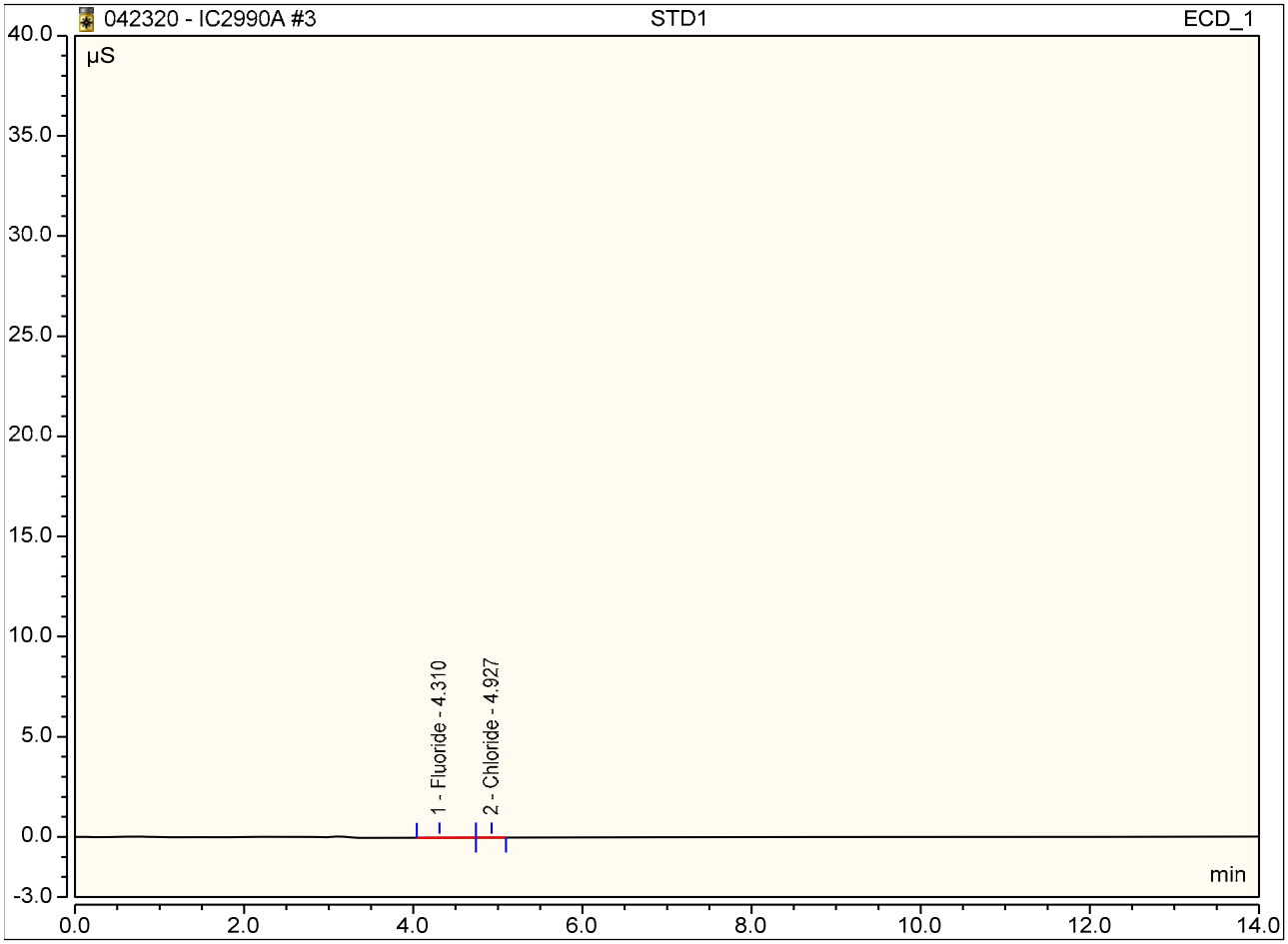
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.31	Fluoride	0.001	0.005	0.0465
2	6.66	Bromide	0.001	0.003	0.0237
3	7.26	Nitrate	0.001	0.004	0.0671



Peak Integration Report

Sample Name:	**STD1**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 10:32**	*Run Time:*	**14.00**

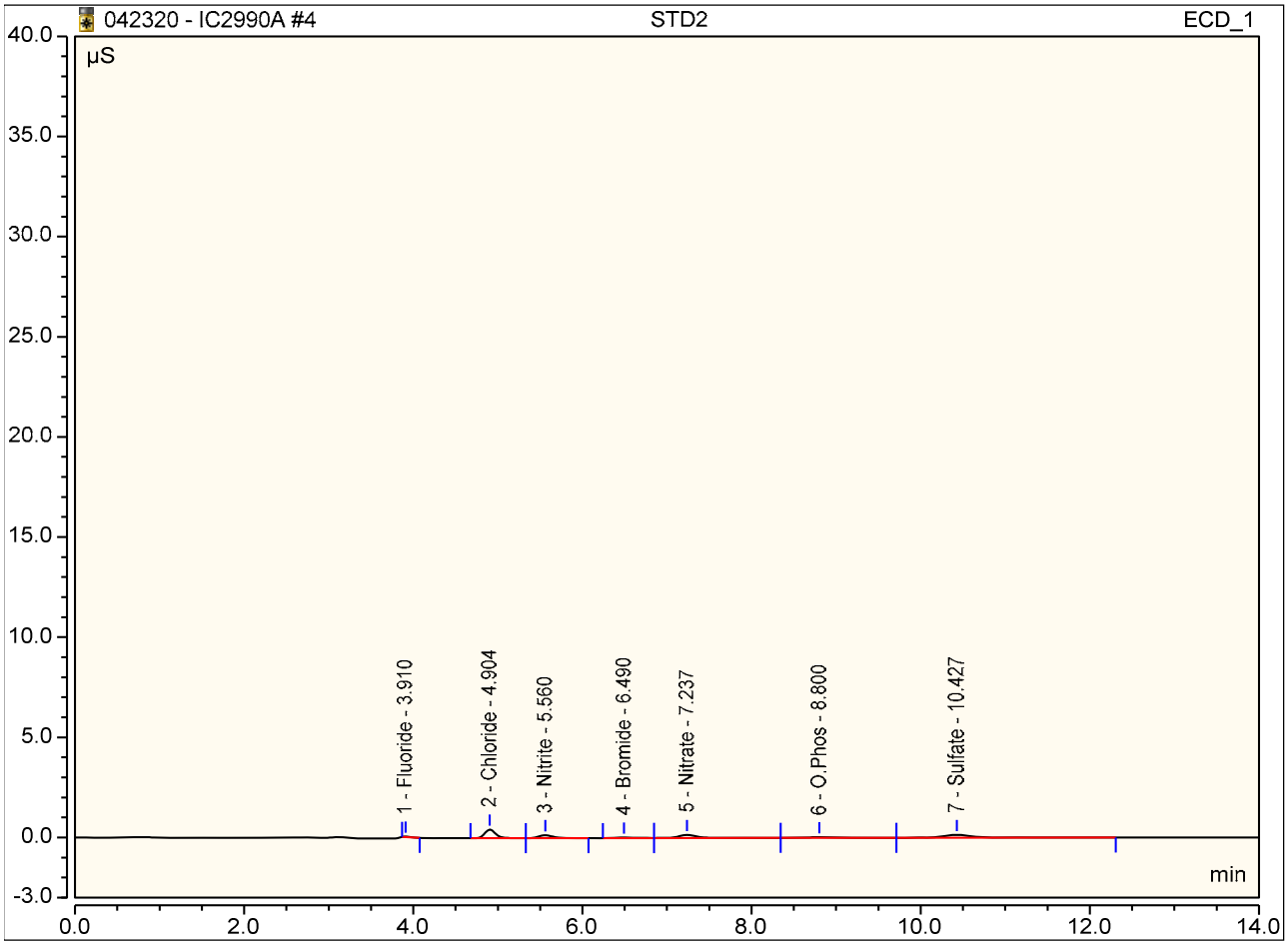
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.31	Fluoride	0.002	0.007	0.0487
2	4.93	Chloride	0.000	0.002	0.4965



Peak Integration Report

Sample Name:	**STD2**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 10:46**	*Run Time:*	**14.00**

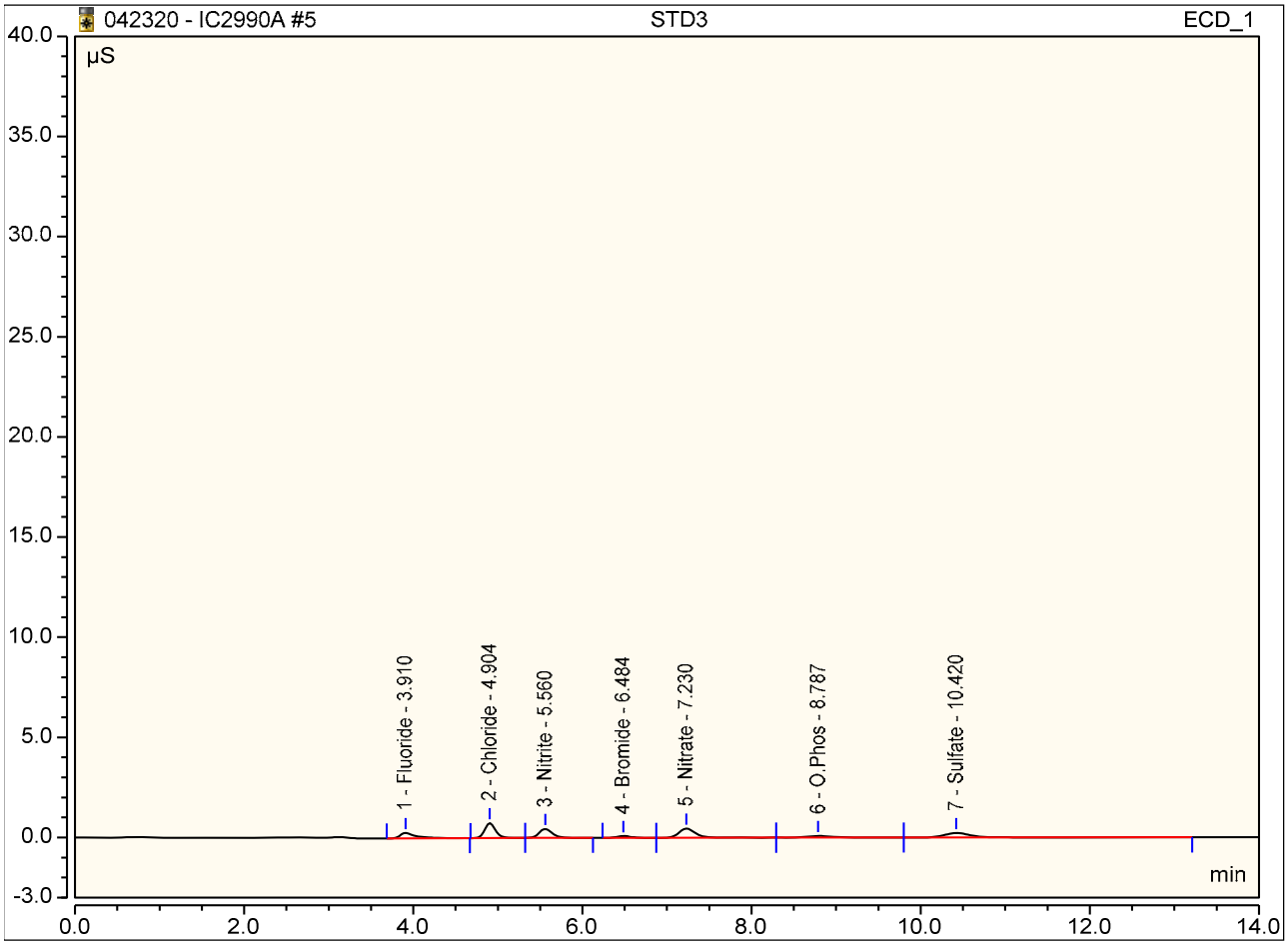
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.003	0.031	0.0551
2	4.90	Chloride	0.065	0.433	0.8754
3	5.56	Nitrite	0.028	0.151	0.1270
4	6.49	Bromide	0.006	0.031	0.1135
5	7.24	Nitrate	0.035	0.152	0.1573
6	8.80	O.Phos	0.010	0.026	0.1399
7	10.43	Sulfate	0.052	0.141	1.0695



Peak Integration Report

Sample Name:	**STD3**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 11:00**	*Run Time:*	**14.00**

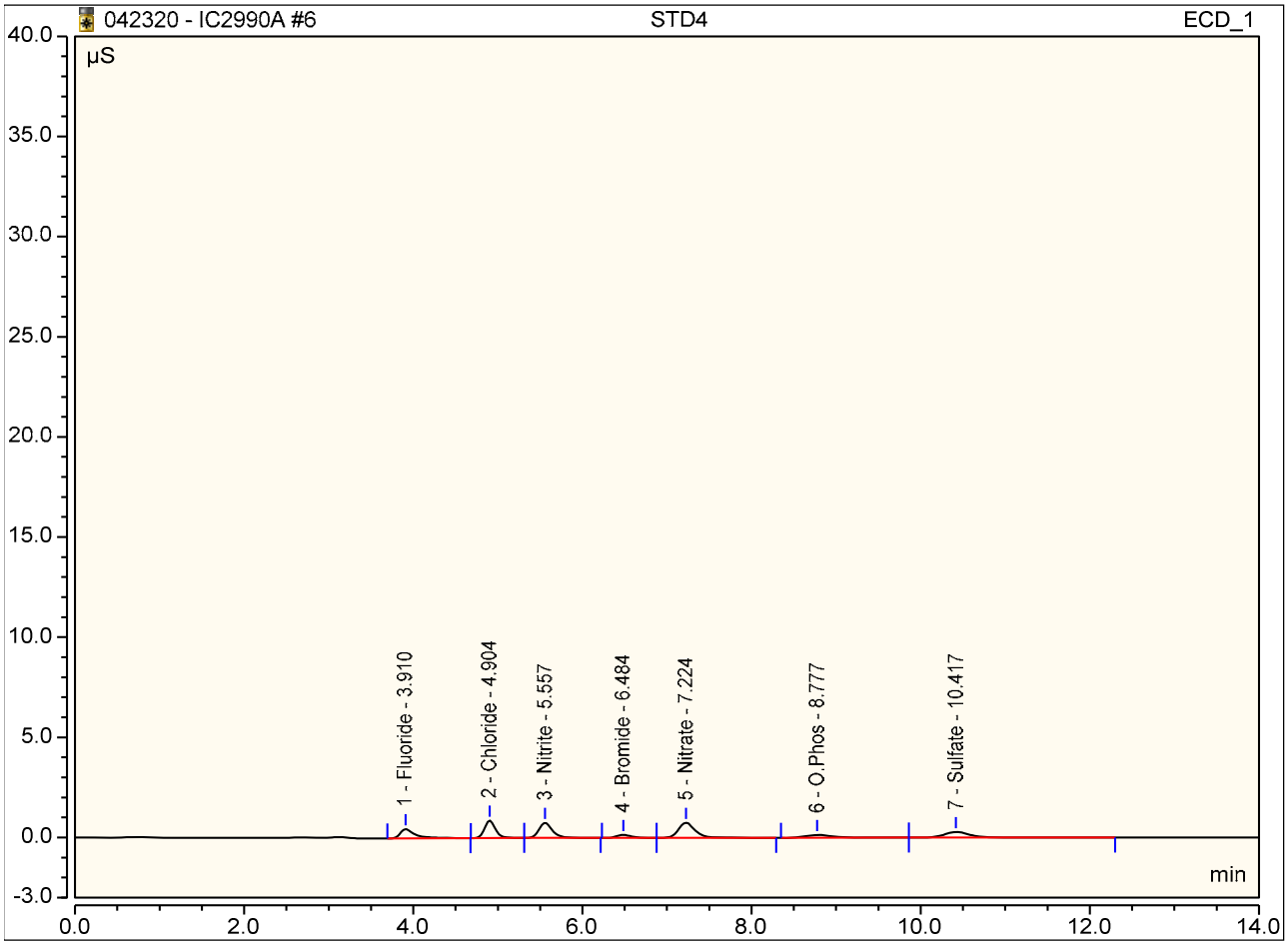
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.060	0.274	0.3372
2	4.90	Chloride	0.113	0.752	1.1528
3	5.56	Nitrite	0.083	0.448	0.3173
4	6.48	Bromide	0.017	0.091	0.3091
5	7.23	Nitrate	0.106	0.459	0.3408
6	8.79	O.Phos	0.030	0.081	0.3186
7	10.42	Sulfate	0.082	0.224	1.3158



Peak Integration Report

Sample Name:	**STD4**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 11:14**	*Run Time:*	**14.00**

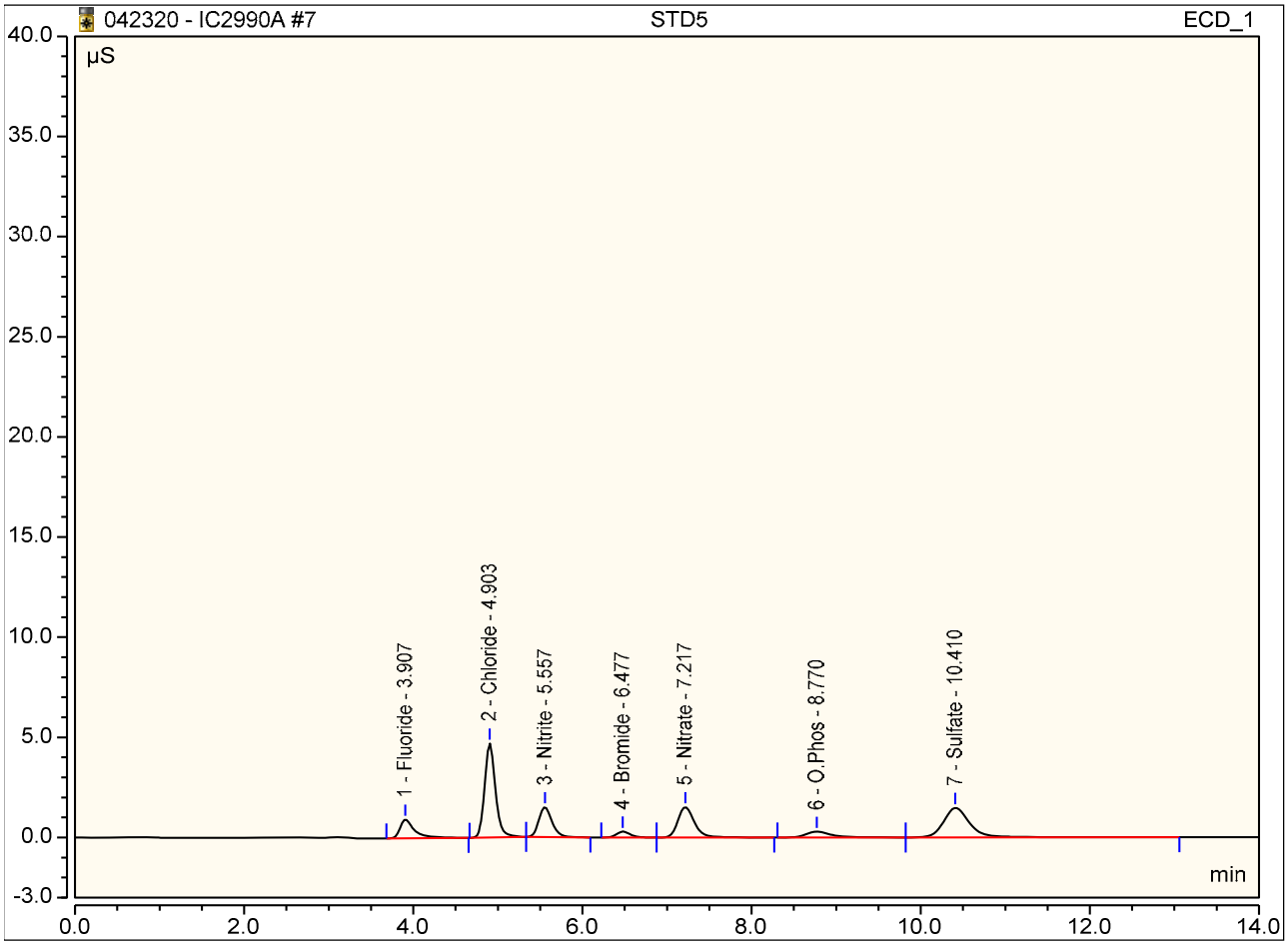
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.096	0.459	0.5117
2	4.90	Chloride	0.131	0.872	1.2572
3	5.56	Nitrite	0.140	0.750	0.5135
4	6.48	Bromide	0.029	0.149	0.5028
5	7.22	Nitrate	0.173	0.753	0.5165
6	8.78	O.Phos	0.049	0.140	0.5011
7	10.42	Sulfate	0.102	0.284	1.4805



Peak Integration Report

Sample Name:	**STD5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 11:28**	*Run Time:*	**14.00**

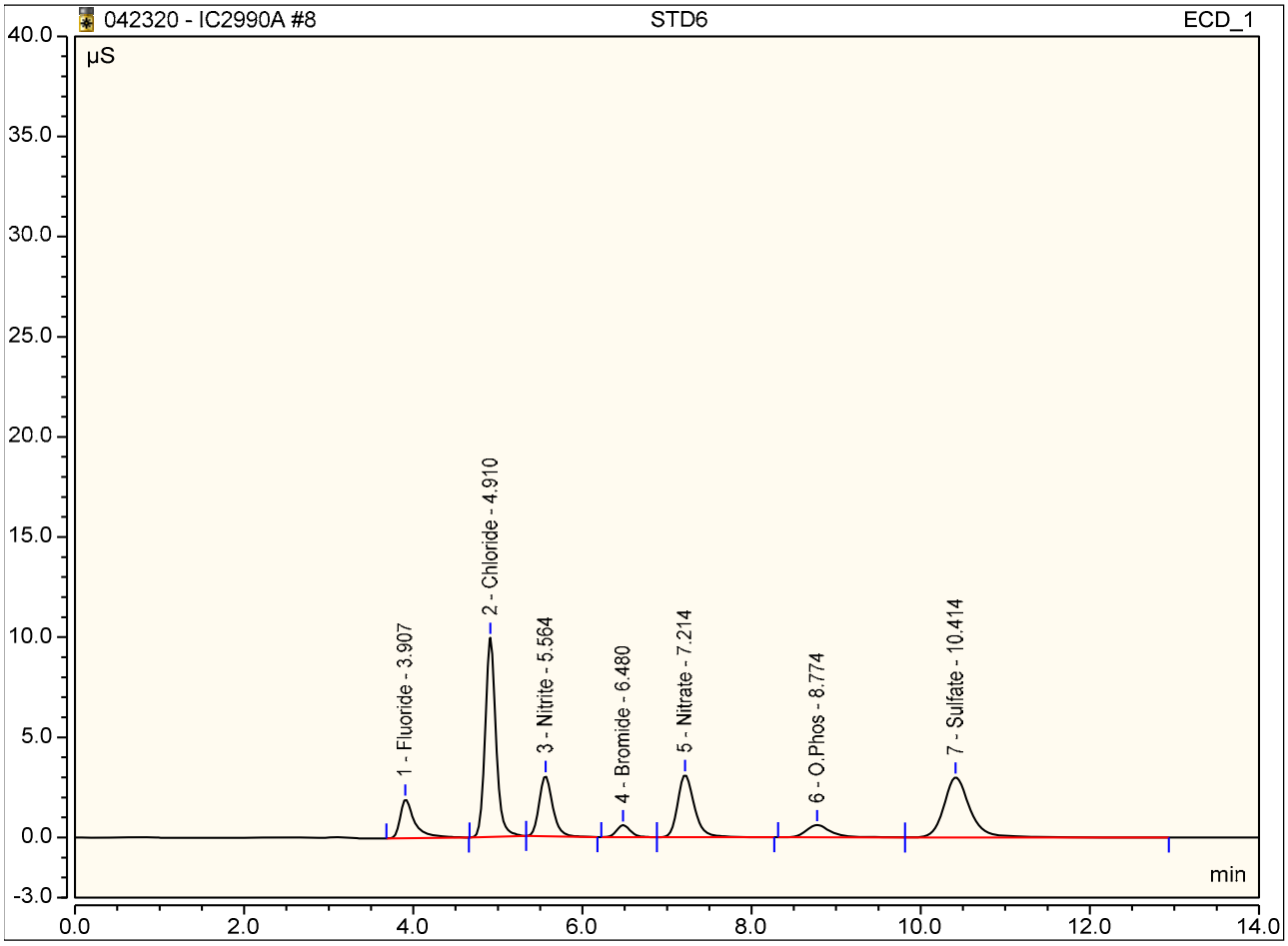
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.190	0.931	0.9769
2	4.90	Chloride	0.705	4.695	4.5978
3	5.56	Nitrite	0.273	1.490	0.9712
4	6.48	Bromide	0.057	0.297	0.9876
5	7.22	Nitrate	0.347	1.516	0.9719
6	8.77	O.Phos	0.100	0.292	0.9686
7	10.41	Sulfate	0.530	1.471	4.9796



Peak Integration Report

Sample Name:	**STD6**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 11:42**	*Run Time:*	**14.00**

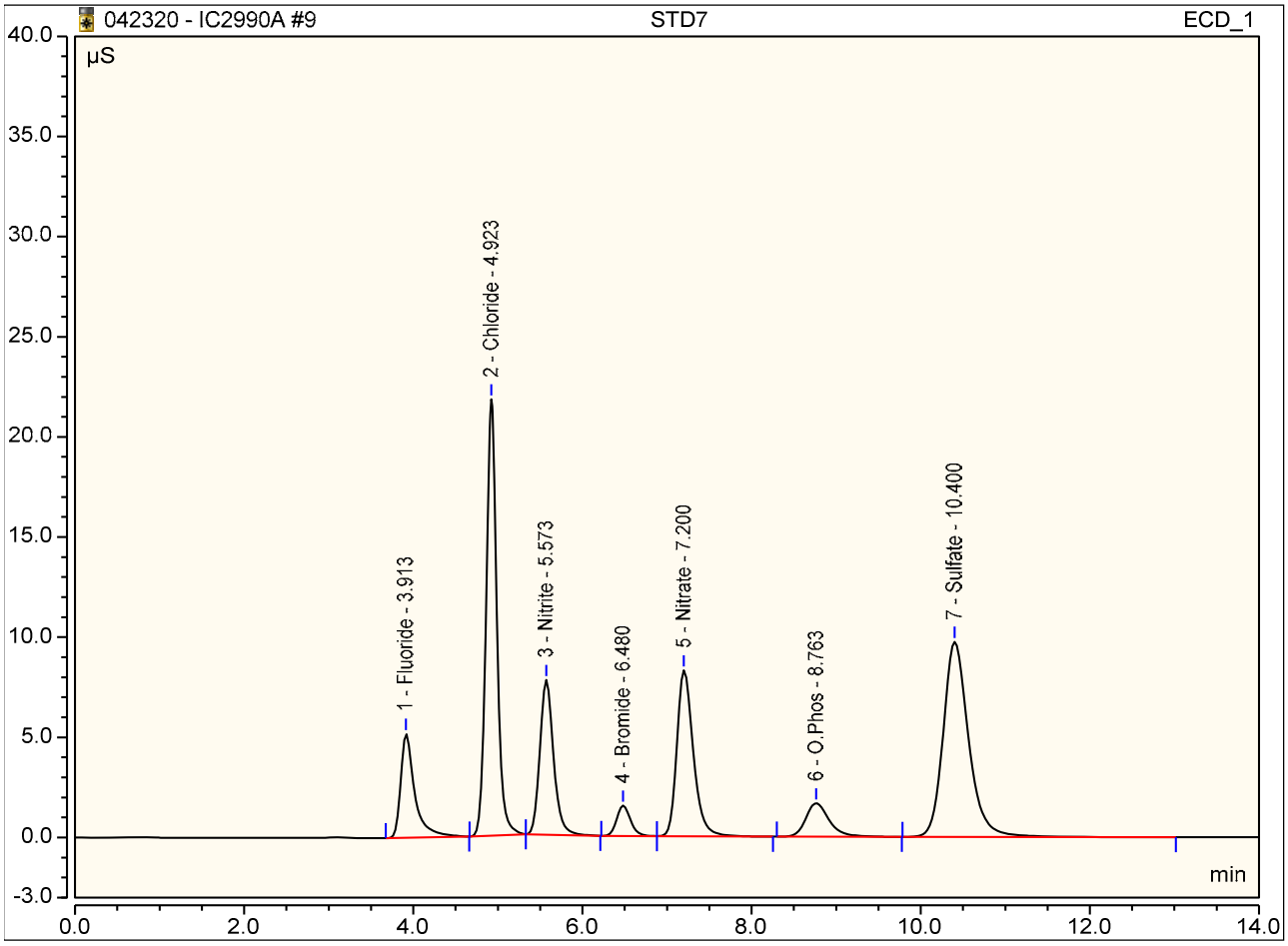
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.387	1.930	1.9472
2	4.91	Chloride	1.479	9.946	9.1048
3	5.56	Nitrite	0.557	3.012	1.9470
4	6.48	Bromide	0.114	0.597	1.9759
5	7.21	Nitrate	0.706	3.103	1.9114
6	8.77	O.Phos	0.207	0.616	1.9460
7	10.41	Sulfate	1.073	2.993	9.4201



Peak Integration Report

Sample Name:	**STD7**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 11:57**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	1.010	5.196	5.0233
2	4.92	Chloride	3.203	21.787	19.1400
3	5.57	Nitrite	1.451	7.730	5.0240
4	6.48	Bromide	0.290	1.519	5.0110
5	7.20	Nitrate	1.855	8.287	4.9181
6	8.76	O.Phos	0.541	1.673	5.0259
7	10.40	Sulfate	3.413	9.749	28.5577

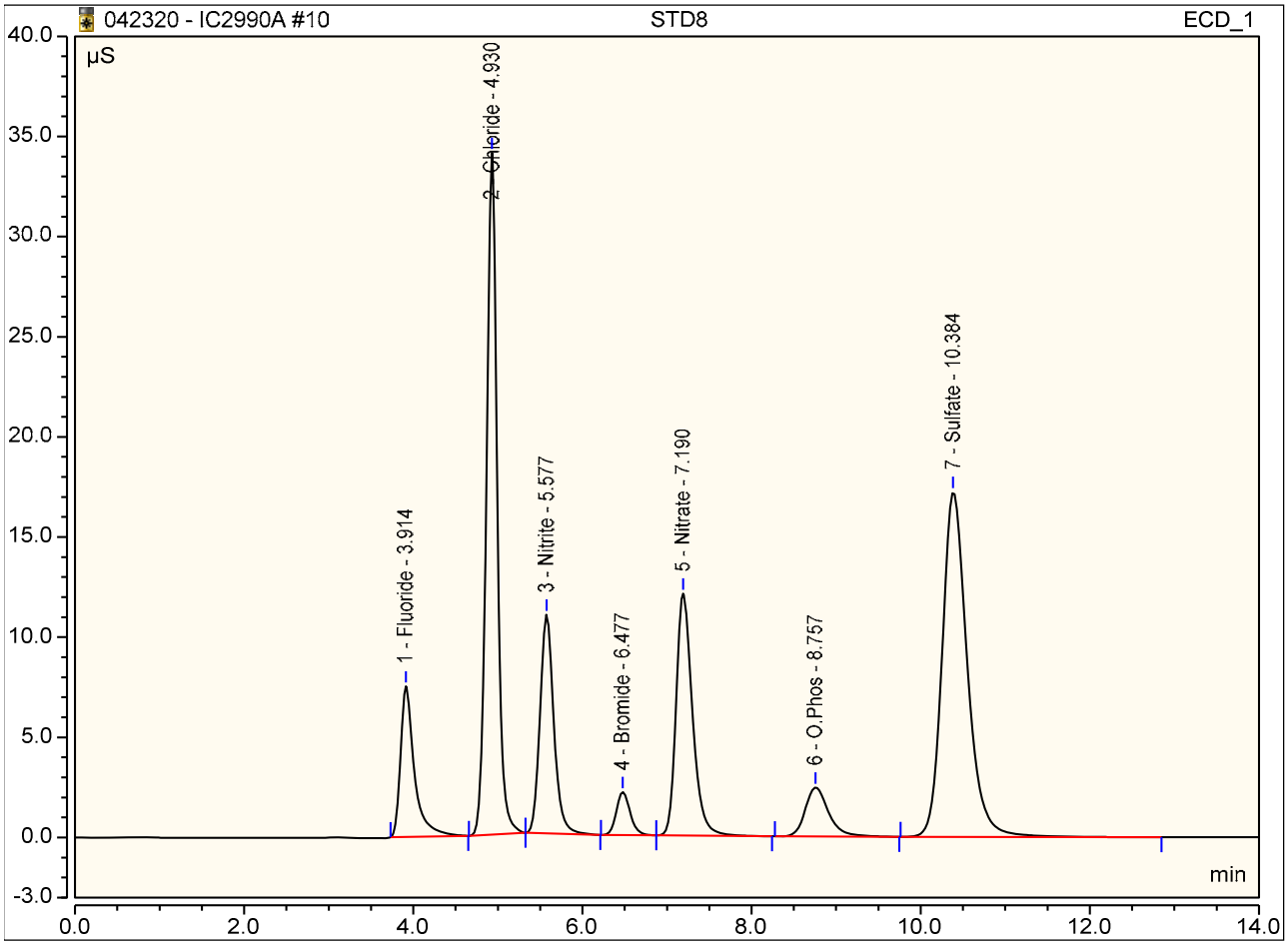


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**STD8**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 12:11**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	1.430	7.513	7.0913
2	4.93	Chloride	5.027	34.036	29.7605
3	5.58	Nitrite	2.072	10.926	7.1619
4	6.48	Bromide	0.410	2.153	7.0951
5	7.19	Nitrate	2.683	12.086	7.0841
6	8.76	O.Phos	0.780	2.445	7.2239
7	10.38	Sulfate	5.924	17.230	49.0945

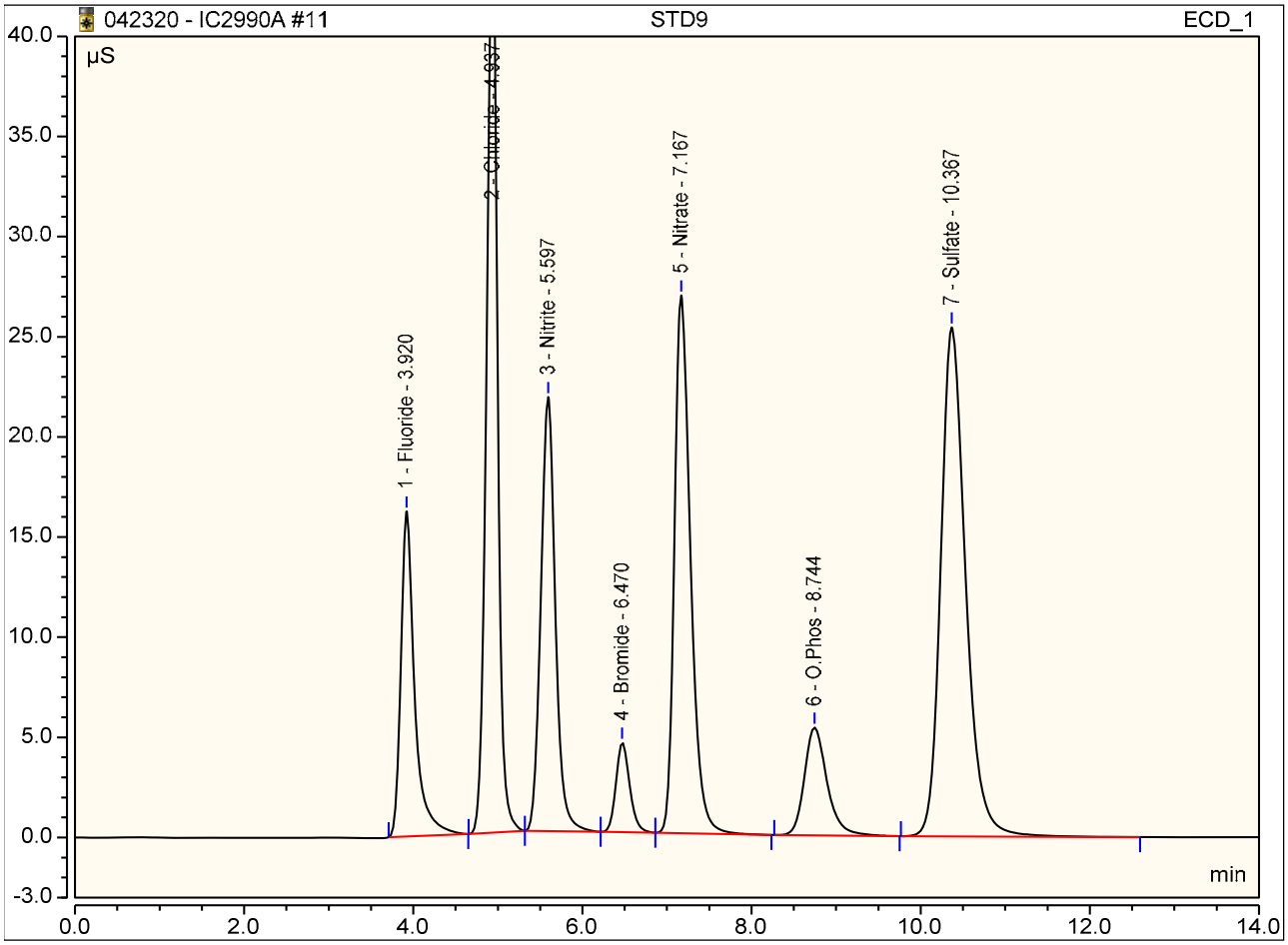


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**STD9**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 12:25**	*Run Time:*	**14.00**

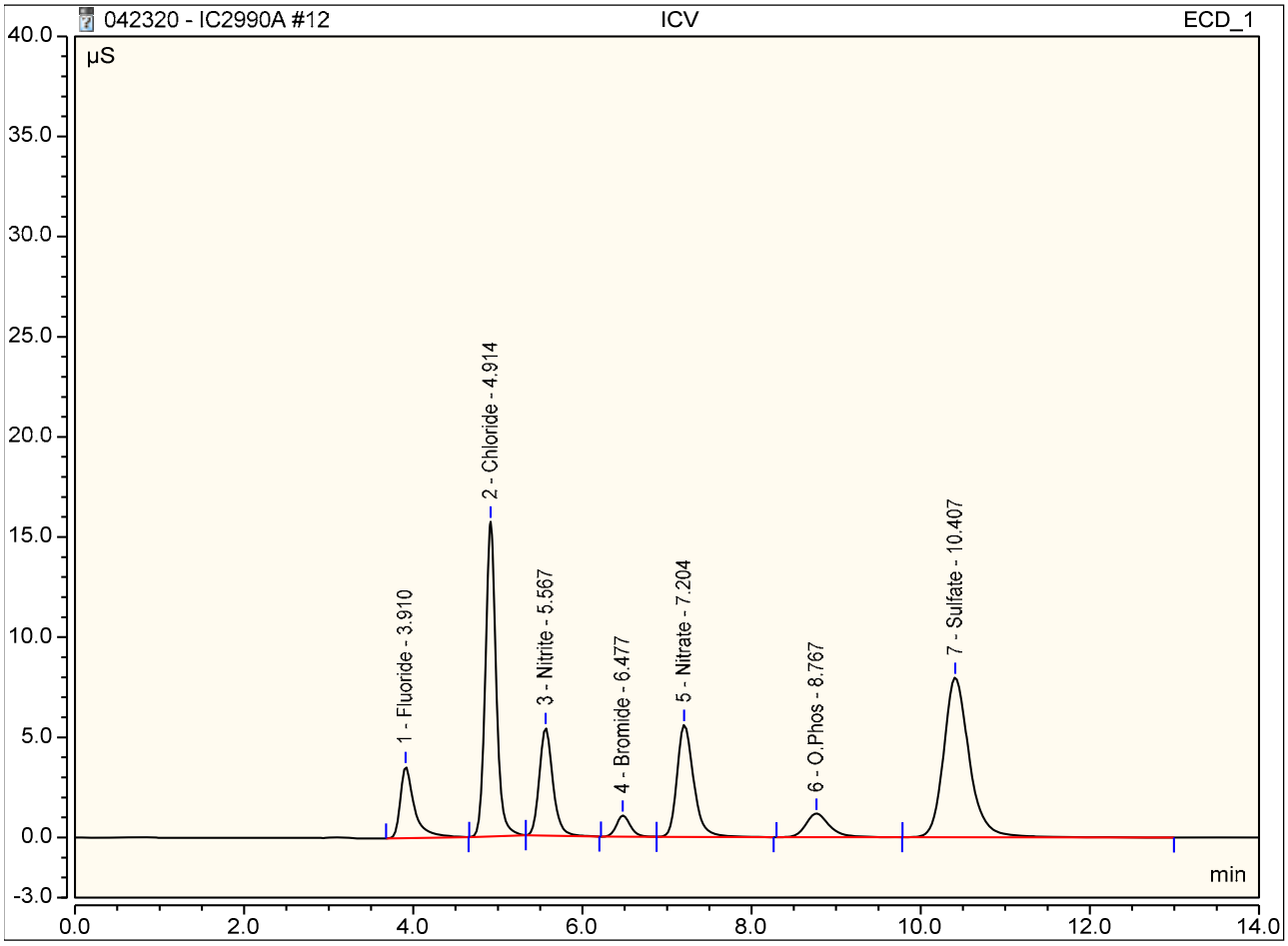
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	3.066	16.227	15.1616
2	4.94	Chloride	6.935	46.010	40.8651
3	5.60	Nitrite	4.304	21.675	14.8436
4	6.47	Bromide	0.848	4.476	14.6504
5	7.17	Nitrate	5.867	26.855	15.4167
6	8.74	O.Phos	1.665	5.376	15.3546
7	10.37	Sulfate	8.643	25.411	71.3322



Peak Integration Report

Sample Name:	**ICV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 12:39**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.694	3.562	3.4644
2	4.91	Chloride	2.323	15.716	14.0192
3	5.57	Nitrite	1.000	5.372	3.4738
4	6.48	Bromide	0.203	1.062	3.5108
5	7.20	Nitrate	1.263	5.591	3.3687
6	8.77	O.Phos	0.385	1.175	3.5841
7	10.41	Sulfate	2.814	7.975	23.6634

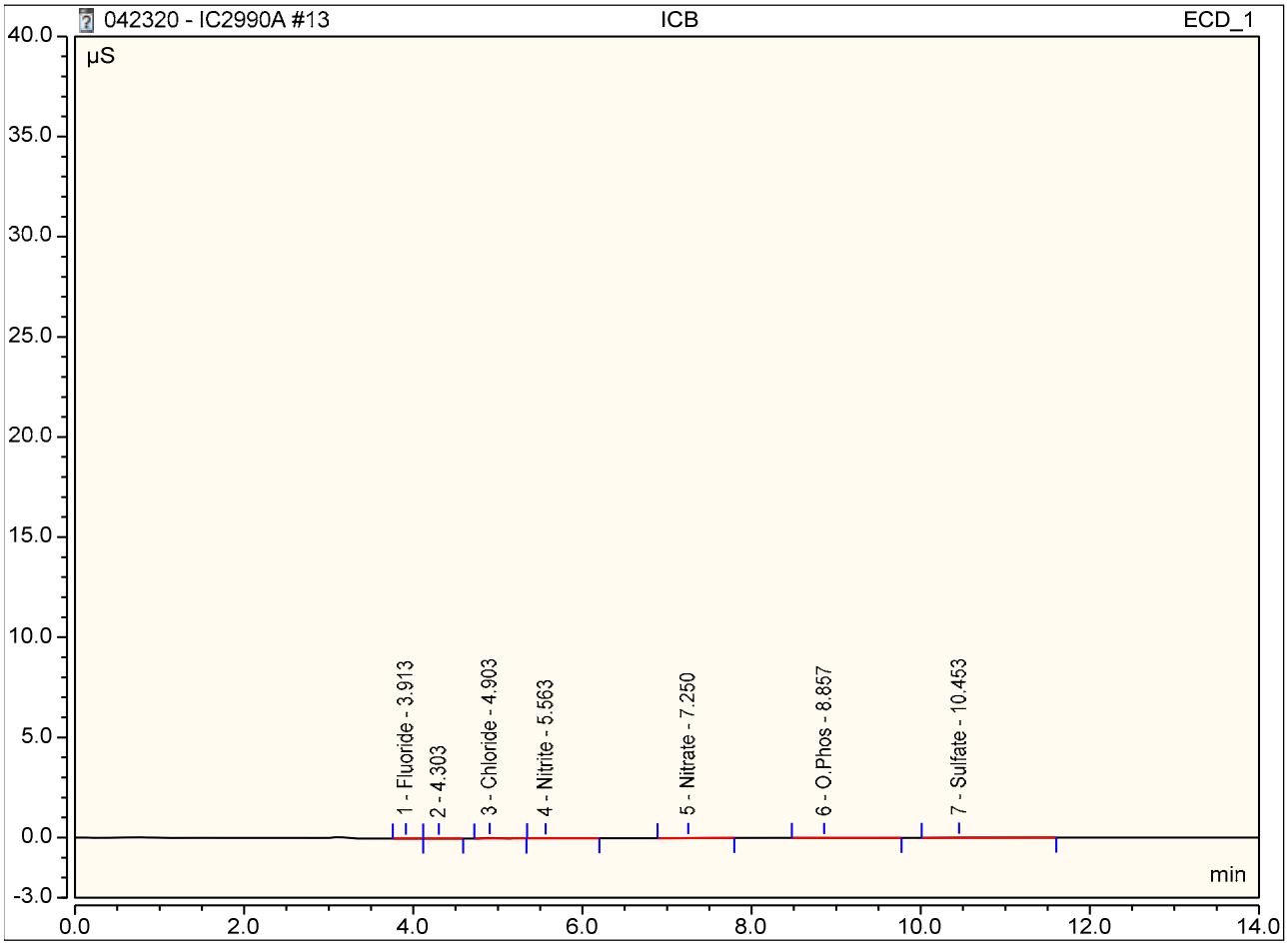


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

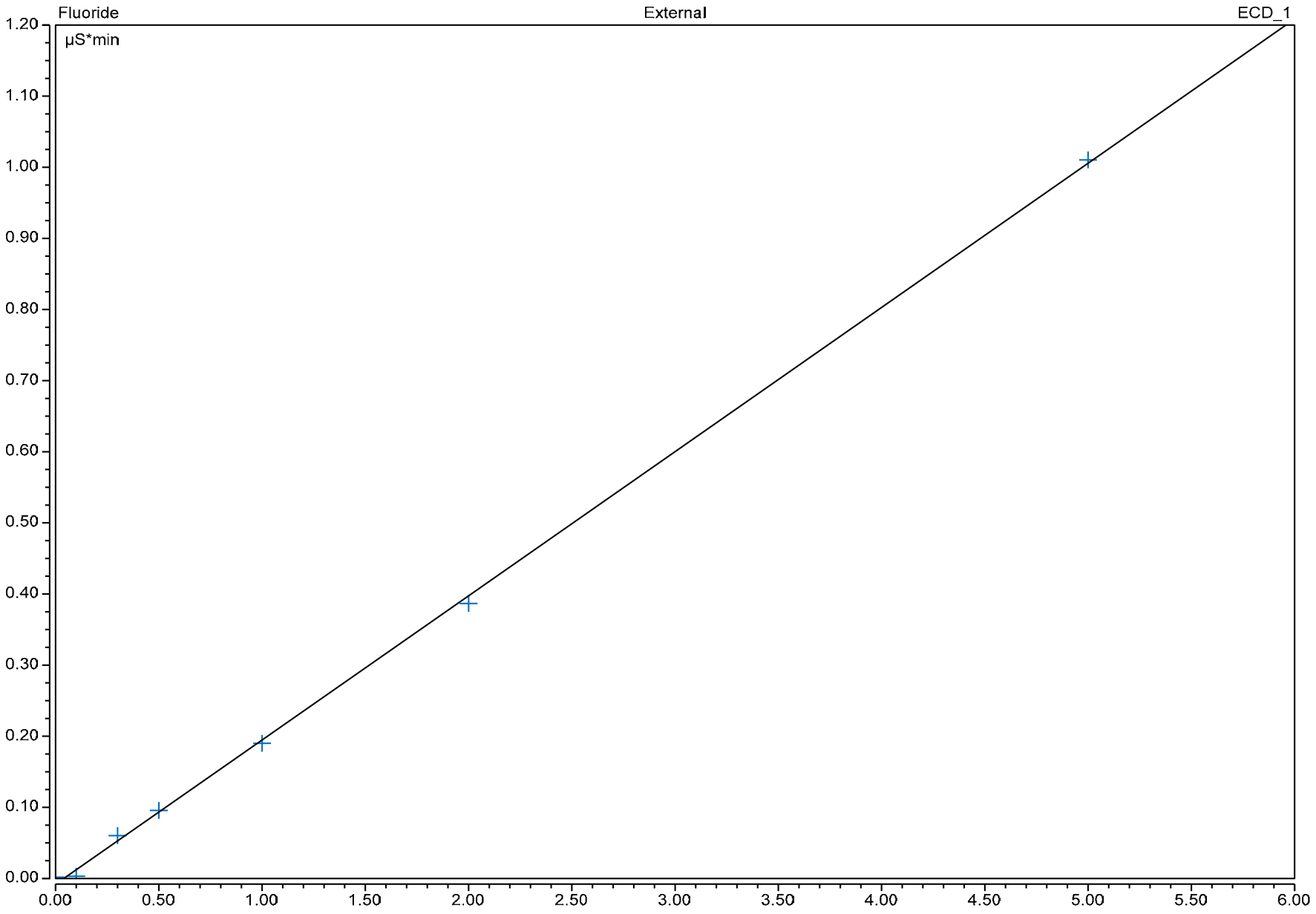
Sample Name:	**ICB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**23-Apr-2020 / 12:53**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.001	0.008	0.0458
3	4.90	Chloride	0.004	0.024	0.5160
4	5.56	Nitrite	0.002	0.011	0.0390
5	7.25	Nitrate	0.003	0.012	0.0722
6	8.86	O.Phos	0.002	0.004	0.0643
7	10.45	Sulfate	0.005	0.012	0.6879

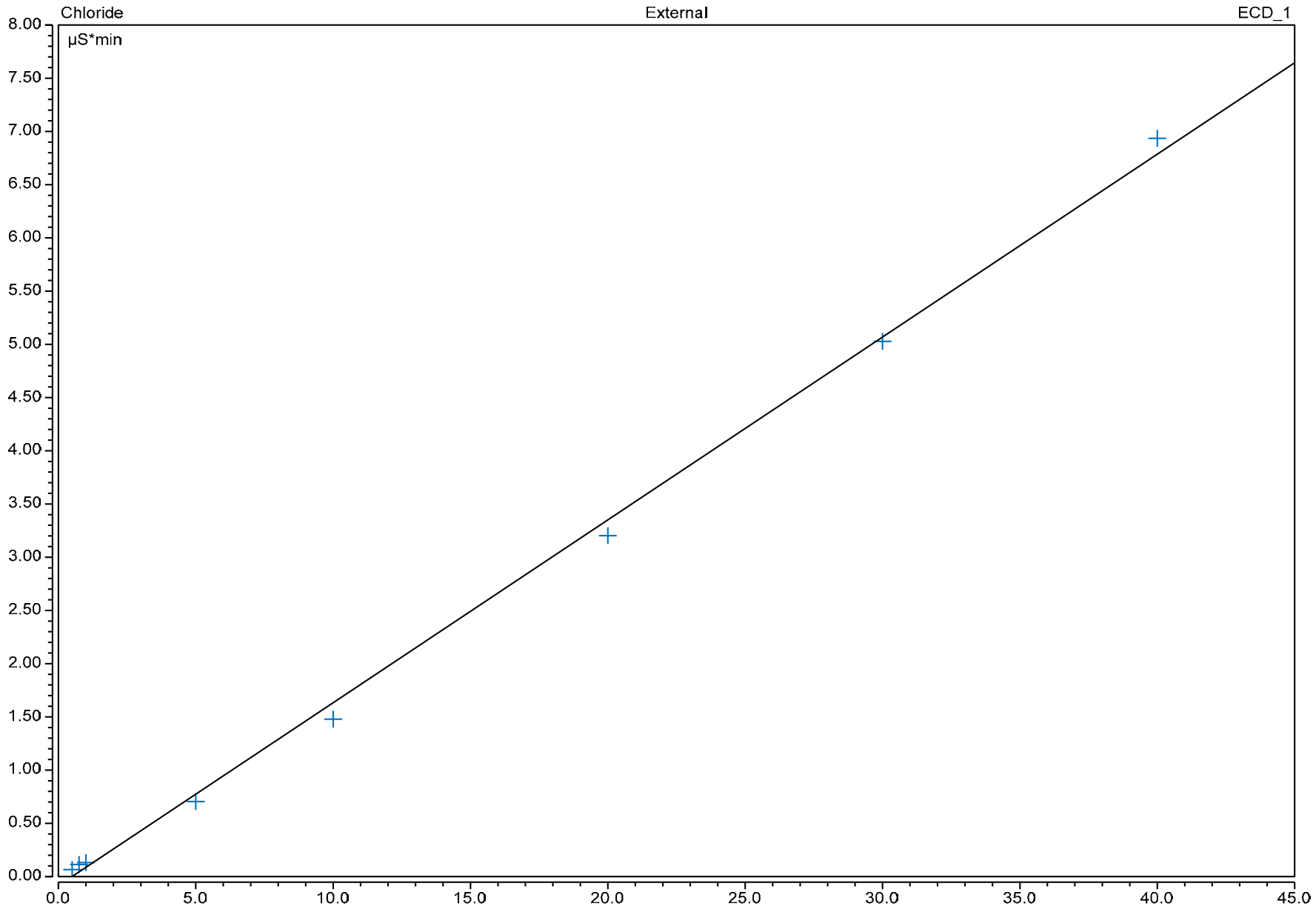


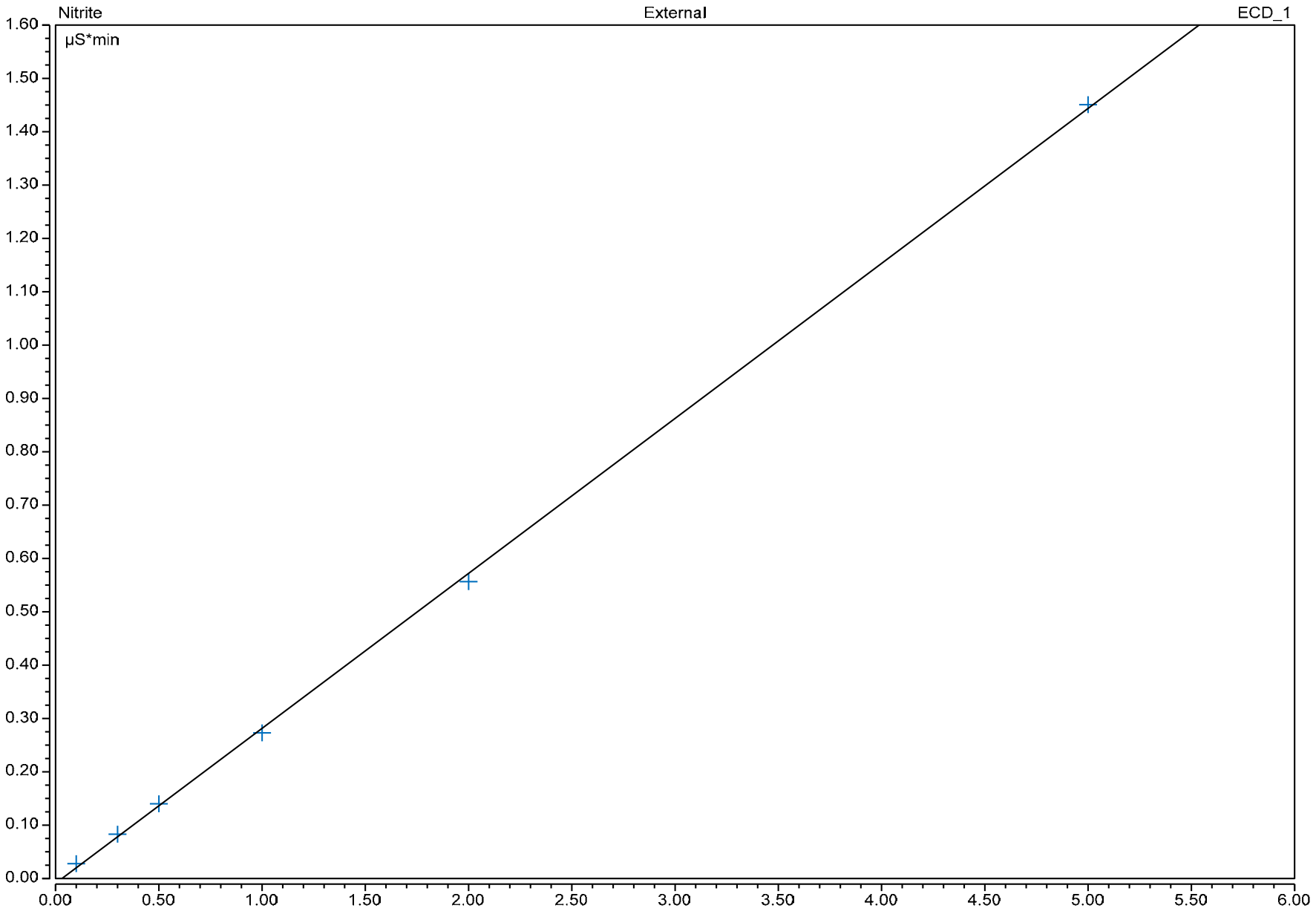
Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	*Fluoride*	*Lin, WithOffset*	*Area*	*7*	*3.5894*	*0.99949*	*-0.0080*	*0.2027*	*0.0000*
2	Chloride	Lin, WithOffset	Area	9	5.8491	0.99822	-0.0850	0.1718	0.0000
3	Nitrite	Lin, WithOffset	Area	6	2.5381	0.99968	-0.0091	0.2906	0.0000
4	Bromide	Lin, WithOffset	Area	6	1.1408	0.99993	-0.0005	0.0579	0.0000
5	Nitrate	Lin, WithOffset	Area	7	3.3698	0.99936	-0.0246	0.3822	0.0000
6	O.Phos	Lin, WithOffset	Area	6	2.8080	0.99962	-0.0051	0.1087	0.0000
7	Sulfate	Lin, WithOffset	Area	8	4.8891	0.99881	-0.0790	0.1223	0.0000
Maximum					**5.8491**	0.99993			
Minimum					1.1408	**0.99822**			

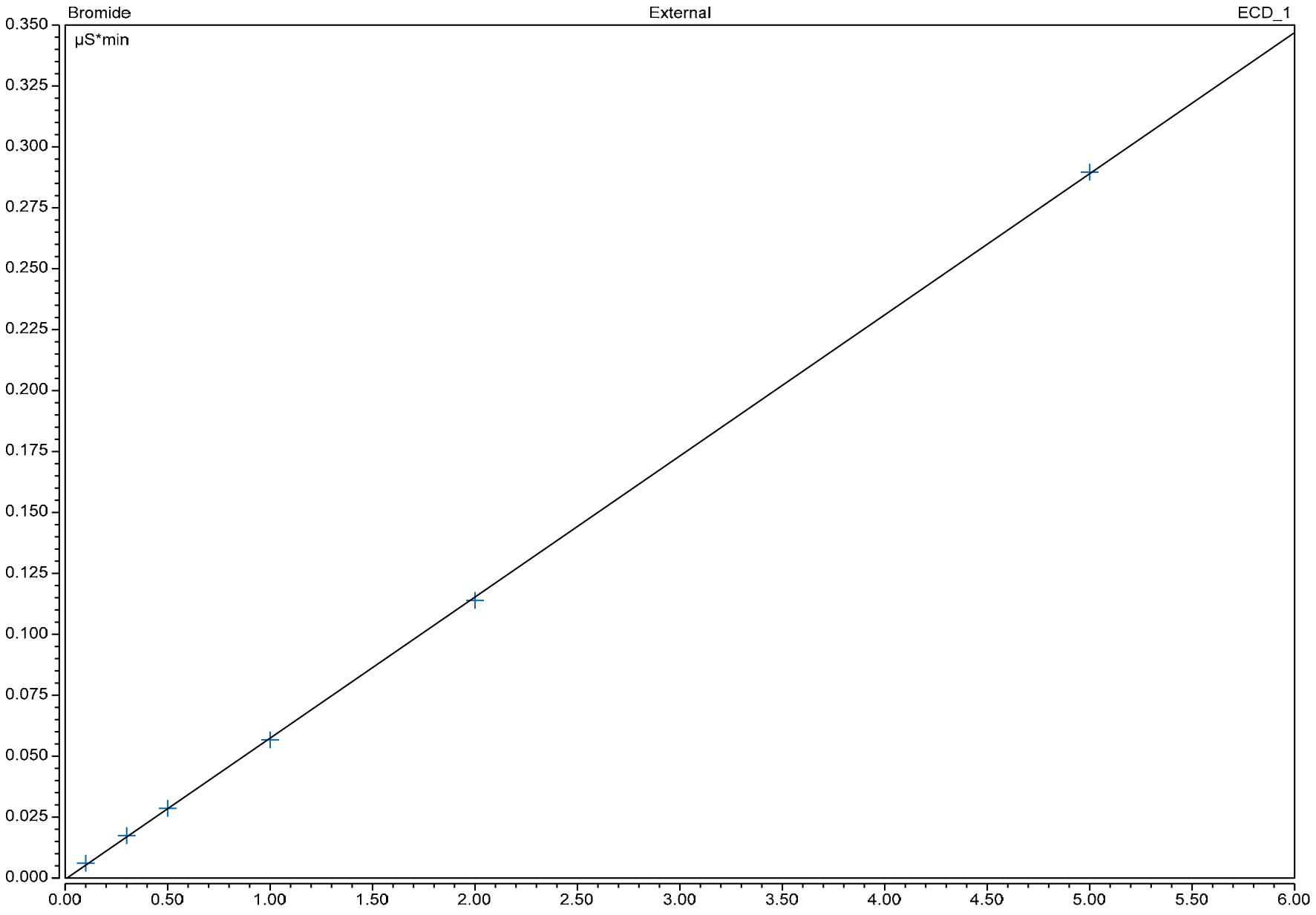
RJ05/05/2020

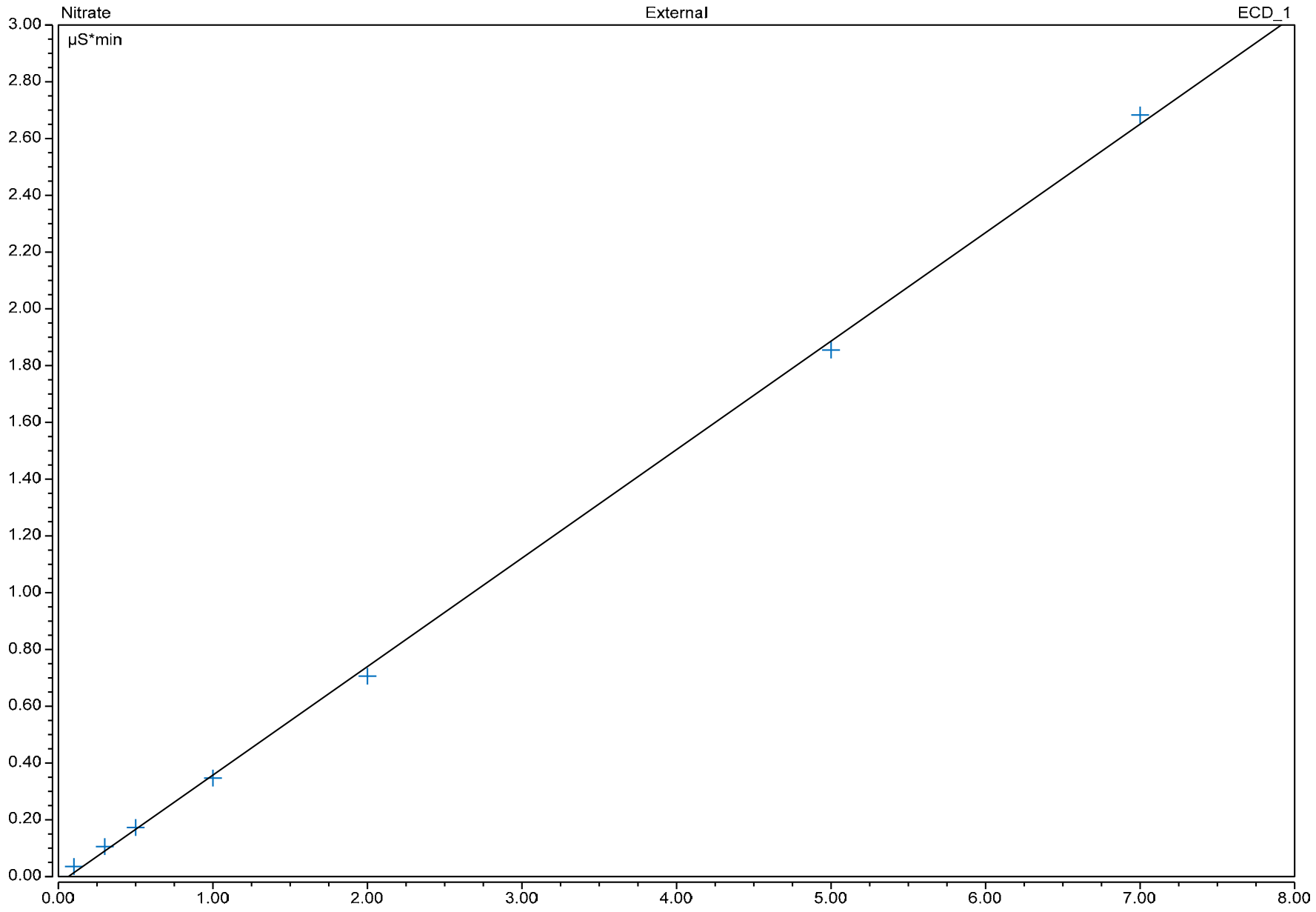

Fluoride
External
ECD_1
µS*min
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

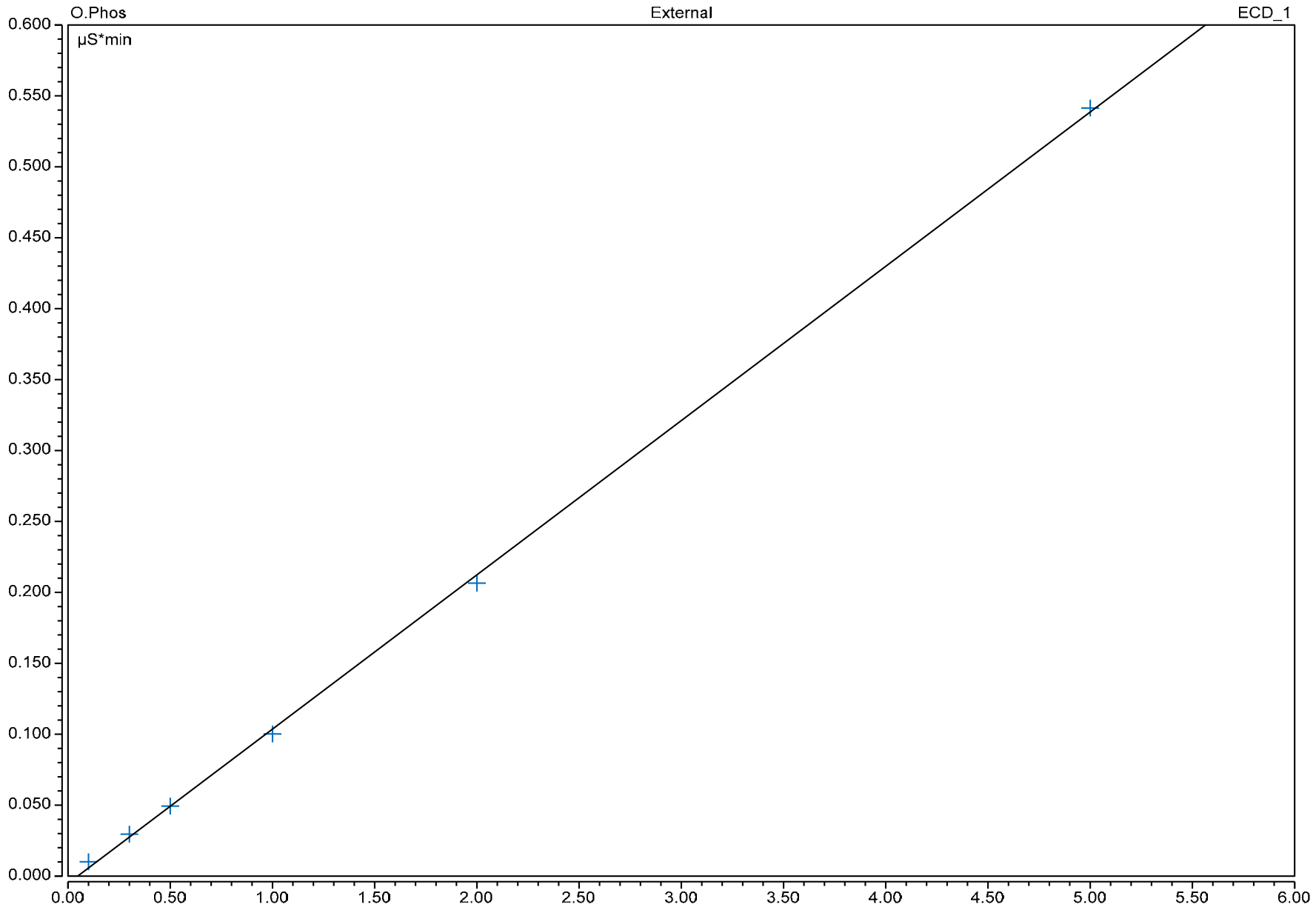
RJ 05/05/2020


Chloride
External
ECD_1
µS*min
8.00
7.50
7.00
6.50
6.00
5.50
5.00
4.50
4.00
3.50
3.00
2.50
2.00
1.50
1.00
0.50
0.00
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0


Nitrite
External
ECD_1
µS*min
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

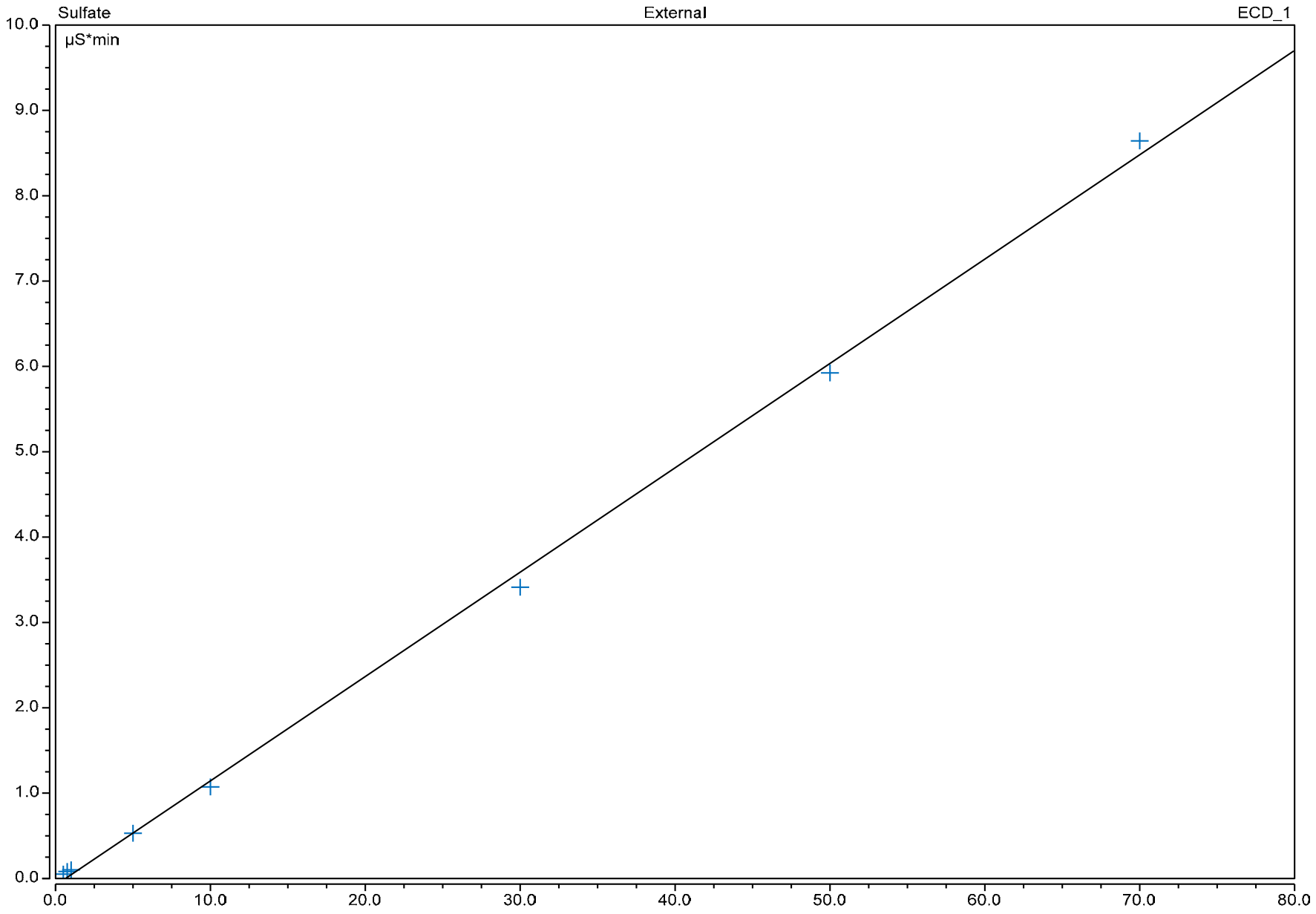

Bromide
External
ECD_1
µS*min
0.350
0.325
0.300
0.275
0.250
0.225
0.200
0.175
0.150
0.125
0.100
0.075
0.050
0.025
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00


Nitrate
External
ECD_1
µS*min
3.00
2.80
2.60
2.40
2.20
2.00
1.80
1.60
1.40
1.20
1.00
0.80
0.60
0.40
0.20
0.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00


O.Phos
External
ECD_1
µS*min
0.600
0.550
0.500
0.450
0.400
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

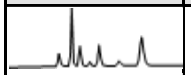
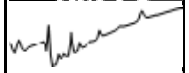
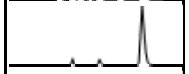
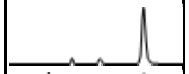
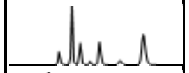
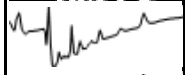
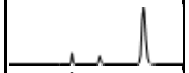
RJ 05/05/2020

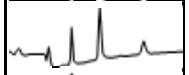
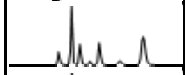
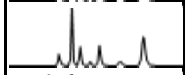
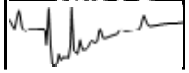
Calibration Plot



RJ 05/05/2020

Sequence: 043020 - 170809 170810 170822
Last Update Operator: AQUION

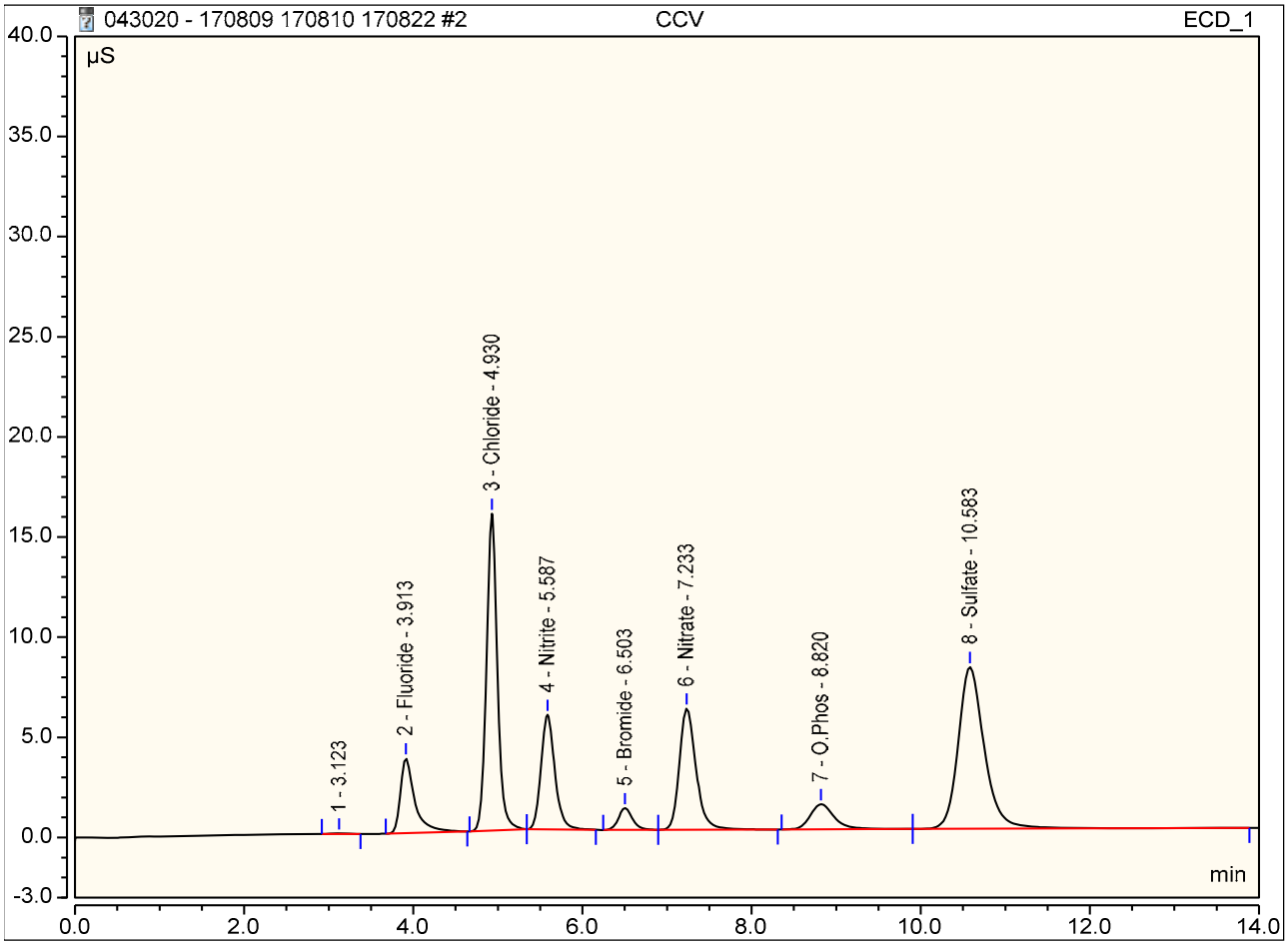
ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		2	5000	Anions 1.0	IC2990A	Finished
	LCSW	1.0000	Unknown		3	5000	Anions 1.0	IC2990A	Finished
	MBW	1.0000	Unknown		4	5000	Anions 1.0	IC2990A	Finished
	413571	1.0000	Unknown		11	5000	Anions 1.0	IC2990A	Finished
	413571X5	1.0000	Unknown		12	5000	Anions 1.0	IC2990A	Finished
	413572	1.0000	Unknown		13	5000	Anions 1.0	IC2990A	Finished
	413572X5	1.0000	Unknown		14	5000	Anions 1.0	IC2990A	Finished
	CCV	1.0000	Unknown		15	5000	Anions 1.0	IC2990A	Finished
	CCB	1.0000	Unknown		16	5000	Anions 1.0	IC2990A	Finished
	413574	1.0000	Unknown		17	5000	Anions 1.0	IC2990A	Finished
	413575	1.0000	Unknown		18	5000	Anions 1.0	IC2990A	Finished

	413576	1.0000	Unknown		19	5000	Anions 1.0	IC2990A	Finished
ECD_1	**Name**	**Dilution**	**Type**	**Level**	**Position**	**Volume**	**Instrument Method**	**Processing Method**	**Status**
	DUP413576	1.0000	Unknown		20	5000	Anions 1.0	IC2990A	Finished
	MSW413576	1.0000	Unknown		21	5000	Anions 1.0	IC2990A	Finished
	MSDW413576	1.0000	Unknown		22	5000	Anions 1.0	IC2990A	Finished
									
	CCV	1.0000	Unknown		27	5000	Anions 1.0	IC2990A	Finished
									
	MBW-CCB	1.0000	Unknown		29	5000	Anions 1.0	IC2990A	Finished

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 14:03**	*Run Time:*	**14.00**

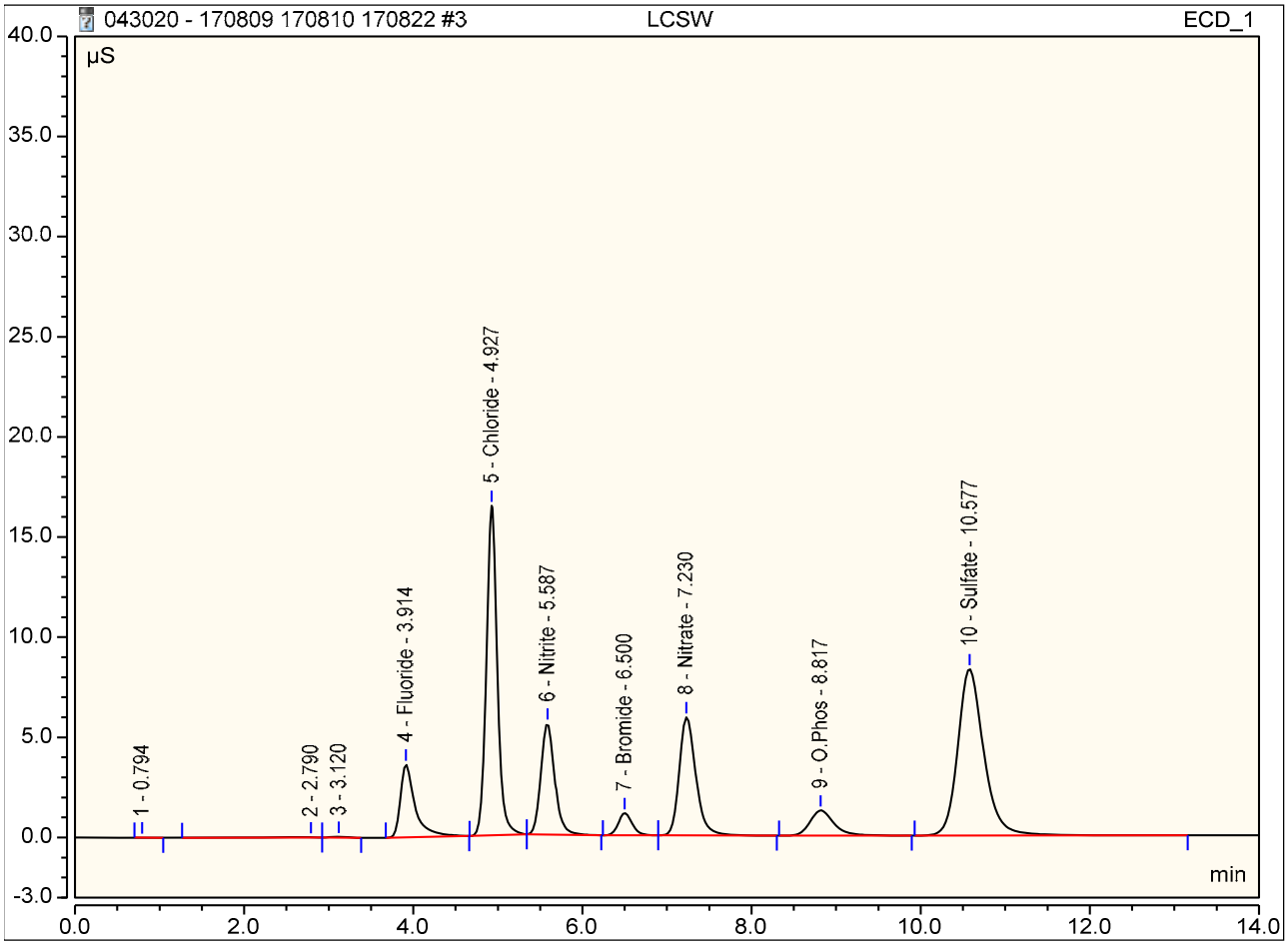
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	3.91	Fluoride	0.747	3.743	3.7222
3	4.93	Chloride	2.375	15.819	14.3190
4	5.59	Nitrite	1.087	5.726	3.7721
5	6.50	Bromide	0.209	1.088	3.6189
6	7.23	Nitrate	1.367	6.056	3.6422
7	8.82	O.Phos	0.413	1.258	3.8490
8	10.58	Sulfate	2.899	8.083	24.3565



Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 14:17**	*Run Time:*	**14.00**

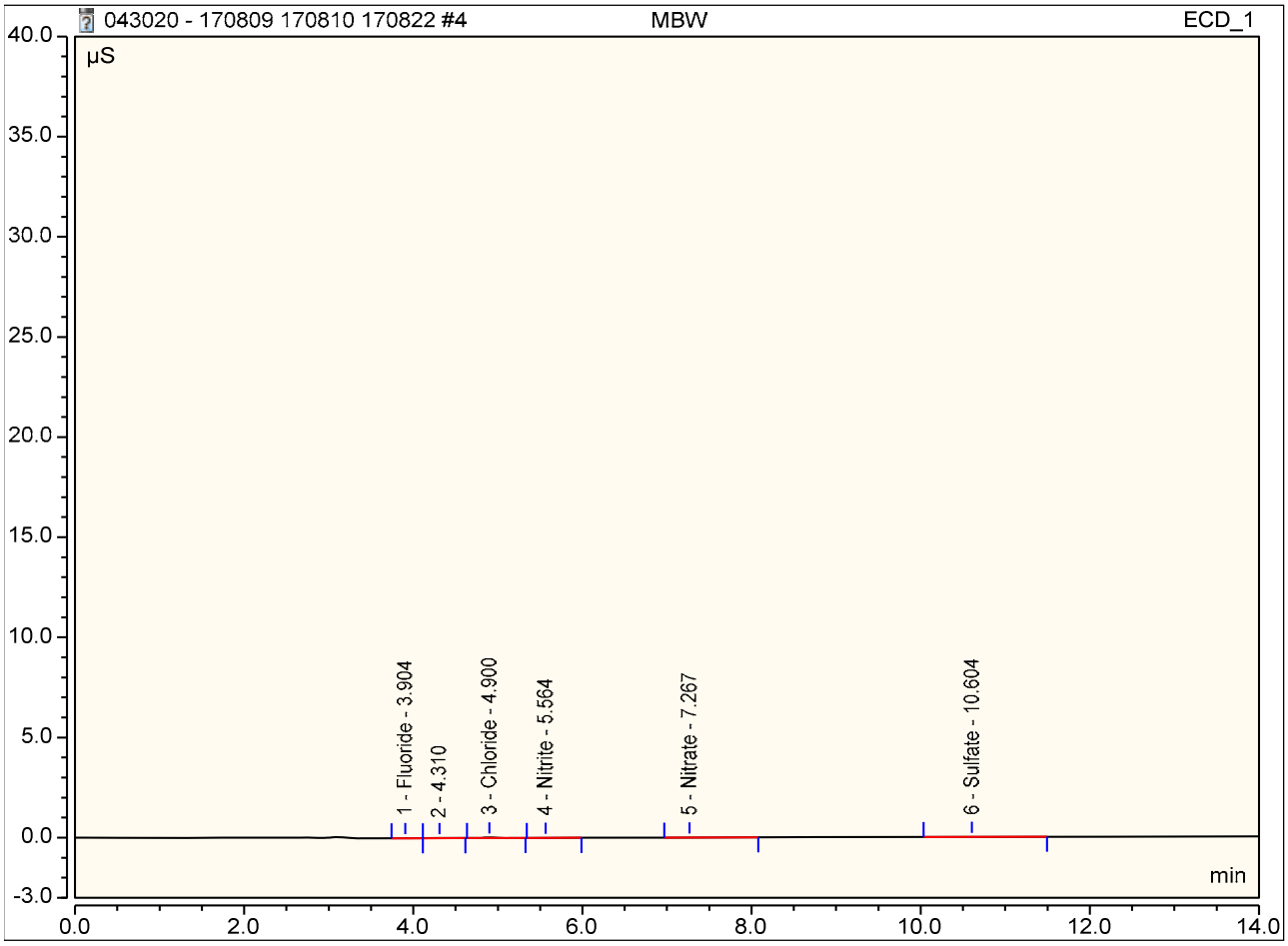
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
4	3.91	Fluoride	0.736	3.639	3.6696
5	4.93	Chloride	2.471	16.459	14.8789
6	5.59	Nitrite	1.053	5.548	3.6547
7	6.50	Bromide	0.215	1.117	3.7180
8	7.23	Nitrate	1.336	5.910	3.5604
9	8.82	O.Phos	0.415	1.262	3.8636
10	10.58	Sulfate	2.978	8.320	24.9975



Peak Integration Report

Sample Name:	**MBW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 14:31**	*Run Time:*	**14.00**

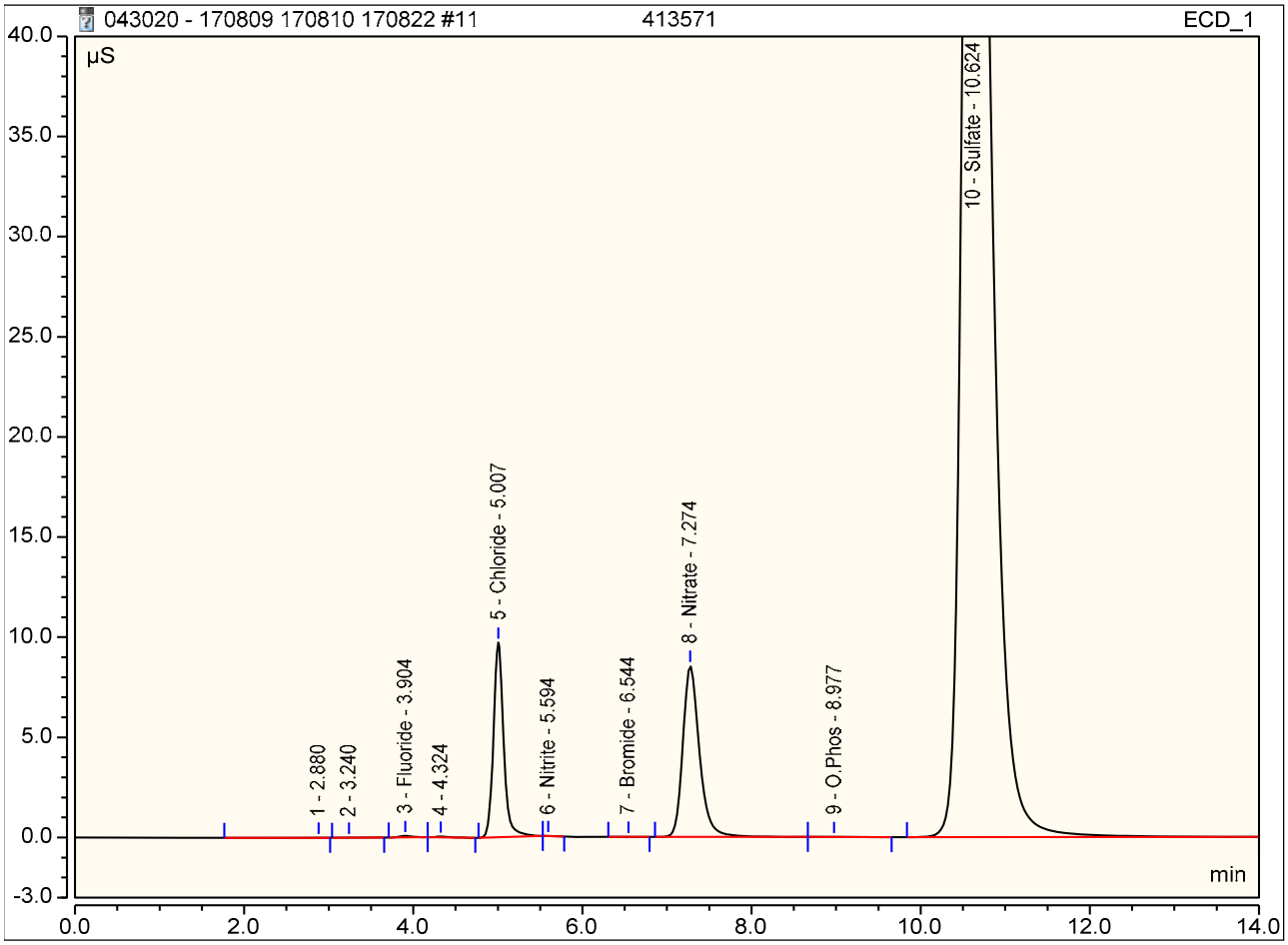
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.002	0.011	0.0485
3	4.90	Chloride	0.006	0.037	0.5290
4	5.56	Nitrite	0.003	0.013	0.0402
5	7.27	Nitrate	0.003	0.013	0.0732
6	10.60	Sulfate	0.006	0.015	0.6934



Peak Integration Report

Sample Name:	**413571**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 16:10**	*Run Time:*	**14.00**

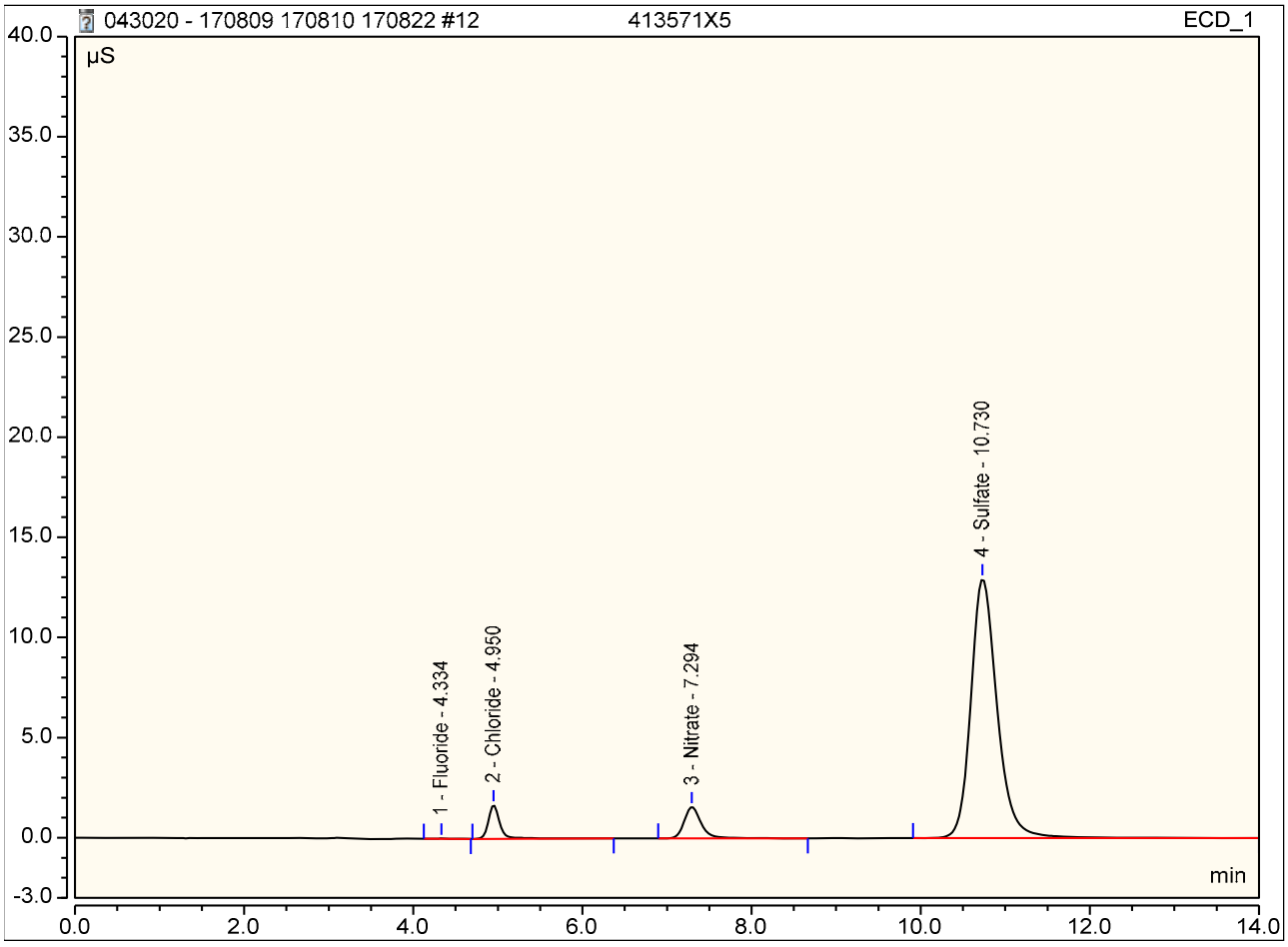
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
3	3.90	Fluoride	0.014	0.078	0.1098
5	5.01	Chloride	1.360	9.722	8.4119
6	5.59	Nitrite	0.002	0.012	0.0373
7	6.54	Bromide	0.003	0.015	0.0564
8	7.27	Nitrate	1.938	8.551	5.1361
9	8.98	O.Phos	0.003	0.007	0.0723
10	10.62	Sulfate	28.397	79.896	232.8898



Peak Integration Report

Sample Name:	**413571X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 16:24**	*Run Time:*	**14.00**

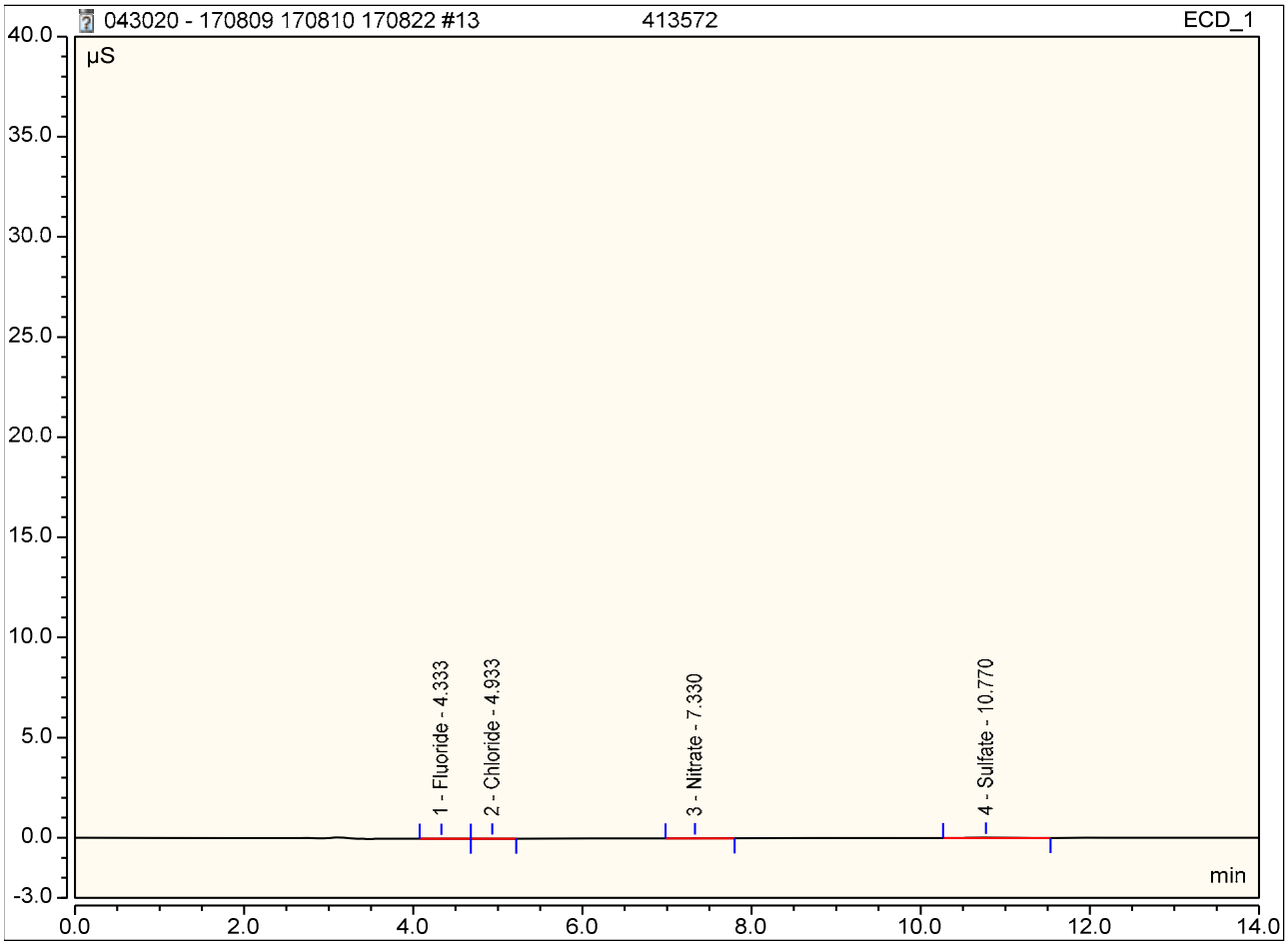
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.33	Fluoride	0.003	0.014	0.0534
2	4.95	Chloride	0.270	1.680	2.0651
3	7.29	Nitrate	0.366	1.565	1.0231
4	10.73	Sulfate	4.663	12.928	38.7832



Peak Integration Report

Sample Name:	**413572**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 16:38**	*Run Time:*	**14.00**

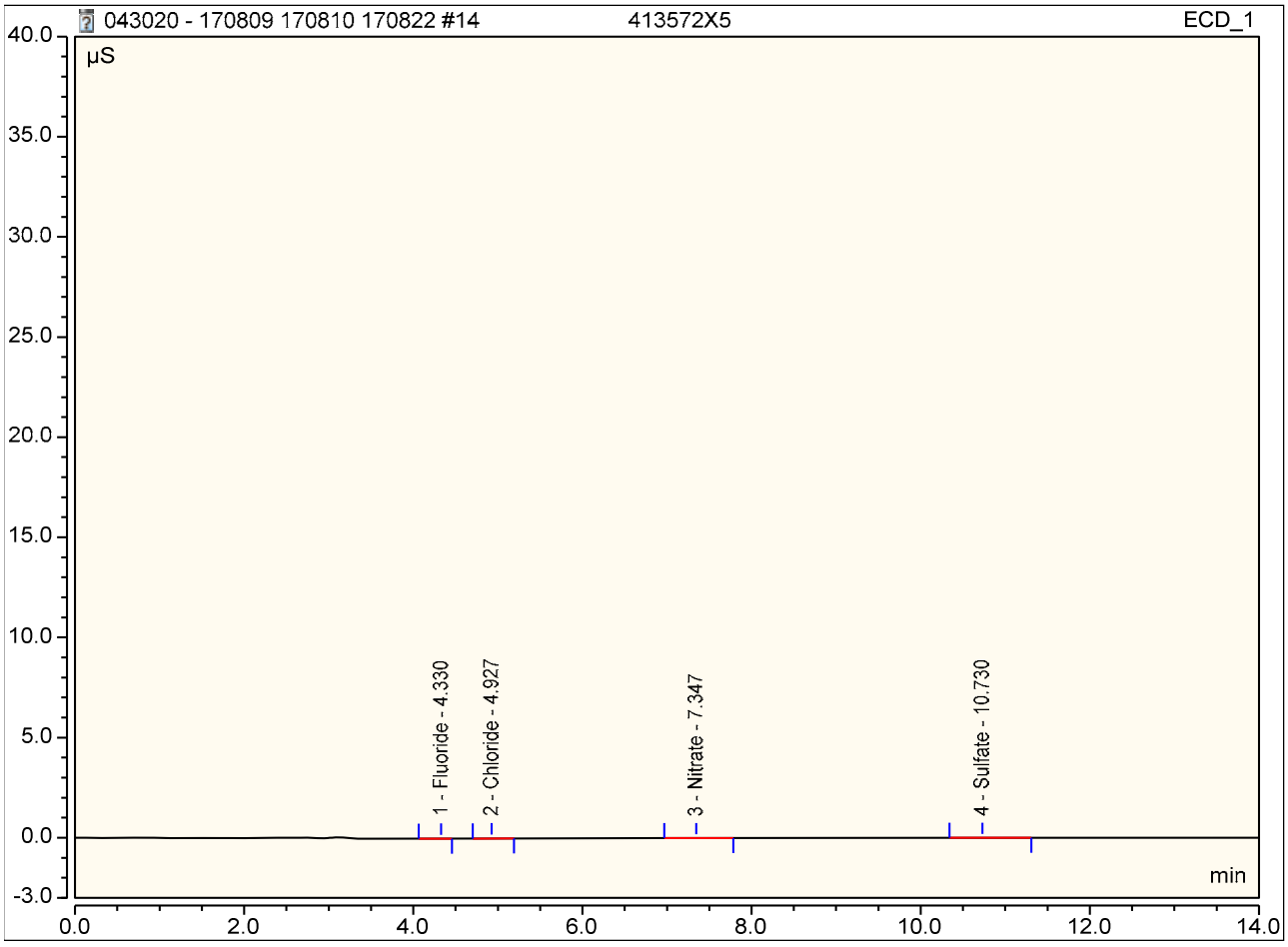
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.33	Fluoride	0.001	0.005	0.0459
2	4.93	Chloride	0.002	0.013	0.5064
3	7.33	Nitrate	0.001	0.005	0.0682
4	10.77	Sulfate	0.008	0.021	0.7145



Peak Integration Report

Sample Name:	**413572X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 16:52**	*Run Time:*	**14.00**

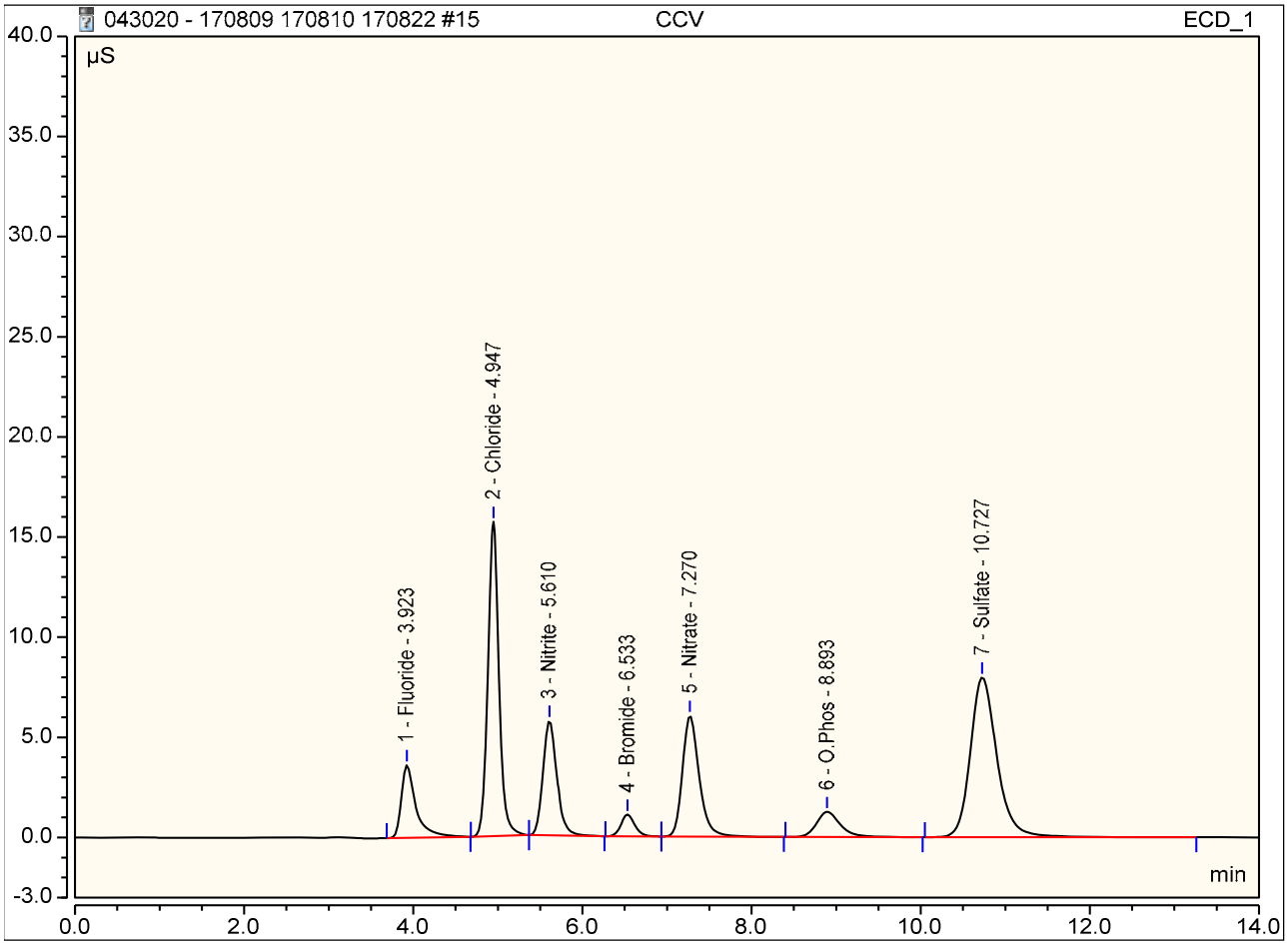
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.33	Fluoride	0.001	0.004	0.0429
2	4.93	Chloride	0.002	0.014	0.5072
3	7.35	Nitrate	0.001	0.004	0.0669
4	10.73	Sulfate	0.002	0.006	0.6630



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 17:06**	*Run Time:*	**14.00**

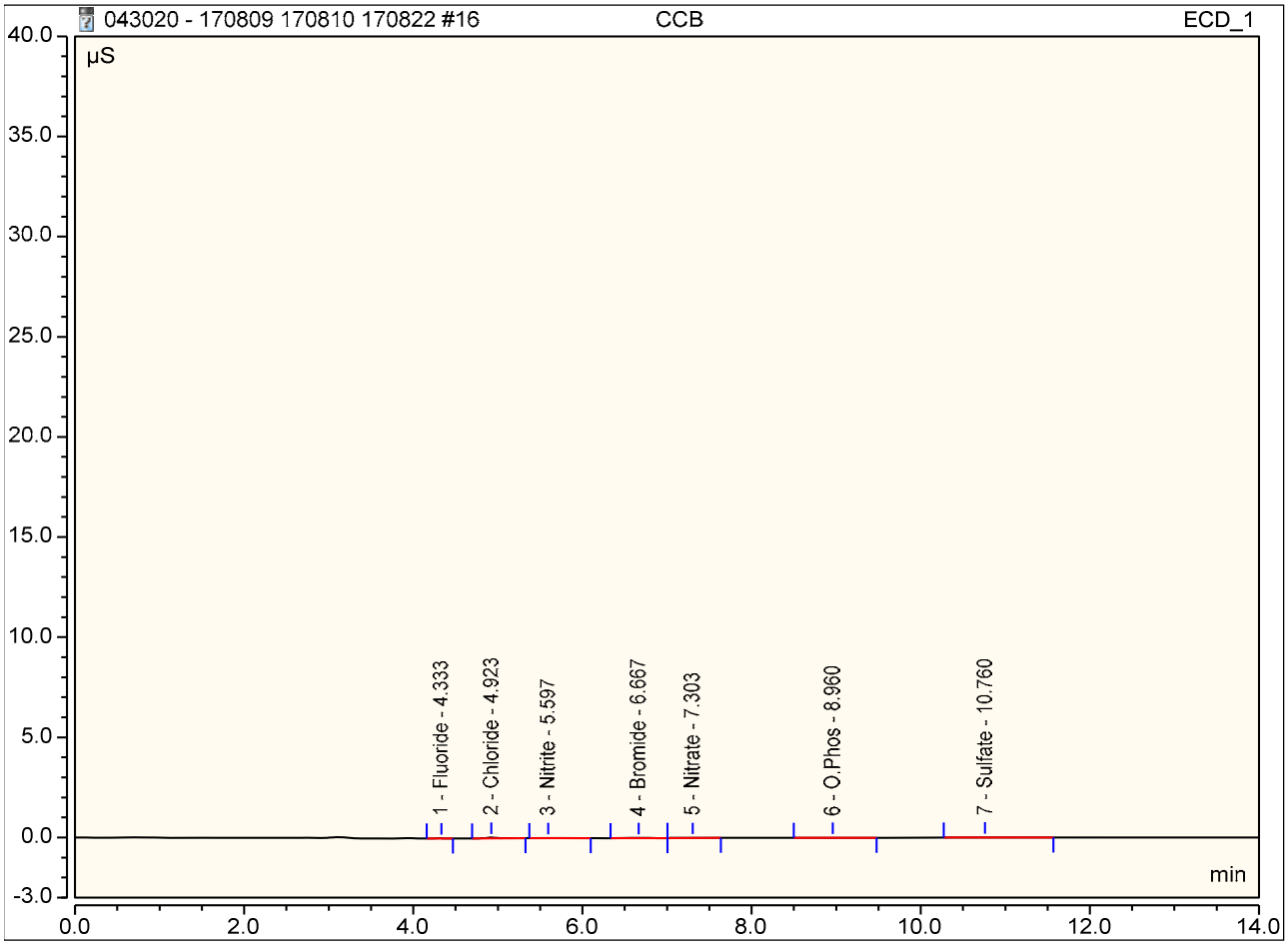
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.737	3.638	3.6736
2	4.95	Chloride	2.385	15.695	14.3770
3	5.61	Nitrite	1.093	5.732	3.7919
4	6.53	Bromide	0.209	1.086	3.6210
5	7.27	Nitrate	1.378	6.041	3.6687
6	8.89	O.Phos	0.418	1.256	3.8883
7	10.73	Sulfate	2.910	7.978	24.4423



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 17:20**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.33	Fluoride	0.000	0.003	0.0418
2	4.92	Chloride	0.006	0.035	0.5270
3	5.60	Nitrite	0.003	0.014	0.0412
4	6.67	Bromide	0.002	0.005	0.0364
5	7.30	Nitrate	0.003	0.012	0.0717
6	8.96	O.Phos	0.002	0.005	0.0648
7	10.76	Sulfate	0.006	0.014	0.6925

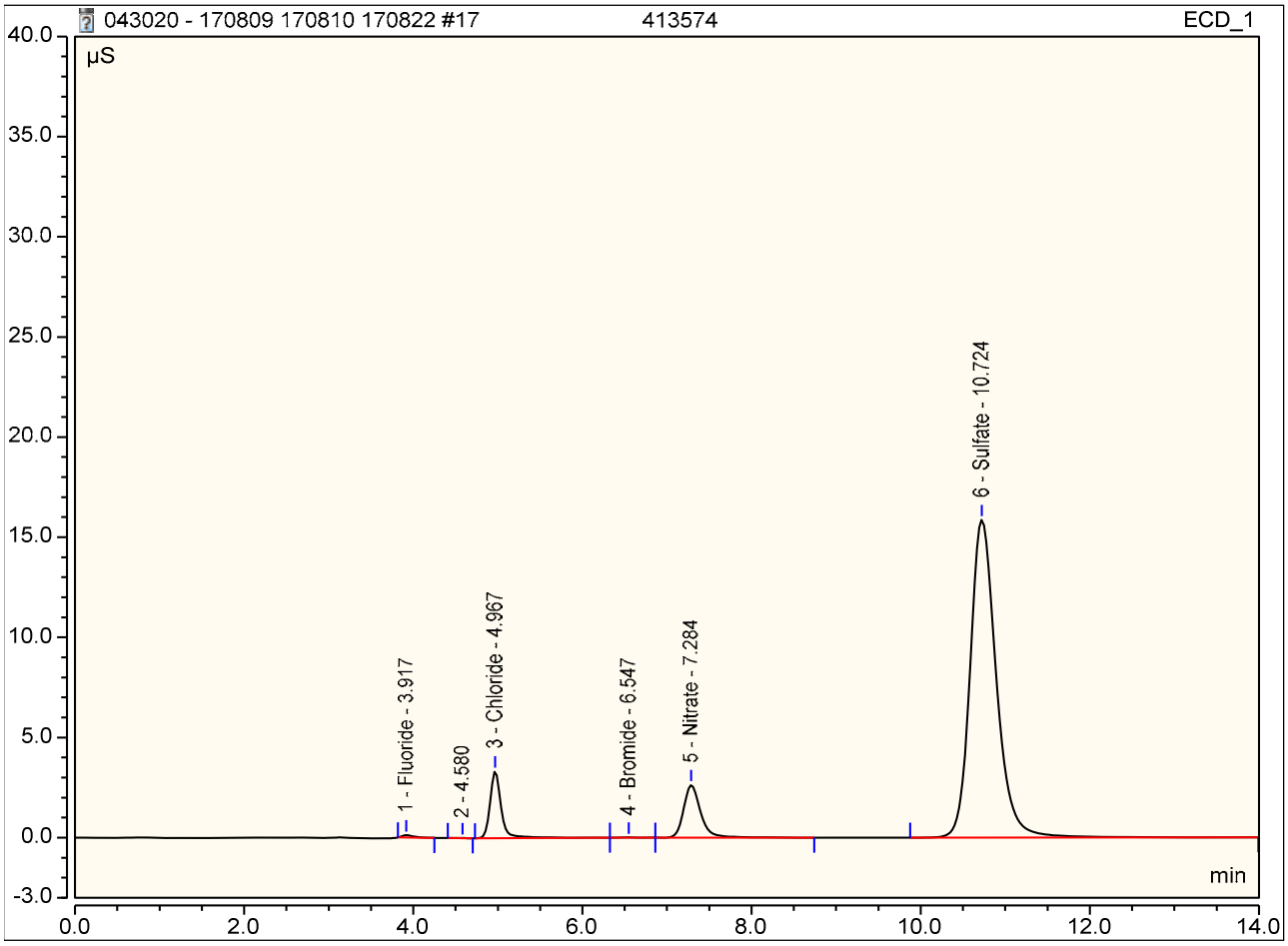


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**413574**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 17:34**	*Run Time:*	**14.00**

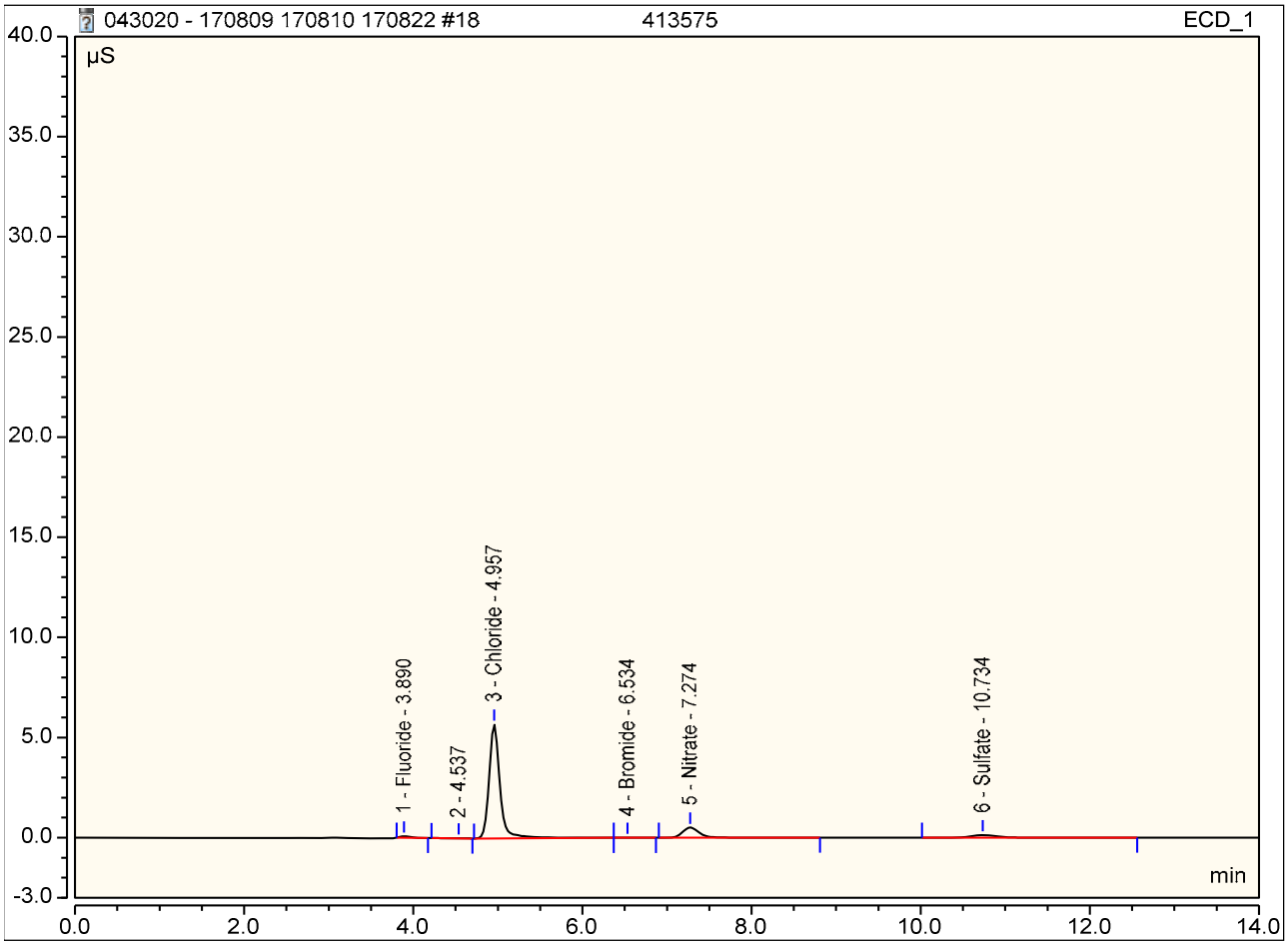
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.018	0.116	0.1304
3	4.97	Chloride	0.515	3.339	3.4904
4	6.55	Bromide	0.003	0.012	0.0521
5	7.28	Nitrate	0.611	2.627	1.6620
6	10.72	Sulfate	5.672	15.863	47.0357



Peak Integration Report

Sample Name:	**413575**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 17:48**	*Run Time:*	**14.00**

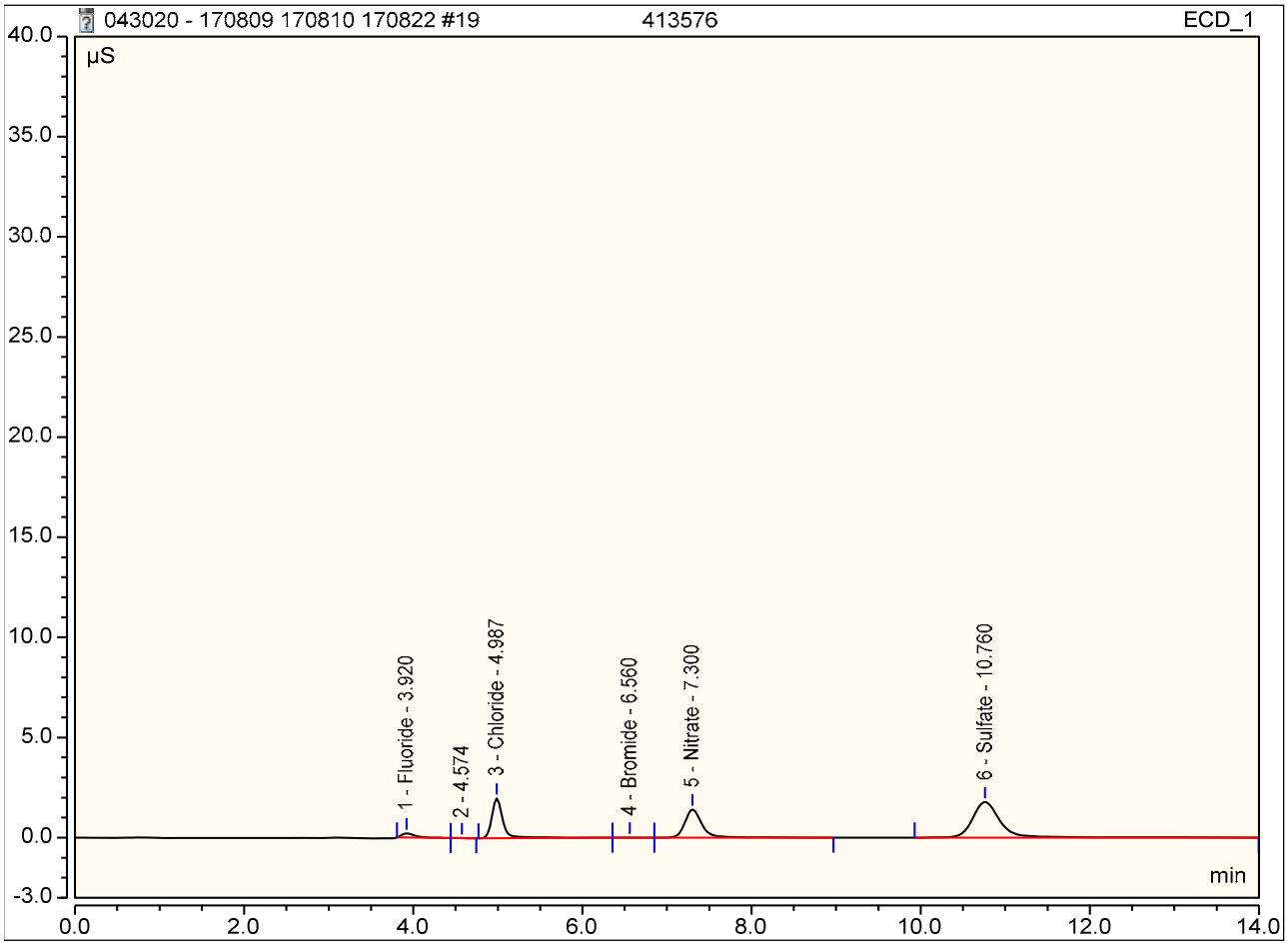
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.010	0.070	0.0894
3	4.96	Chloride	0.856	5.691	5.4776
4	6.53	Bromide	0.001	0.004	0.0236
5	7.27	Nitrate	0.120	0.512	0.3793
6	10.73	Sulfate	0.050	0.130	1.0558



Peak Integration Report

Sample Name:	**413576**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 18:02**	*Run Time:*	**14.00**

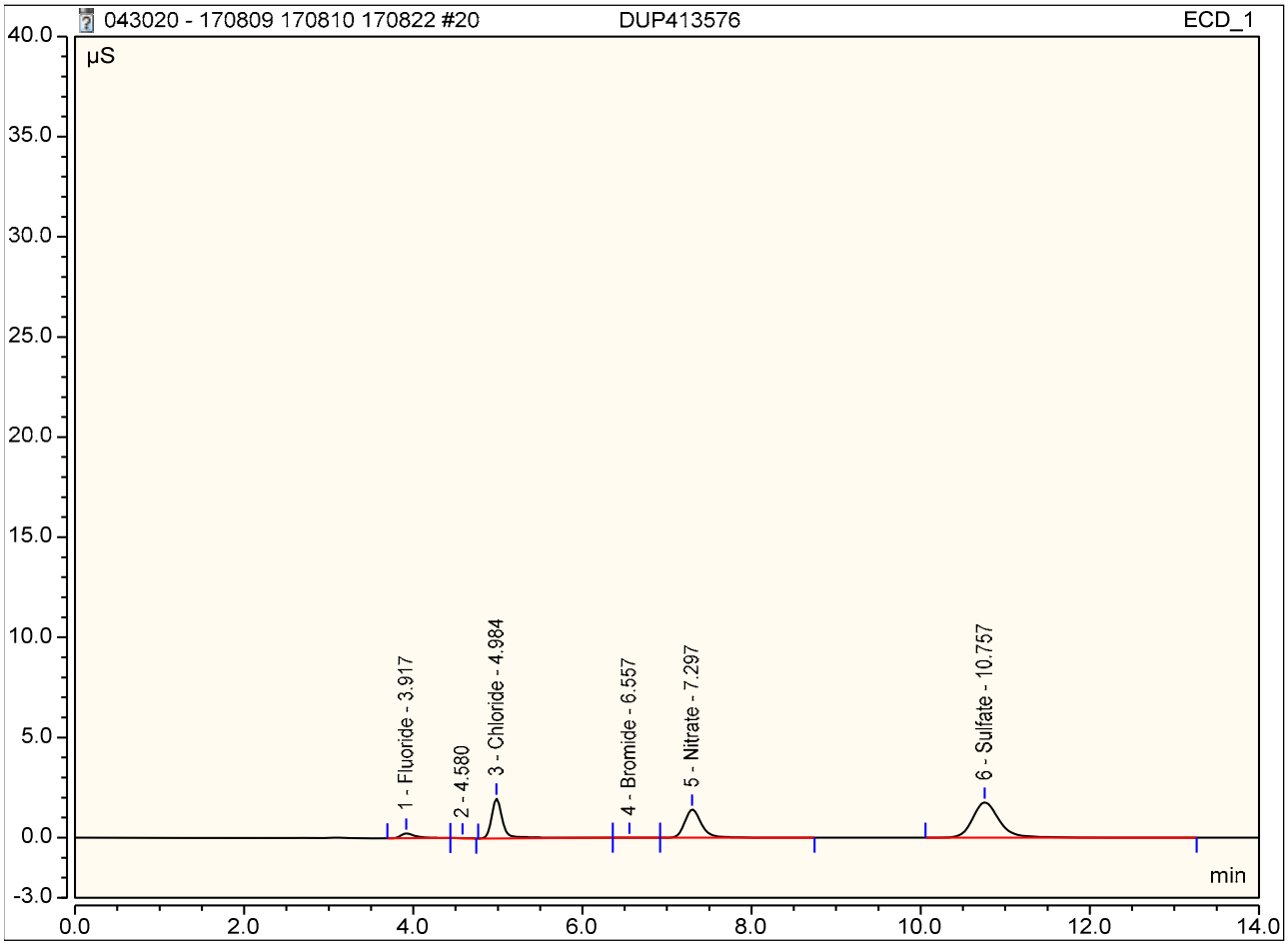
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.038	0.210	0.2248
3	4.99	Chloride	0.312	1.997	2.3132
4	6.56	Bromide	0.001	0.006	0.0318
5	7.30	Nitrate	0.329	1.408	0.9256
6	10.76	Sulfate	0.668	1.769	6.1094



Peak Integration Report

Sample Name:	**DUP413576**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 18:16**	*Run Time:*	**14.00**

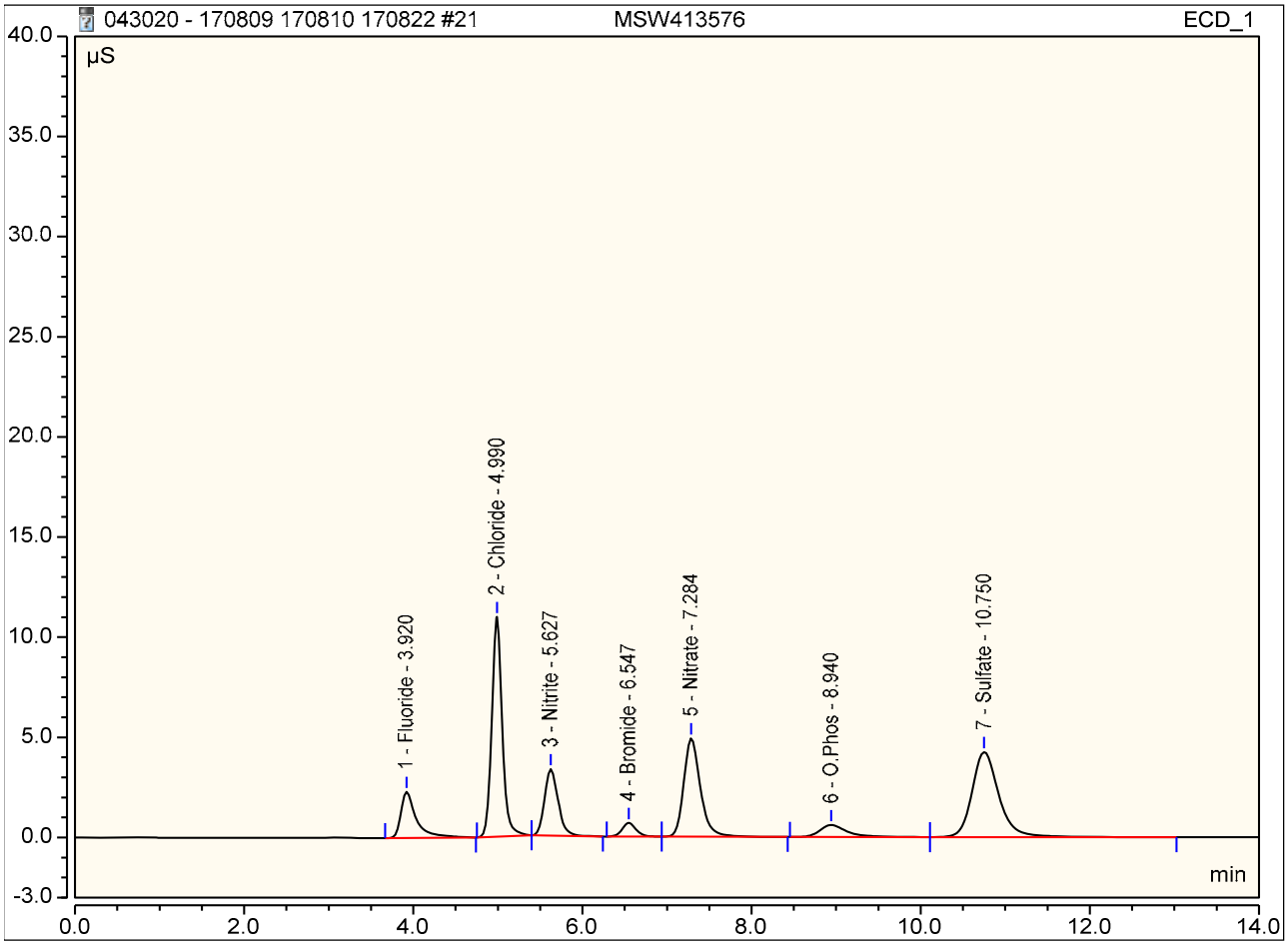
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.050	0.241	0.2879
3	4.98	Chloride	0.312	1.993	2.3102
4	6.56	Bromide	0.001	0.007	0.0345
5	7.30	Nitrate	0.331	1.416	0.9297
6	10.76	Sulfate	0.659	1.765	6.0371



Peak Integration Report

Sample Name:	**MSW413576**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 18:30**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.490	2.302	2.4542
2	4.99	Chloride	1.568	10.968	9.6231
3	5.63	Nitrite	0.614	3.316	2.1449
4	6.55	Bromide	0.130	0.679	2.2496
5	7.28	Nitrate	1.117	4.915	2.9880
6	8.94	O.Phos	0.225	0.596	2.1194
7	10.75	Sulfate	1.562	4.249	13.4202

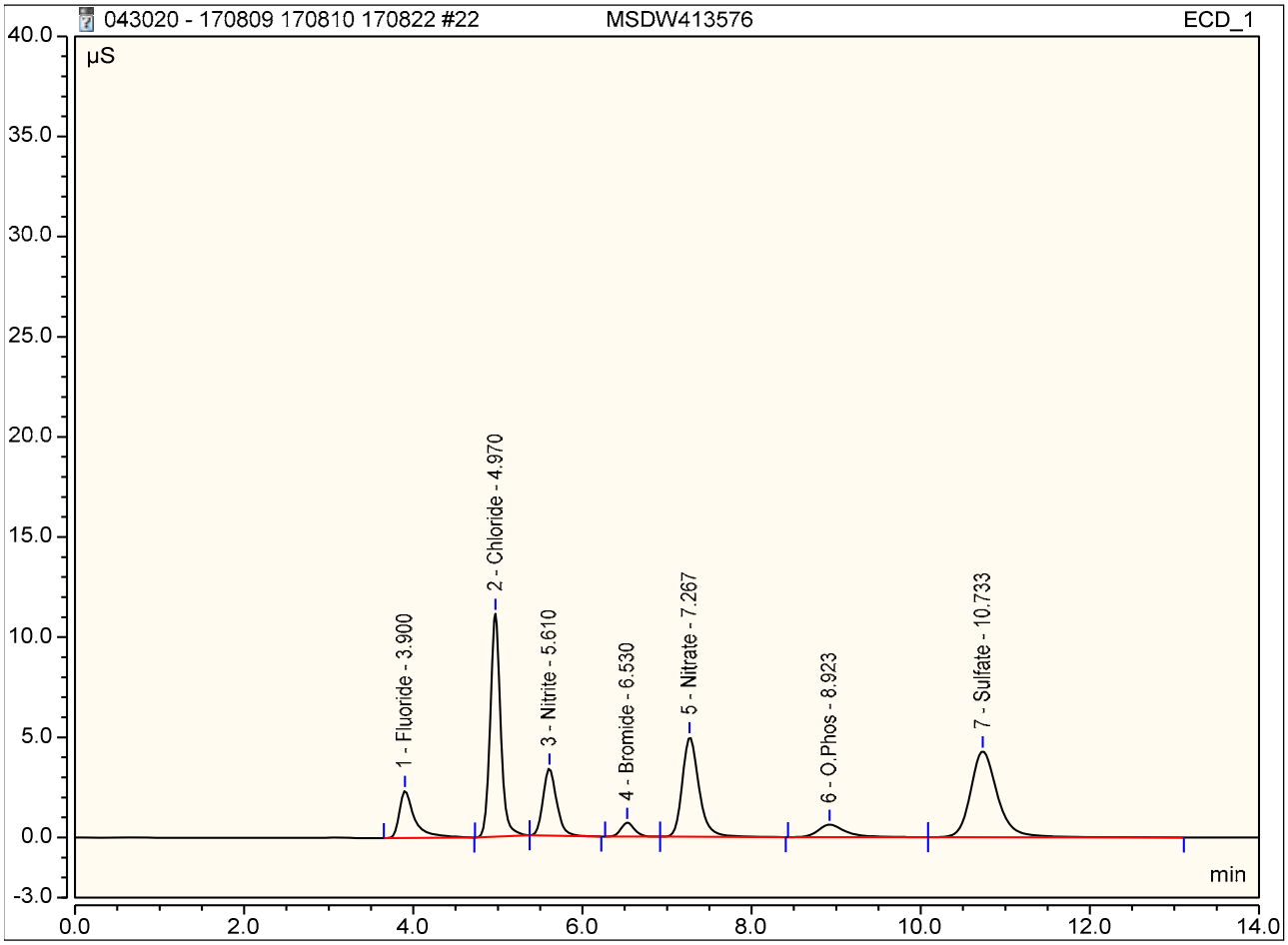


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**MSDW413576**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 18:44**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.499	2.351	2.4989
2	4.97	Chloride	1.595	11.136	9.7828
3	5.61	Nitrite	0.622	3.356	2.1724
4	6.53	Bromide	0.132	0.690	2.2881
5	7.27	Nitrate	1.134	4.978	3.0306
6	8.92	O.Phos	0.235	0.621	2.2085
7	10.73	Sulfate	1.578	4.289	13.5516

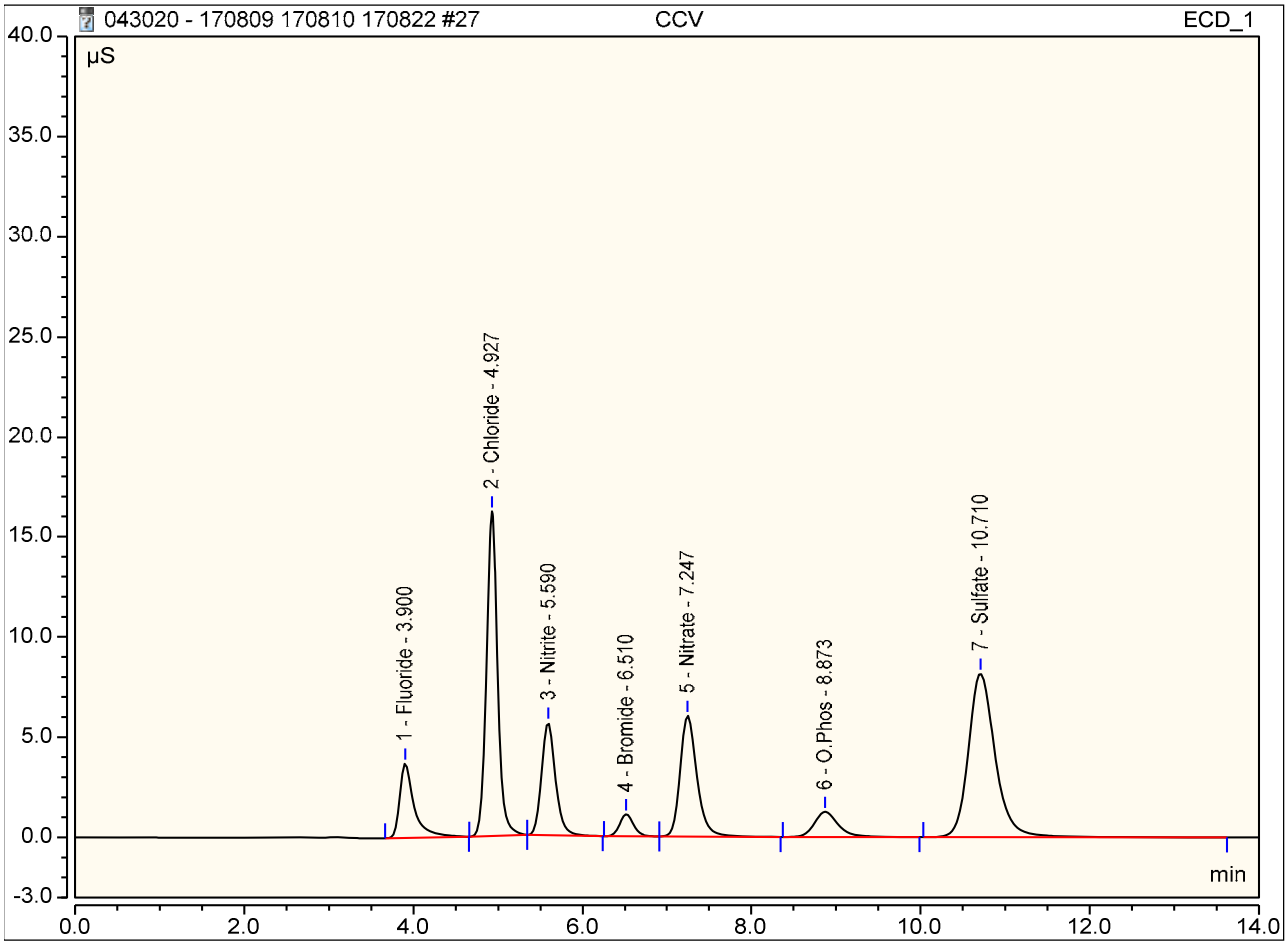


Chromeleon (c) Dionex 1996-2009
Version 7.2.9.11323

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 19:55**	*Run Time:*	**14.00**

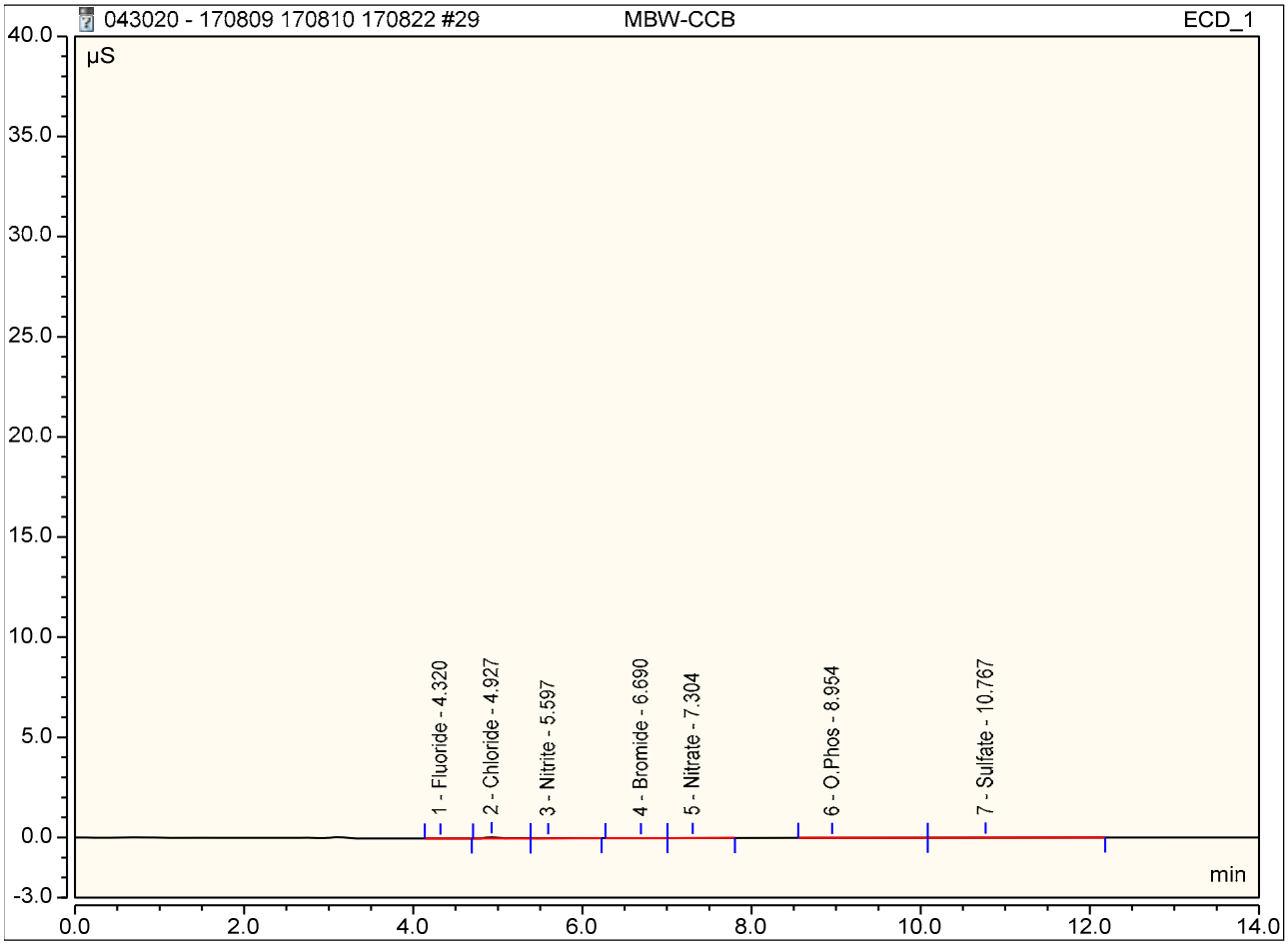
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.741	3.712	3.6959
2	4.93	Chloride	2.469	16.197	14.8675
3	5.59	Nitrite	1.072	5.623	3.7215
4	6.51	Bromide	0.213	1.104	3.6889
5	7.25	Nitrate	1.377	6.026	3.6680
6	8.87	O.Phos	0.418	1.256	3.8897
7	10.71	Sulfate	2.982	8.164	25.0329

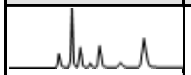
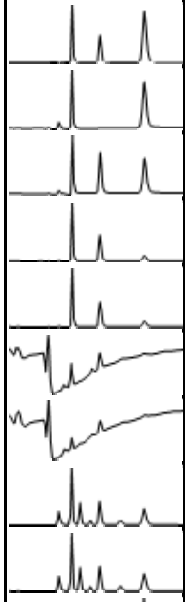
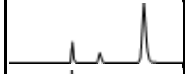
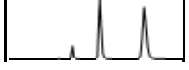


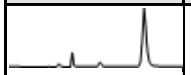
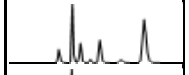
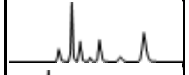
Peak Integration Report

Sample Name:	**MBW-CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**30-Apr-2020 / 20:23**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.32	Fluoride	0.001	0.003	0.0431
2	4.93	Chloride	0.010	0.058	0.5513
3	5.60	Nitrite	0.003	0.014	0.0411
4	6.69	Bromide	0.002	0.005	0.0360
5	7.30	Nitrate	0.004	0.015	0.0740
6	8.95	O.Phos	0.002	0.005	0.0676
7	10.77	Sulfate	0.007	0.015	0.7026



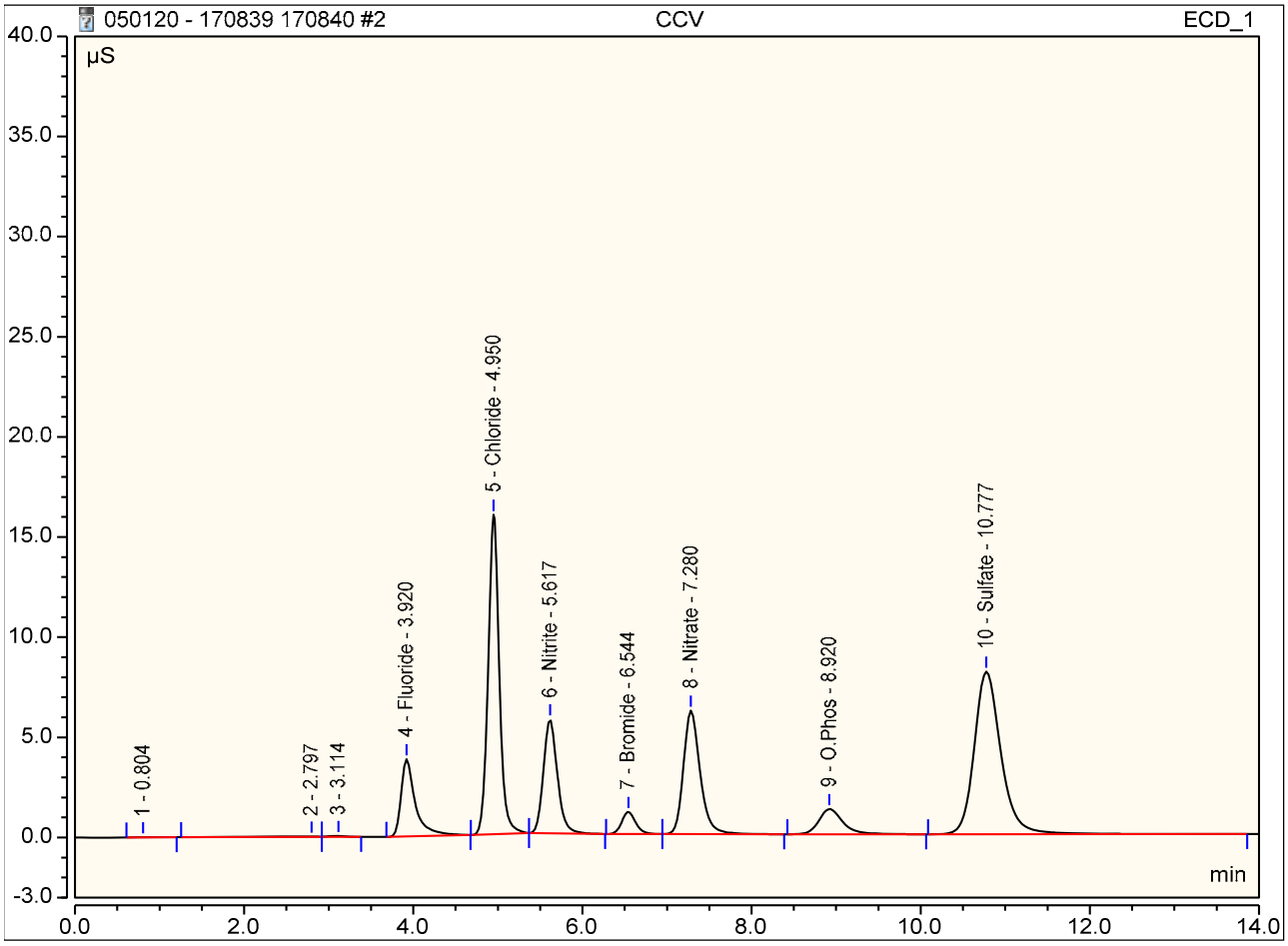
ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		2	5000	Anions 1.0	IC2990A	Finished
	LCSW	1.0000	Unknown		3	5000	Anions 1.0	IC2990A	Finished
	MBW	1.0000	Unknown		4	5000	Anions 1.0	IC2990A	Finished
									
	413971	1.0000	Unknown		14	5000	Anions 1.0	IC2990A	Finished
	CCV	1.0000	Unknown		15	5000	Anions 1.0	IC2990A	Finished
	CCB	1.0000	Unknown		16	5000	Anions 1.0	IC2990A	Finished
	413972	1.0000	Unknown		17	5000	Anions 1.0	IC2990A	Finished
	413973	1.0000	Unknown		18	5000	Anions 1.0	IC2990A	Finished

	413974	1.0000	Unknown		19	5000	Anions 1.0	IC2990A	Finished
ECD_1	**Name**	**Dilution**	**Type**	**Level**	**Position**	**Volume**	**Instrument Method**	**Processing Method**	**Status**
	DUP413974	1.0000	Unknown		20	5000	Anions 1.0	IC2990A	Finished
	MSW413974	1.0000	Unknown		21	5000	Anions 1.0	IC2990A	Finished
	MSDW413974	1.0000	Unknown		22	5000	Anions 1.0	IC2990A	Finished
	CCV	1.0000	Unknown		23	5000	Anions 1.0	IC2990A	Finished
	CCB	1.0000	Unknown		24	5000	Anions 1.0	IC2990A	Finished

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 12:41**	*Run Time:*	**14.00**

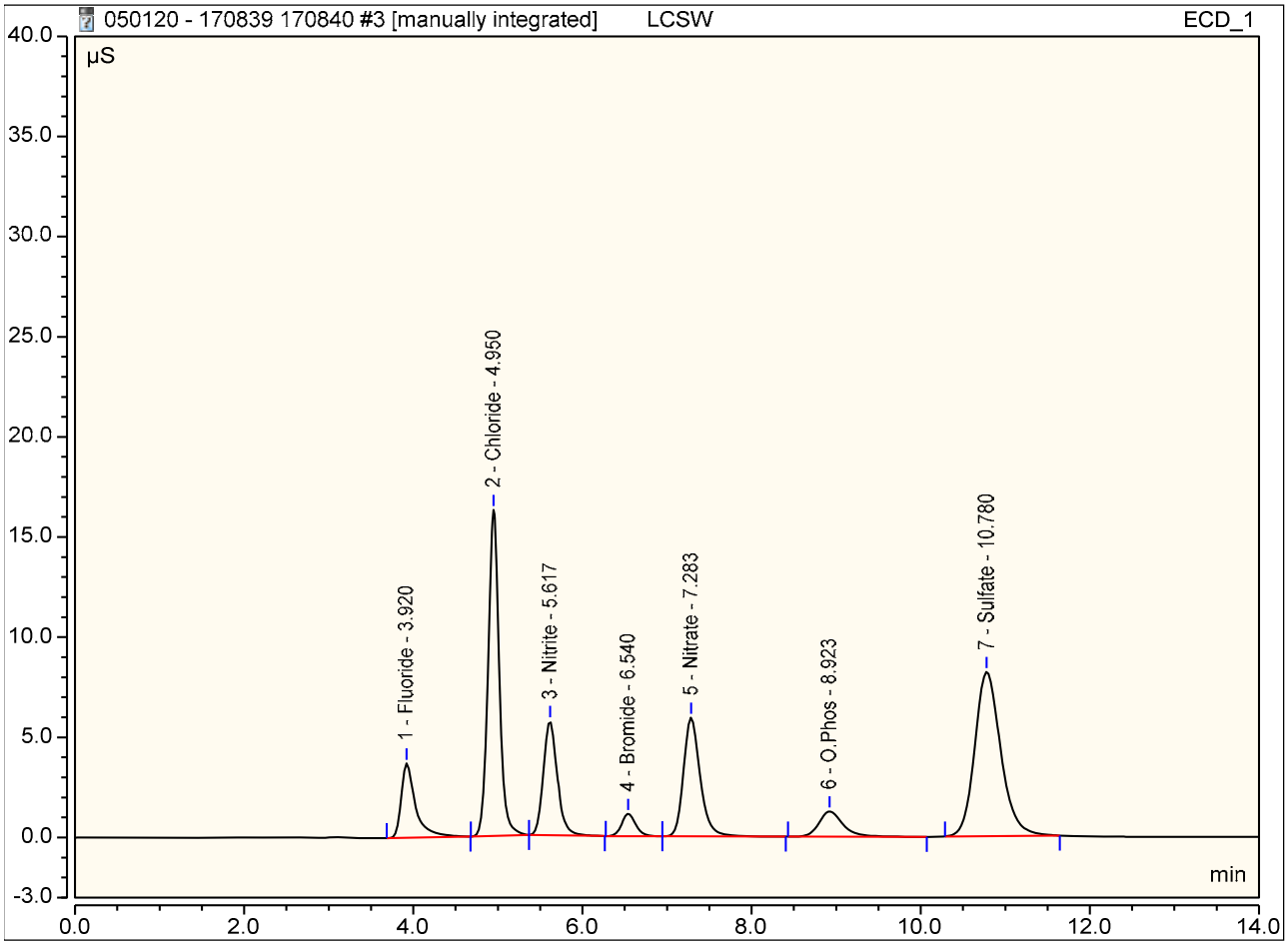
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
4	3.92	Fluoride	0.761	3.860	3.7909
5	4.95	Chloride	2.435	15.949	14.6676
6	5.62	Nitrite	1.087	5.696	3.7717
7	6.54	Bromide	0.214	1.106	3.7006
8	7.28	Nitrate	1.404	6.168	3.7383
9	8.92	O.Phos	0.420	1.258	3.9123
10	10.78	Sulfate	2.969	8.117	24.9242



Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**AQUION**
Inj. Date / Time:	**01-May-2020 / 12:55**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.738	3.711	3.6800
2	4.95	Chloride	2.490	16.280	14.9897
3	5.62	Nitrite	1.087	5.702	3.7737
4	6.54	Bromide	0.217	1.118	3.7534
5	7.28	Nitrate	1.353	5.933	3.6044
6	8.92	O.Phos	0.423	1.267	3.9402
7	10.78	Sulfate	2.924	8.198	24.5620



RJ 05/05/2020

Before Manual Integration

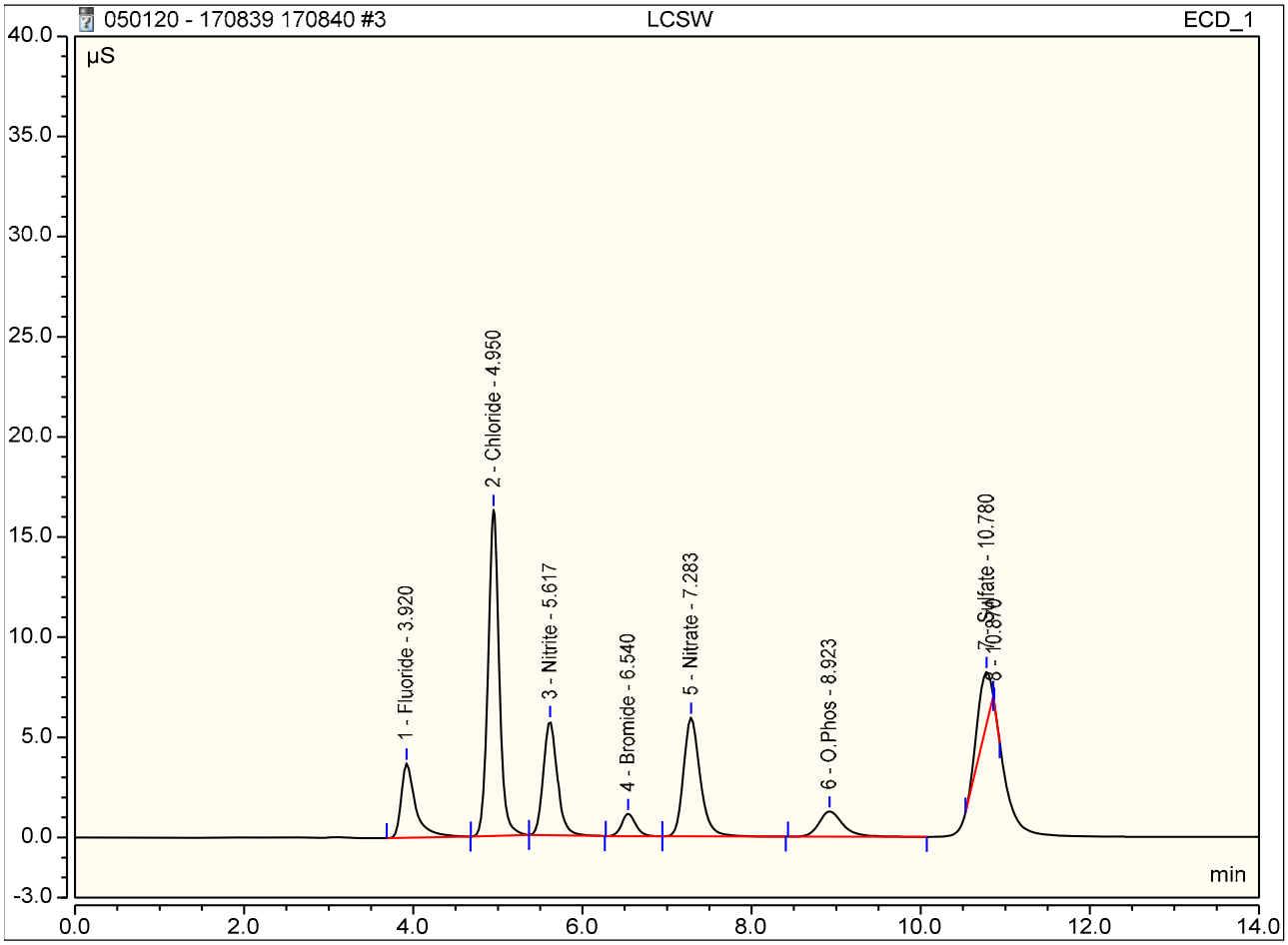
REASON #4

TMG 05/05/2020

Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 12:55**	*Run Time:*	**14.00**

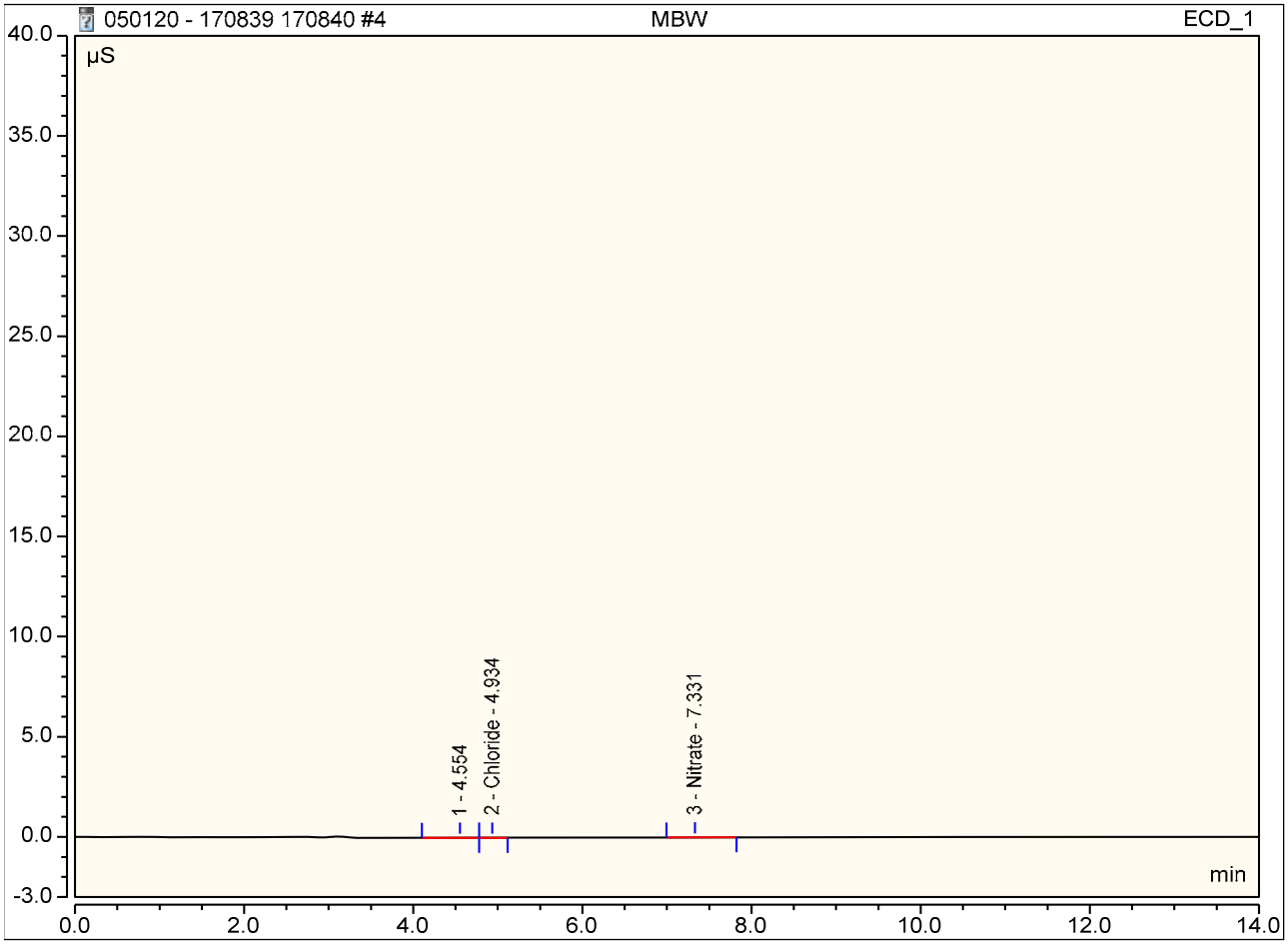
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.738	3.711	3.6800
2	4.95	Chloride	2.490	16.280	14.9897
3	5.62	Nitrite	1.087	5.702	3.7737
4	6.54	Bromide	0.217	1.118	3.7534
5	7.28	Nitrate	1.353	5.933	3.6044
6	8.92	O.Phos	0.423	1.267	3.9402
7	10.78	Sulfate	0.499	2.568	4.7304



Peak Integration Report

Sample Name:	**MBW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 13:40**	*Run Time:*	**14.00**

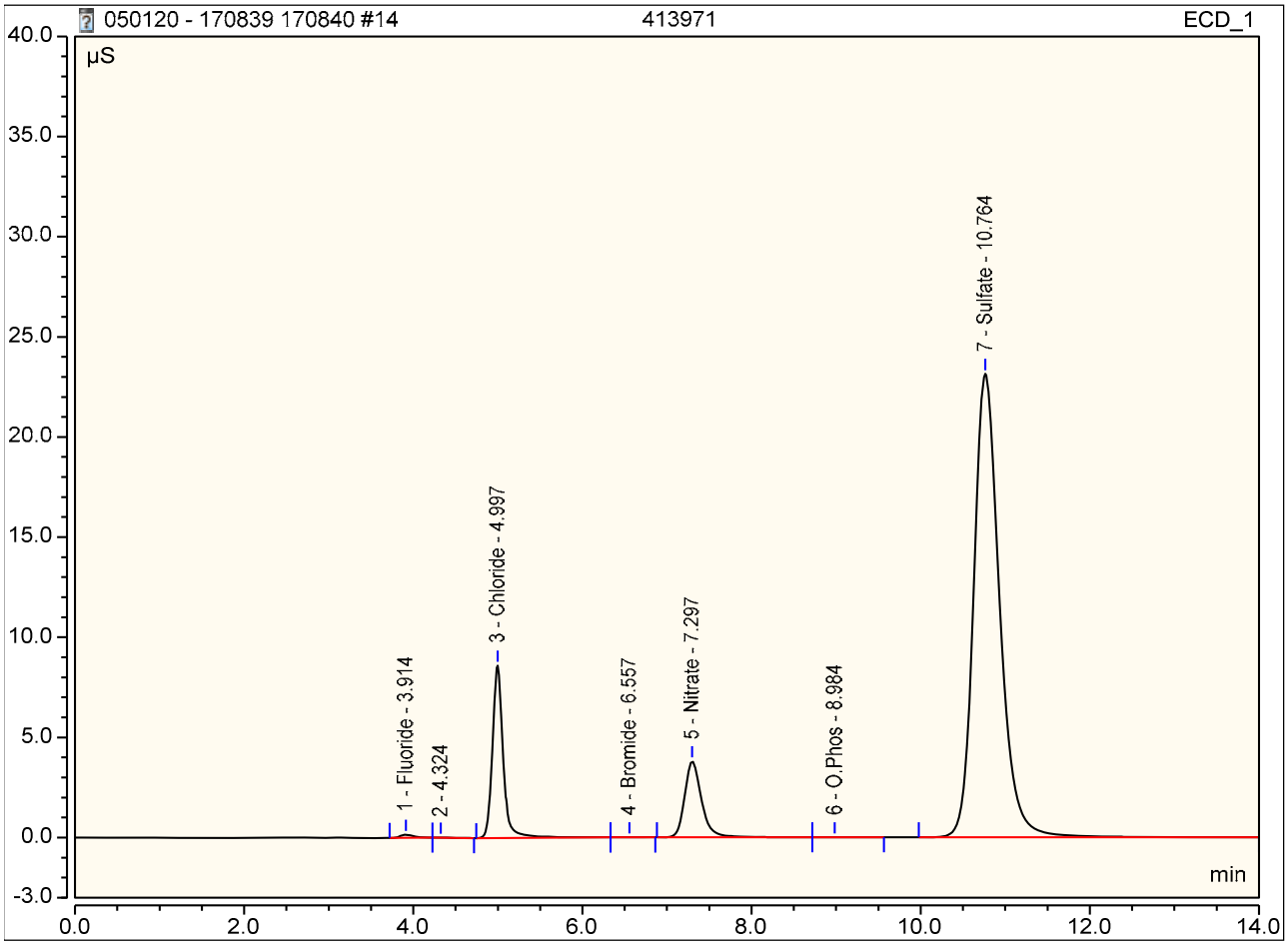
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
2	4.93	Chloride	0.001	0.009	0.5016
3	7.33	Nitrate	0.002	0.007	0.0692



Peak Integration Report

Sample Name:	**413971**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 16:02**	*Run Time:*	**14.00**

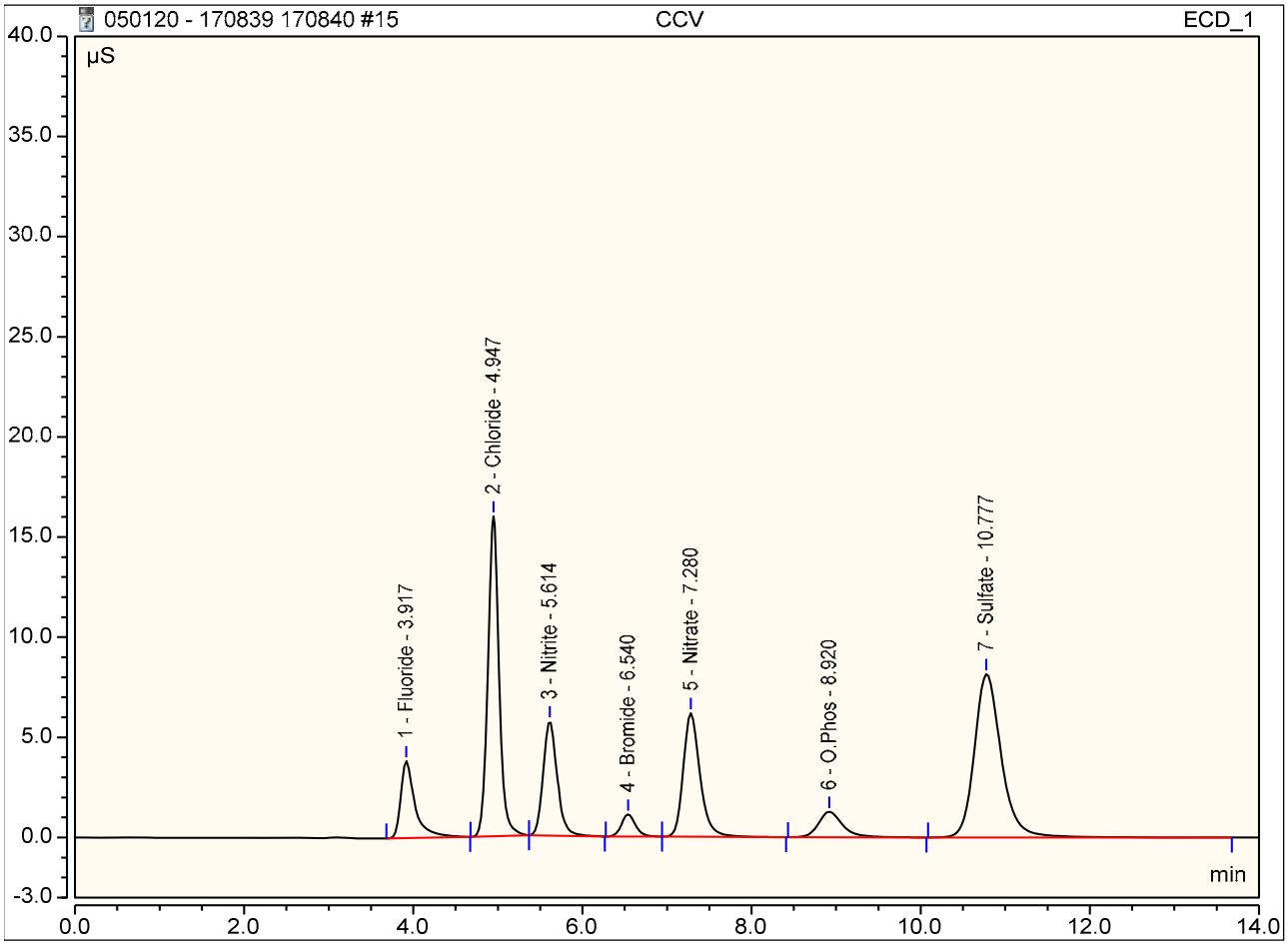
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.030	0.162	0.1854
3	5.00	Chloride	1.278	8.615	7.9367
4	6.56	Bromide	0.003	0.013	0.0523
5	7.30	Nitrate	0.883	3.801	2.3736
6	8.98	O.Phos	0.002	0.004	0.0624
7	10.76	Sulfate	8.200	23.141	67.7065



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 16:16**	*Run Time:*	**14.00**

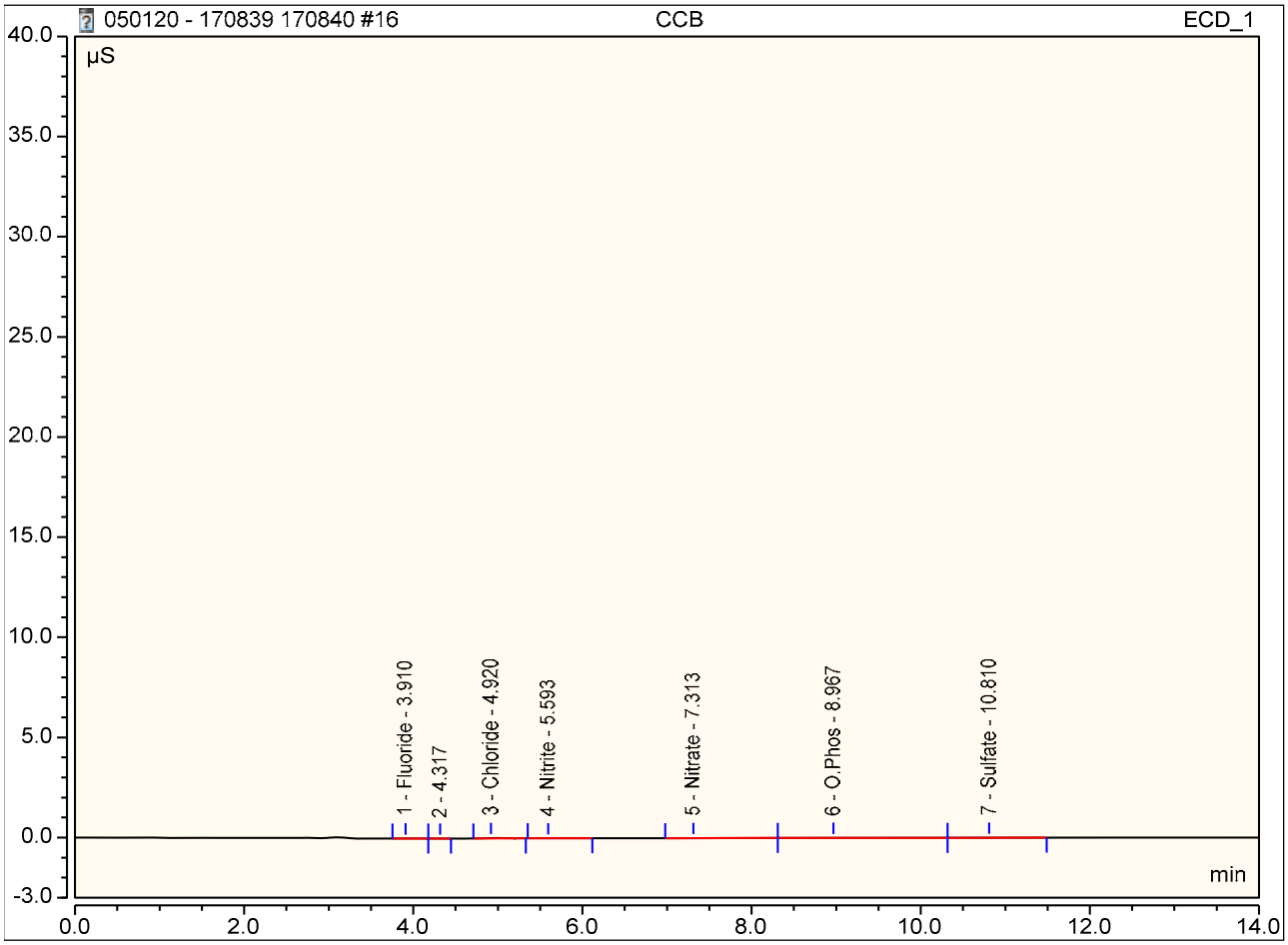
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.762	3.846	3.7997
2	4.95	Chloride	2.451	15.977	14.7643
3	5.61	Nitrite	1.095	5.715	3.8003
4	6.54	Bromide	0.215	1.105	3.7174
5	7.28	Nitrate	1.416	6.178	3.7690
6	8.92	O.Phos	0.426	1.275	3.9641
7	10.78	Sulfate	3.001	8.163	25.1859



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 16:31**	*Run Time:*	**14.00**

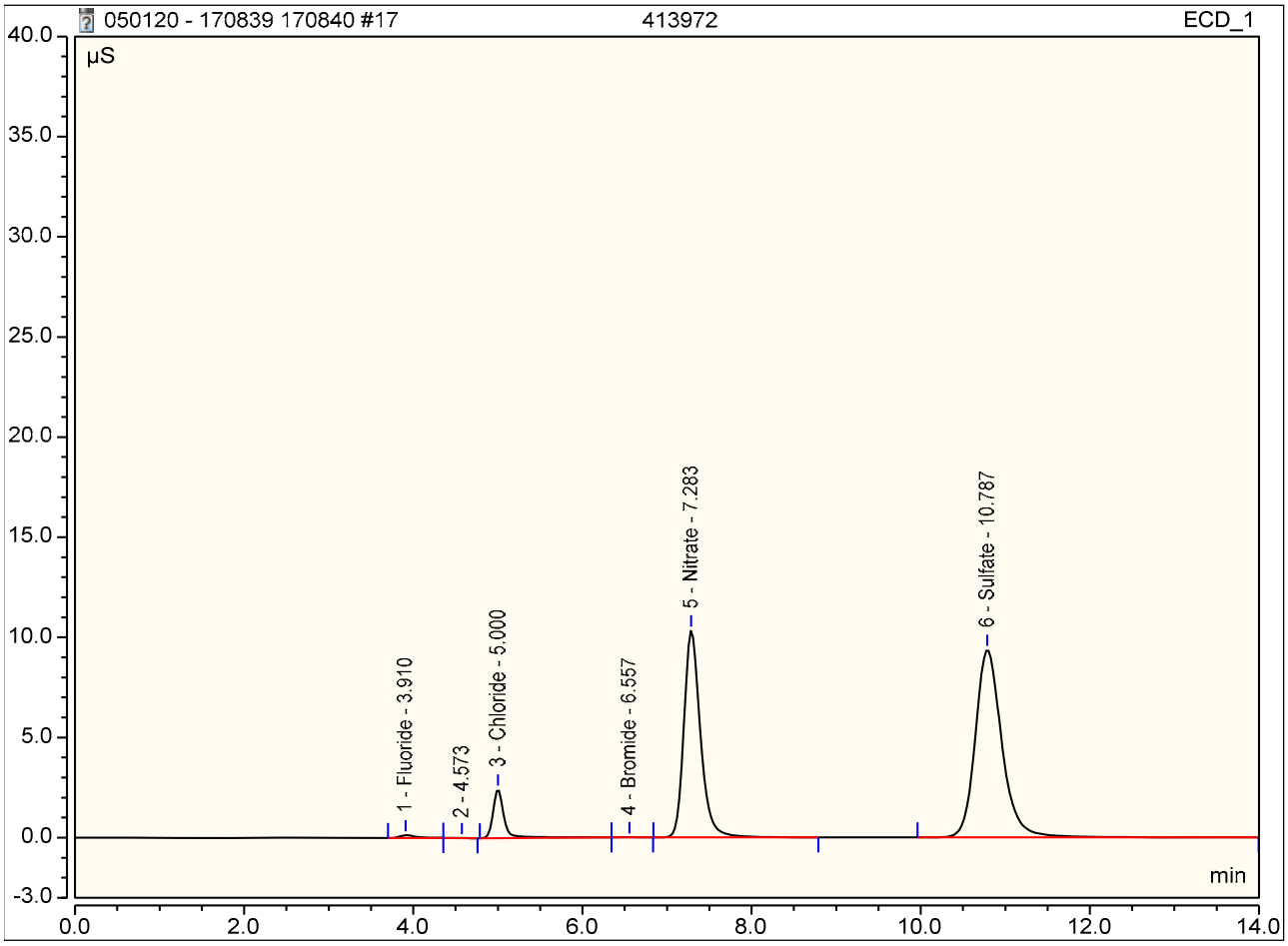
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.002	0.012	0.0497
3	4.92	Chloride	0.004	0.026	0.5185
4	5.59	Nitrite	0.002	0.010	0.0380
5	7.31	Nitrate	0.003	0.010	0.0723
6	8.97	O.Phos	0.005	0.009	0.0921
7	10.81	Sulfate	0.005	0.012	0.6841



Peak Integration Report

Sample Name:	**413972**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 16:45**	*Run Time:*	**14.00**

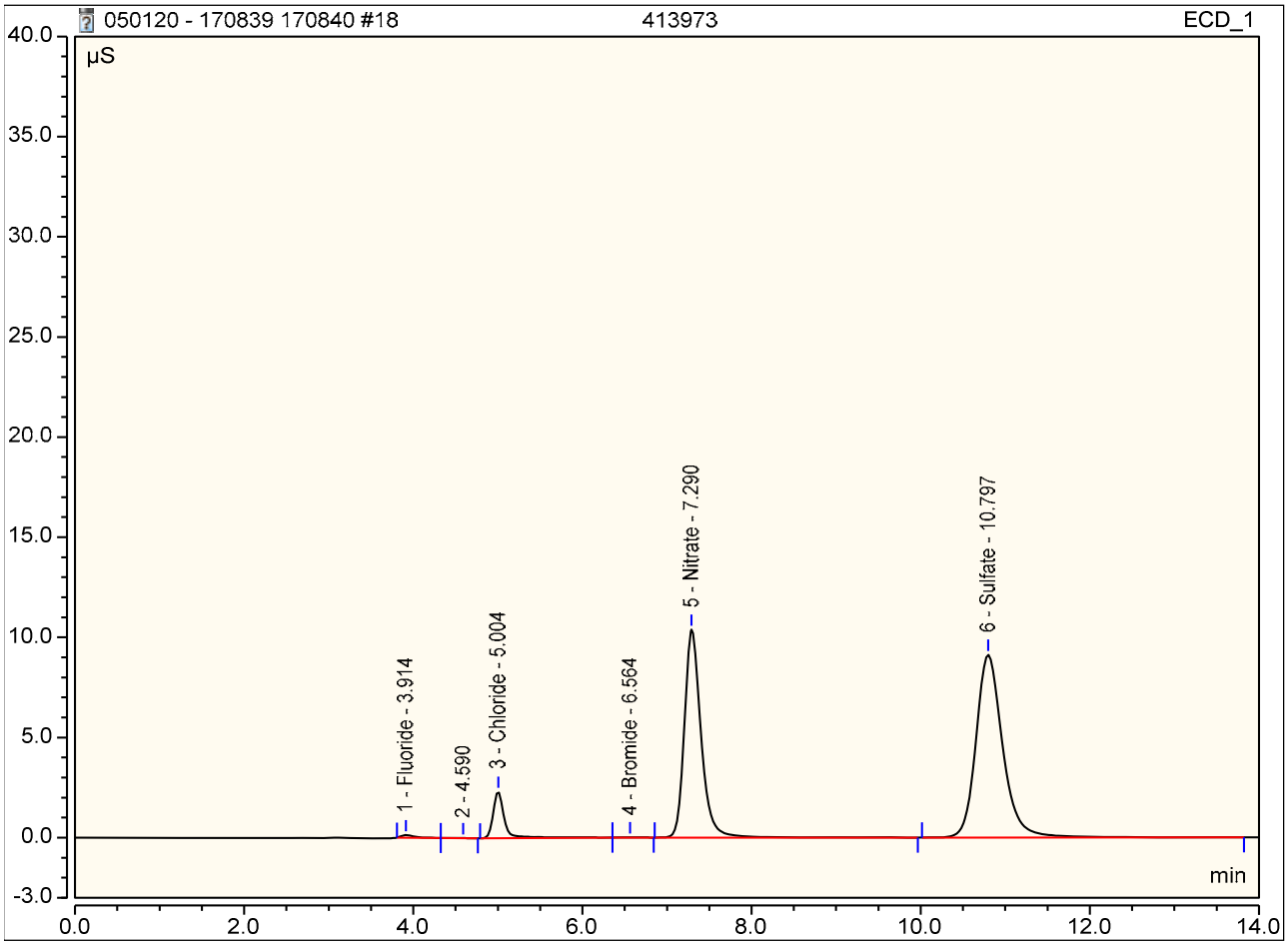
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.031	0.152	0.1940
3	5.00	Chloride	0.377	2.442	2.6878
4	6.56	Bromide	0.003	0.017	0.0629
5	7.28	Nitrate	2.344	10.341	6.1986
6	10.79	Sulfate	3.426	9.375	28.6684



Peak Integration Report

Sample Name:	**413973**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 16:59**	*Run Time:*	**14.00**

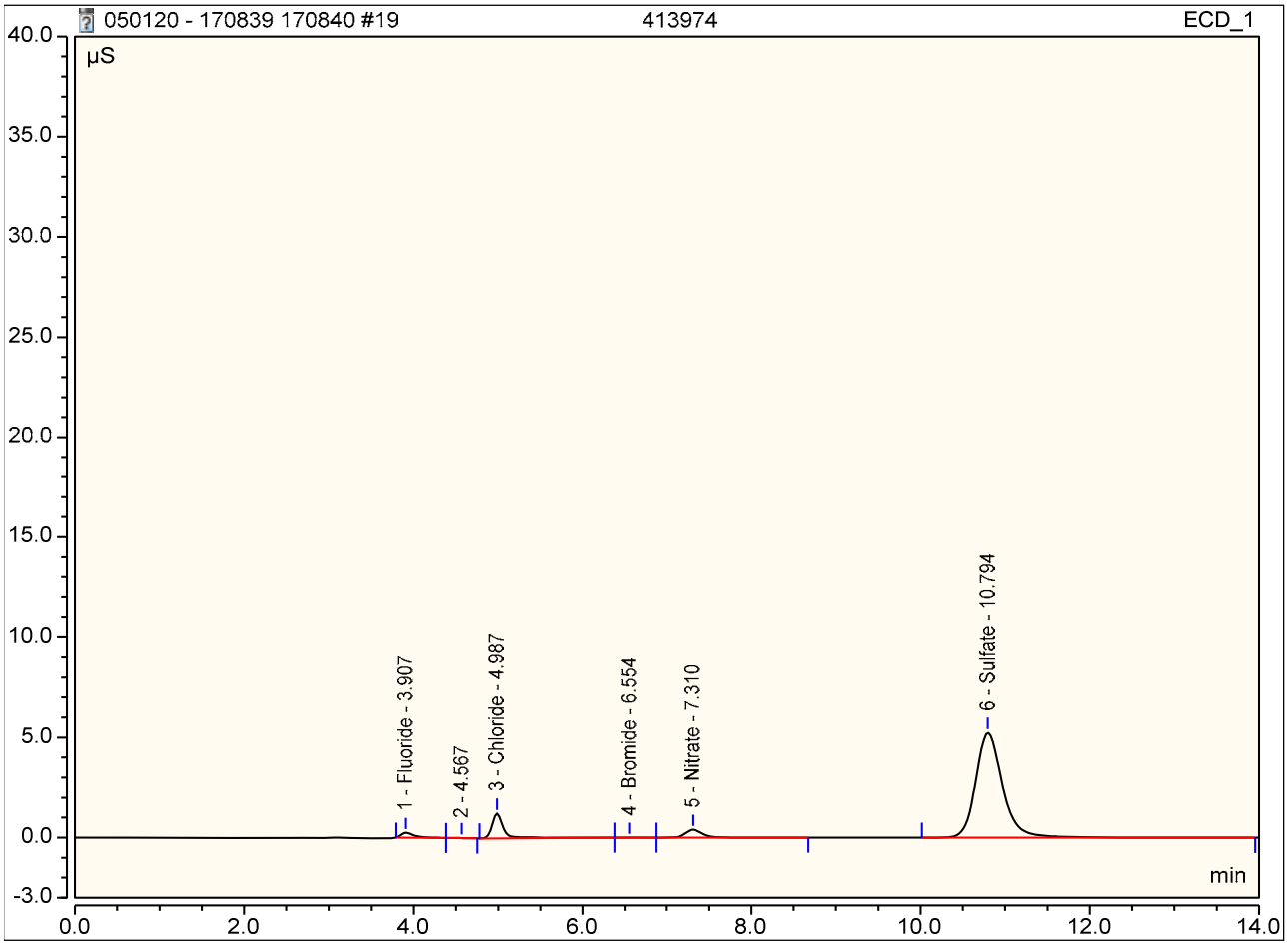
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.021	0.126	0.1415
3	5.00	Chloride	0.362	2.333	2.6016
4	6.56	Bromide	0.003	0.016	0.0600
5	7.29	Nitrate	2.363	10.381	6.2470
6	10.80	Sulfate	3.343	9.129	27.9855



Peak Integration Report

Sample Name:	**413974**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 17:13**	*Run Time:*	**14.00**

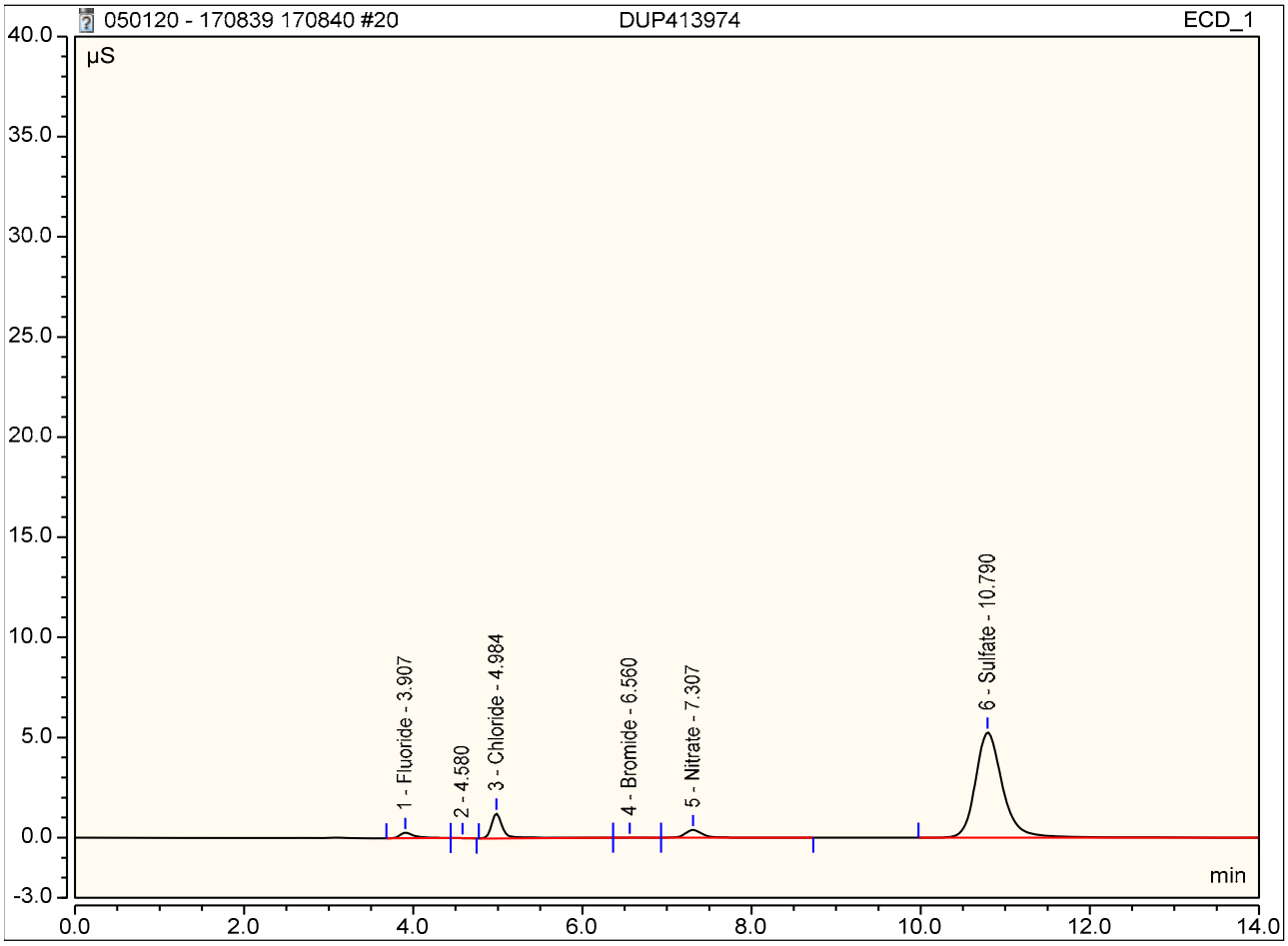
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.043	0.242	0.2497
3	4.99	Chloride	0.202	1.243	1.6727
4	6.55	Bromide	0.002	0.008	0.0366
5	7.31	Nitrate	0.095	0.402	0.3134
6	10.79	Sulfate	1.952	5.249	16.6097



Peak Integration Report

Sample Name:	**DUP413974**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 17:27**	*Run Time:*	**14.00**

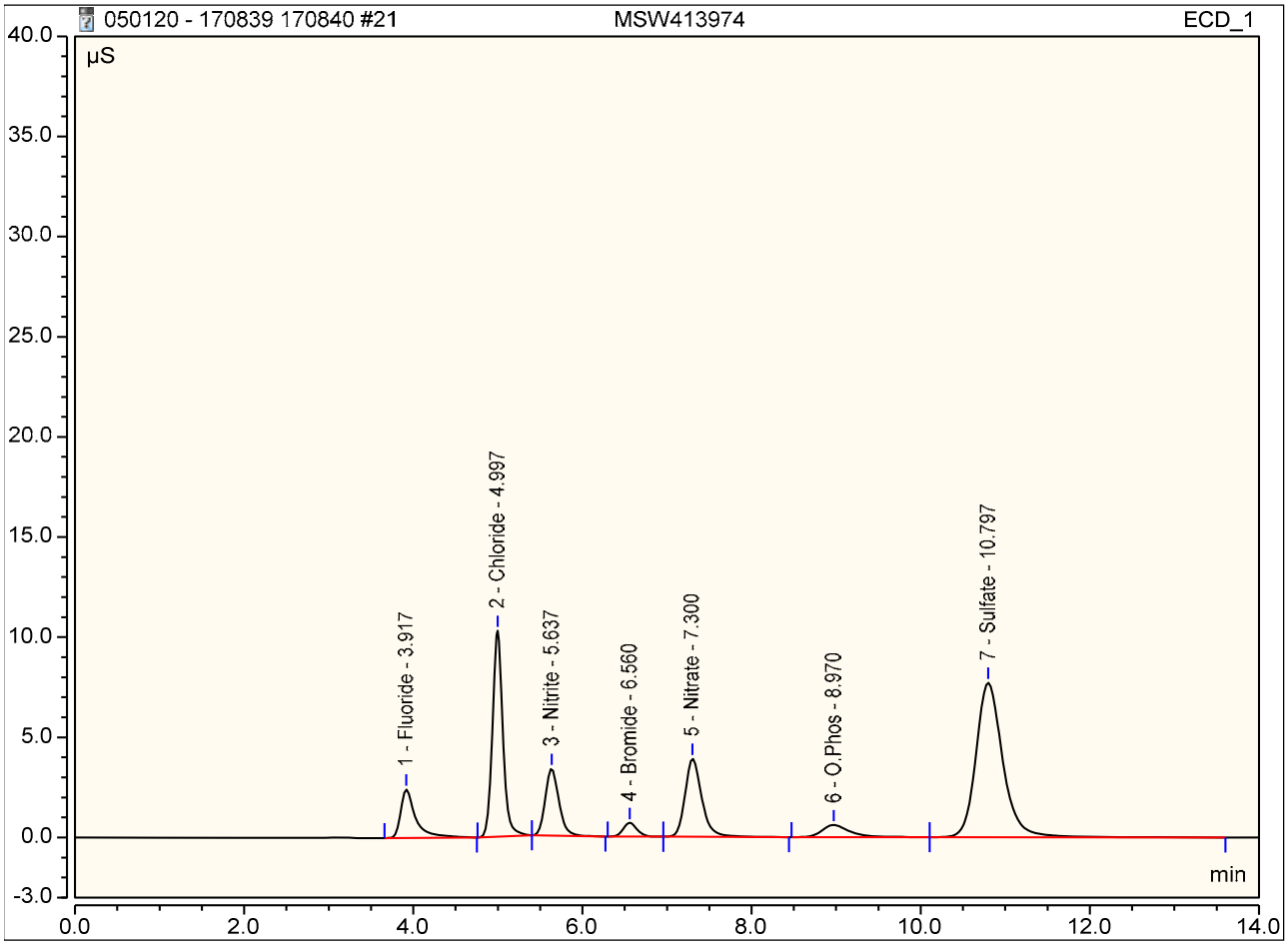
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.056	0.273	0.3147
3	4.98	Chloride	0.202	1.243	1.6724
4	6.56	Bromide	0.002	0.008	0.0380
5	7.31	Nitrate	0.092	0.389	0.3052
6	10.79	Sulfate	1.958	5.257	16.6605



Peak Integration Report

Sample Name:	**MSW413974**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 17:41**	*Run Time:*	**14.00**

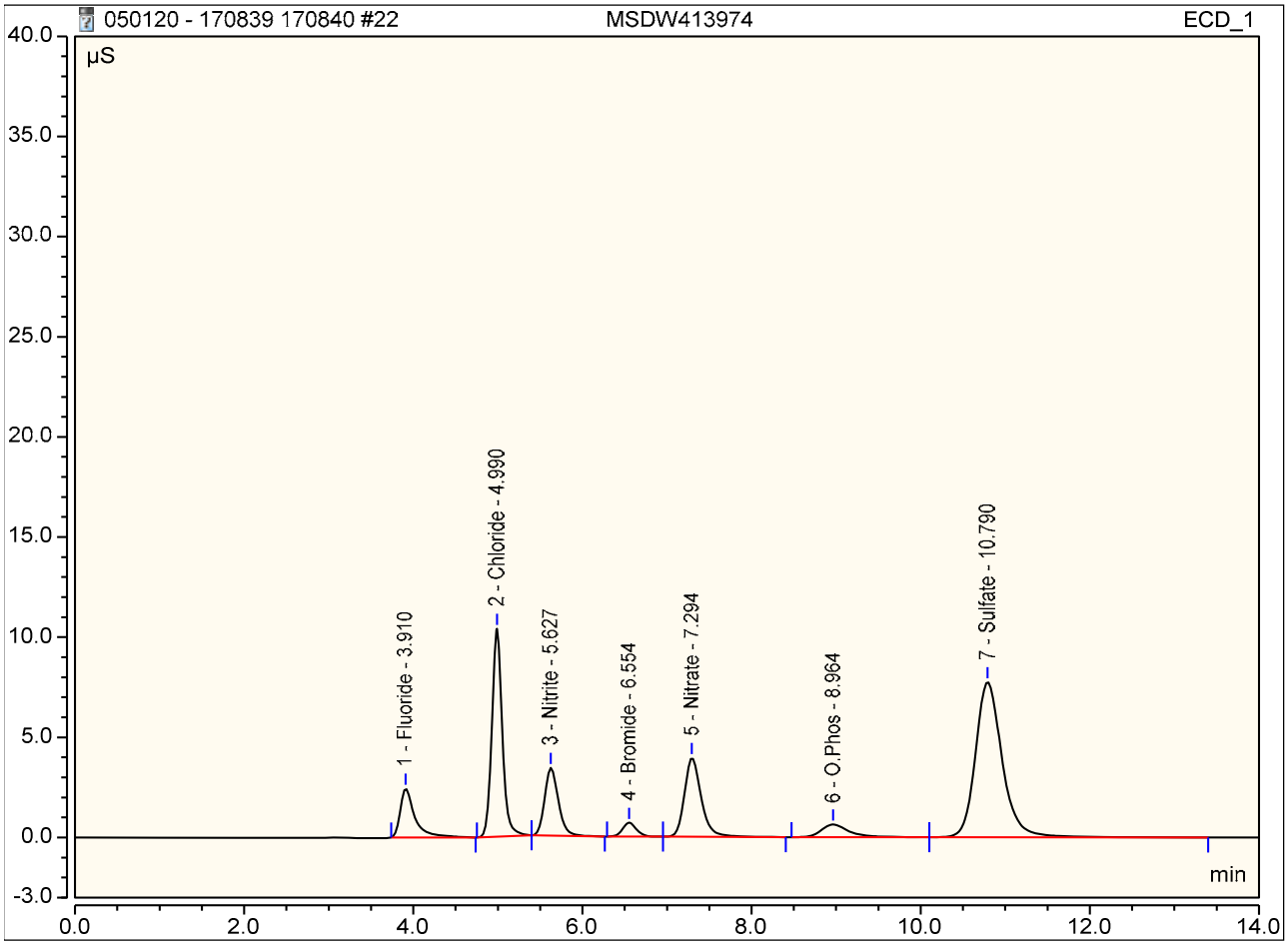
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.92	Fluoride	0.504	2.424	2.5275
2	5.00	Chloride	1.474	10.287	9.0730
3	5.64	Nitrite	0.624	3.346	2.1796
4	6.56	Bromide	0.131	0.685	2.2780
5	7.30	Nitrate	0.894	3.900	2.4033
6	8.97	O.Phos	0.232	0.608	2.1798
7	10.80	Sulfate	2.830	7.722	23.7927



Peak Integration Report

Sample Name:	**MSDW413974**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 17:55**	*Run Time:*	**14.00**

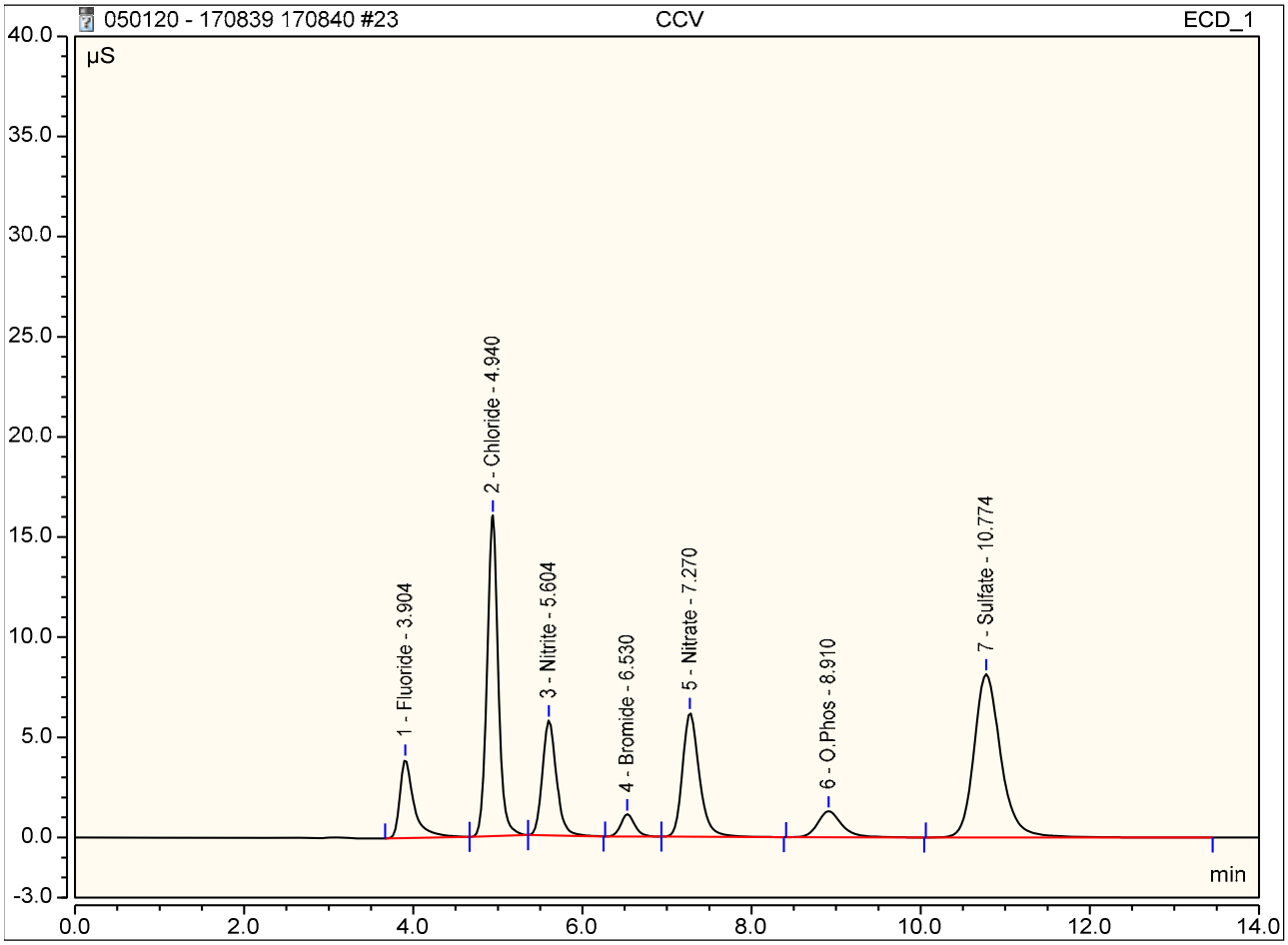
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.91	Fluoride	0.494	2.436	2.4764
2	4.99	Chloride	1.488	10.378	9.1554
3	5.63	Nitrite	0.632	3.385	2.2049
4	6.55	Bromide	0.133	0.694	2.3119
5	7.29	Nitrate	0.903	3.940	2.4273
6	8.96	O.Phos	0.242	0.636	2.2708
7	10.79	Sulfate	2.837	7.746	23.8471



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 18:09**	*Run Time:*	**14.00**

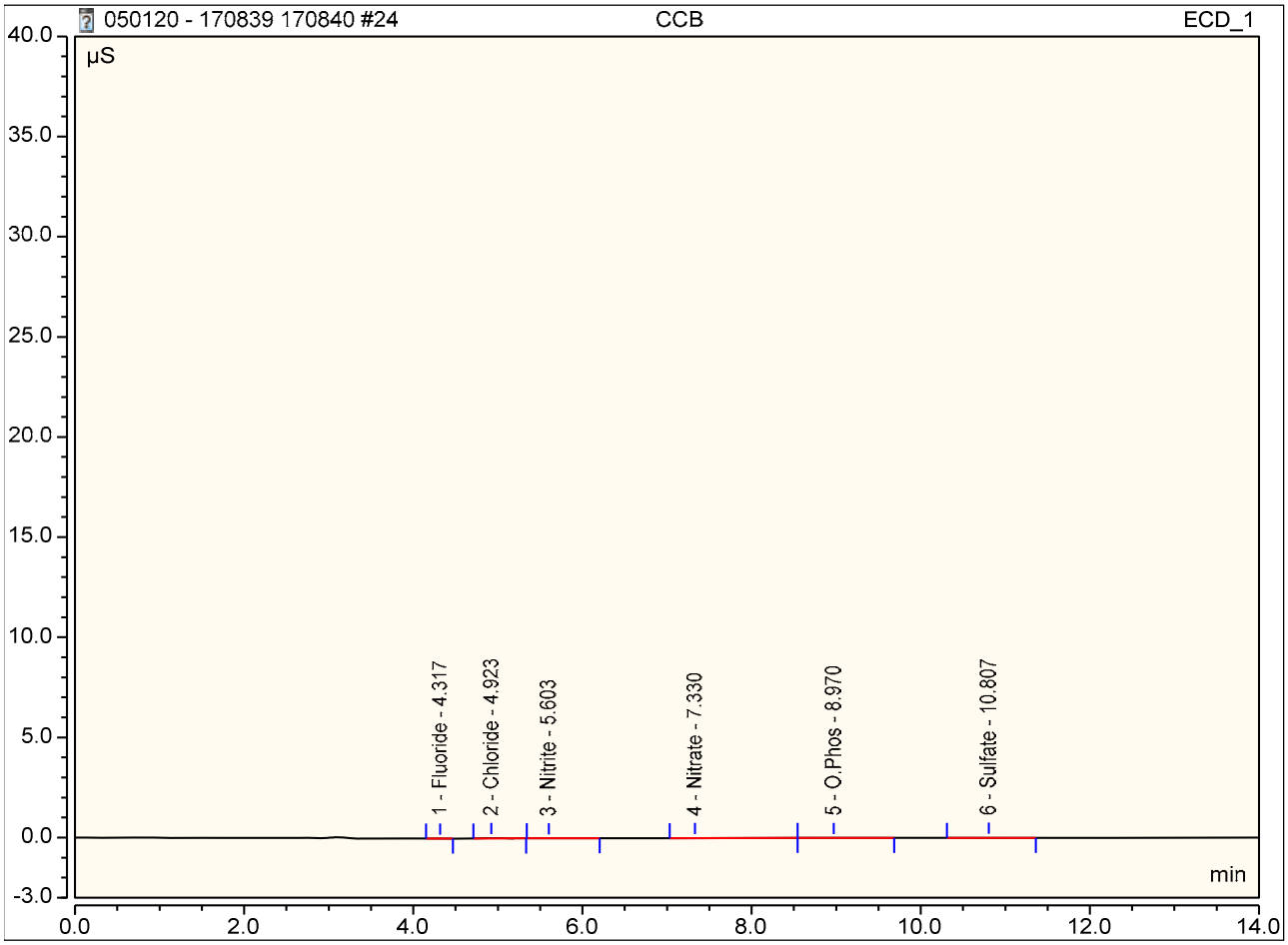
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.768	3.924	3.8293
2	4.94	Chloride	2.460	16.016	14.8140
3	5.60	Nitrite	1.103	5.750	3.8271
4	6.53	Bromide	0.215	1.109	3.7268
5	7.27	Nitrate	1.419	6.192	3.7781
6	8.91	O.Phos	0.434	1.300	4.0357
7	10.77	Sulfate	2.997	8.154	25.1599



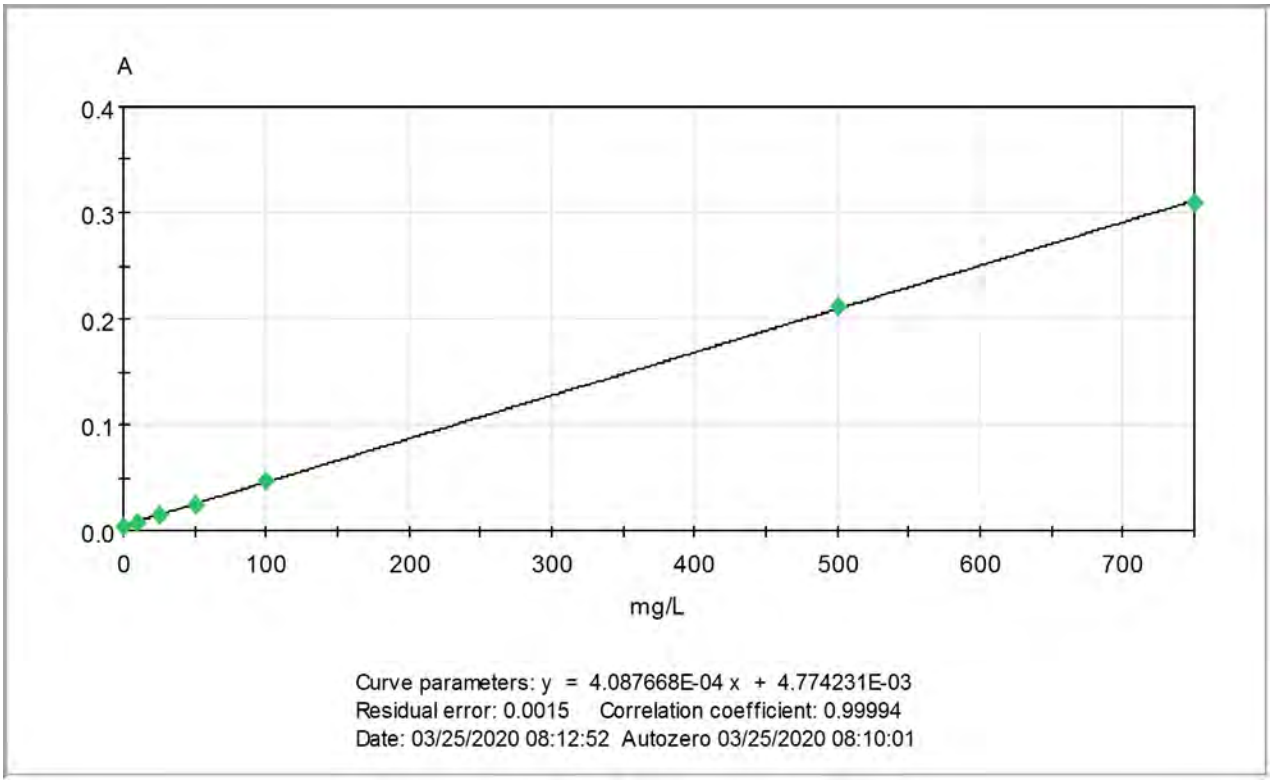
Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2990A**	*Operator:*	**aquion**
Inj. Date / Time:	**01-May-2020 / 18:23**	*Run Time:*	**14.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.32	Fluoride	0.000	0.003	0.0416
2	4.92	Chloride	0.004	0.025	0.5171
3	5.60	Nitrite	0.002	0.009	0.0377
4	7.33	Nitrate	0.003	0.008	0.0733
5	8.97	O.Phos	0.003	0.008	0.0781
6	10.81	Sulfate	0.004	0.010	0.6784



Method: COD W48439.mqa (600 nm)
Last modified: 03/25/2020 08:13:56 by CTLABORATORIES
Spectrophotometer: GENESYS 30
Serial number: 9A1W117104
Firmware: 104
Autozero: 03/25/2020 08:14:58
Autozero: 03/25/2020 08:16:51
Autozero: 03/25/2020 08:18:06
Autozero: 03/25/2020 08:18:09
Measured: 03/25/2020 08:32:03 by CTLABORATORIES
Result filename: 169736 DATA.rqa



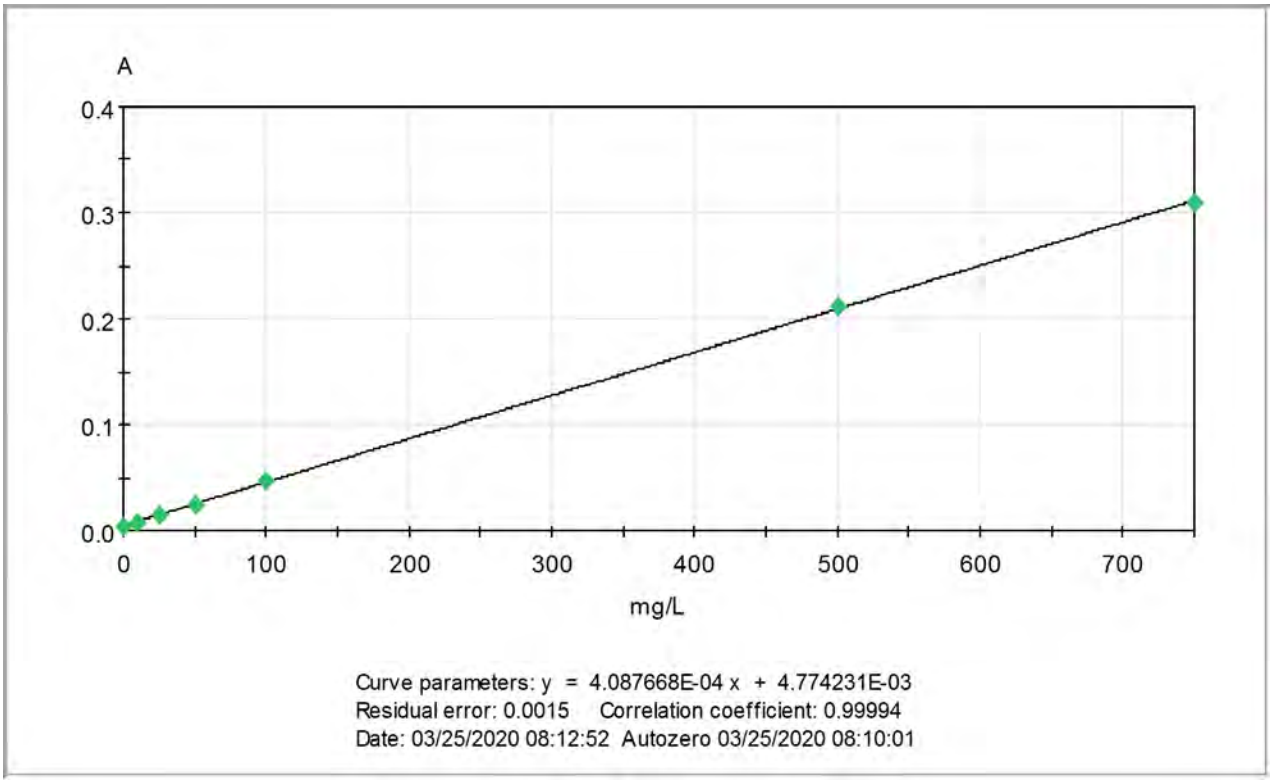
Standards

No.	Concentration [mg/L]	Ordinate [A]	Error [A]	Used
1	0.0	0.004	-0.001	Yes
2	10.0	0.008	-0.001	Yes
3	25.0	0.016	0.001	Yes
4	50.0	0.024	-0.001	Yes
5	100.0	0.047	0.001	Yes
6	500.0	0.211	0.002	Yes
7	750.0	0.310	-0.001	Yes

Sample	Dilution	Ordinate	Concentration

	Factor	[A]	[mg/L]
[illegible]		[illegible]	[illegible]
ICV	1	0.168	399.3
ICB	1	0.001	-9.2

Method: COD W48439.mqa (600 nm)
Last modified: 03/25/2020 08:13:56 by CTLABORATORIES
Spectrophotometer: GENESYS 30
Serial number: 9A1W117104
Firmware: 104
Autozero: 05/05/2020 10:01:12
Measured: 05/05/2020 10:10:42 by CTLABORATORIES
Result filename: 170861 862 DATA.rqa



Sample	Dilution Factor	Ordinate [A]	Concentration [mg/L]
CCV	1	0.167	396.9
CCB	1	0.003	-4.3
414422	1	0.178	423.8
414421	1	0.003	-4.3
412337 (X150)	1	0.179	426.2
412359 (X100)	1	0.154	365.1
412382	1	0.015	25.0
MSW412382		0.083	discarded
MSW412382	1	0.082	188.9
MSDW412382	1	0.083	191.4
413078 (X50)	1	0.091	210.9
413405	1	0.018	32.4
413662 (X100)	1	0.225	538.8
CCV	1	0.168	399.3
CCB	1	0.004	-1.9
413663 (X50)	1	0.031	64.2

413664 (X50)	1	0.240	575.5
413887	1	0.022	42.1
MSW413887	1	0.086	198.7
MSDW413887		0.108	discarded
MSDW413887	1	0.085	196.3
413888	1	0.120	281.9
413892	1	0.031	64.2
413893	1	0.023	44.6
413894	1	0.020	37.2
413896	1	0.006	3.0
CCV	1	0.170	404.2
CCB	1	0.005	0.6
413917 (X50)	1	0.144	340.6
CCV	1	0.166	394.4
CCB	1	0.005	0.6
414433	1	0.178	423.8
414432	1	0.007	5.4
413136	1	0.006	3.0
MSW413136	1	0.076	174.2
MSDW413136	1	0.072	164.5
413975	1	0.009	10.3
CCV	1	0.166	394.4
CCB	1	0.005	0.6

pH - Mettler Toledo Seven Easy

	Date:	05/01/2020	Analyst:	SRW	Lims #:	170848	Slope (%)	97%

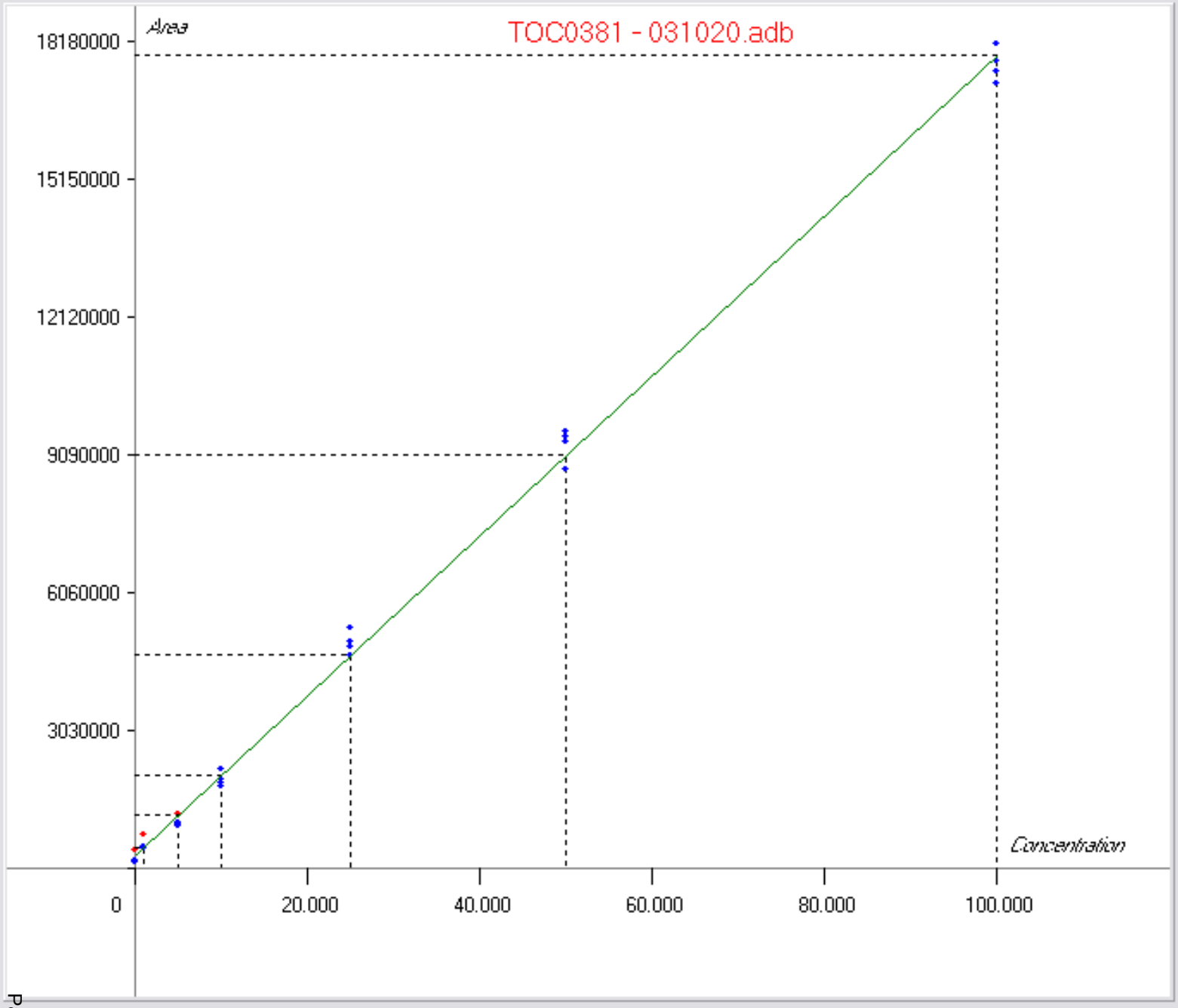
GRP	Sample ID#	Matrix	Temp (°C)*	Result	
1	BUFFER 7	QC	19.1	7.03	
2	413917	WW	17.5	5.06	
3	414053	WW	13.2	7.73	
4	414056	WW	12.7	7.81	
5	414067	WW	12.3	7.83	
6	414068	WW	13.3	11.40	
7	414069	WW	13.0	7.30	
8					
9					
10					
11	414082	WW	13.3	7.50	
dup 11	414082	WW	13.3	7.50	
12	BUFFER 7	QC	19.7	7.03	
13					
14					
15					
16					
17					
18					
19					
20					
21					
23					
dup 23					
24	BUFFER 7				
25	413975	GW	15.7	7.81	
dup 25	413975	GW	15.7	7.84	
26					
dup 26					

To datacapture: Save CSV file under the TSS datacapture folder.

*Temperature of samples should be room temperature around 25°C

Buffer Standard IDs:

pH 4: WC38 pH 7: WC70 pH 10: W46764



Cursor Position

Concentration	Area
115.200 mg/l	340875

A2	0
A1	175725
A0	310376
Correlation	0.99896
Order	1
Volume	100 µl
Conc.	100.00
Area	18164138

☐ Confidence Intervals 95%

☐ Detection/Determination 95%

Conc.	Area	Sel.
0	422661	☐
0	201520	☑
0	194563	☑
0	205412	☑
0	171881	☑
1	772926	☐
1	520333	☑
1	524604	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

Analysis Name TOC0381 - 031020.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator TMG

Date Wednesday, March 11, 2020
Time 9:29

Start Oven Temp. 711 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL0381 INSTRUMENT:TOCW
CCV0379 LCS0380

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Mar 11 2020, 9:29	18164138	100	1	0.99896	100 µl	Yes
	A2: 0		*A1: 175725.315032163*		*A0: 310375.939836697*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**195852**	**33.87**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 9:40:10	2.96	829690	1	750	2	-	-
2	3 11 2020 9:43:39	ZERO !	284651	1	754	2	-	Yes
3	3 11 2020 9:46:10	ZERO !	208220	1	756	2	-	Yes
4	3 11 2020 9:48:38	ZERO !	150077	1	758	2	-	Yes
5	3 11 2020 9:51:03	ZERO !	140460	1	759	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**124849**	**11.55**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 9:54:13	ZERO !	297283	1	761	2	-	-
2	3 11 2020 9:57:19	ZERO !	145012	1	762	2	-	Yes
3	3 11 2020 9:59:44	ZERO !	121692	1	763	2	-	Yes
4	3 11 2020 10:02:09	ZERO !	110727	1	763	2	-	Yes
5	3 11 2020 10:04:28	ZERO !	121965	1	763	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	3	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**98642**	**33.18**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 10:07:44	0.29	361052	1	764	2	-	-
2	3 11 2020 10:11:04	ZERO !	63632	1	764	2	-	Yes
3	3 11 2020 10:13:23	ZERO !	114252	1	764	2	-	Yes
4	3 11 2020 10:15:49	ZERO !	80455	1	764	2	-	Yes
5	3 11 2020 10:18:10	ZERO !	136231	1	763	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	4	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**ZERO !**	**119501**	**11.64**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 10:21:22	0.29	361440	1	763	2	-	-
2	3 11 2020 10:24:37	ZERO !	110326	1	762	2	-	Yes
3	3 11 2020 10:27:03	ZERO !	139571	1	762	2	-	Yes
4	3 11 2020 10:29:29	ZERO !	109911	1	761	2	-	Yes
5	3 11 2020 10:31:53	ZERO !	118199	1	761	2	-	Yes

5 5 Unknown BLANK 1 x

TC **ZERO !** **134877** **23.44** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 10:35:02	0.28	359320	1	761	2	-	-
2	3 11 2020 10:38:14	ZERO !	91373	1	762	2	-	Yes
3	3 11 2020 10:40:36	ZERO !	165548	1	761	2	-	Yes
4	3 11 2020 10:43:09	ZERO !	147775	1	761	2	-	Yes
5	3 11 2020 10:45:31	ZERO !	134814	1	761	2	-	Yes

---

6 S1 Standard TC Std 0.00 mg/l 1 x

TC **ZERO !** **193344** **7.76** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 10:48:43	0.64	422661	1	760	2	-	-
2	3 11 2020 10:51:56	ZERO !	201520	1	760	2	-	Yes
3	3 11 2020 10:54:22	ZERO !	194563	1	759	2	-	Yes
4	3 11 2020 10:56:46	ZERO !	205412	1	759	2	-	Yes
5	3 11 2020 10:59:12	ZERO !	171881	1	759	2	-	Yes

---

7 S2 Standard TC Std 1.00 mg/l 1 x

TC **1.14** **510575** **2.98** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 11:02:28	2.63	772926	1	759	2	-	-
2	3 11 2020 11:05:47	1.19	520333	1	759	2	-	Yes
3	3 11 2020 11:08:19	1.22	524604	1	758	2	-	Yes
4	3 11 2020 11:10:54	1.03	490944	1	758	2	-	Yes
5	3 11 2020 11:13:24	1.12	506420	1	757	2	-	Yes

---

8 S3 Standard TC Std. 5.00 mg/l 1 x

TC **3.88** **992639** **2.90** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 11:16:49	5.29	1240661	1	758	2	-	-
2	3 11 2020 11:20:18	3.80	978965	1	758	2	-	Yes
3	3 11 2020 11:22:58	3.85	986820	1	757	2	-	Yes
4	3 11 2020 11:25:33	3.75	970182	1	757	2	-	Yes
5	3 11 2020 11:28:12	4.12	1034592	1	757	2	-	Yes

---

9 S4 Standard TC Std. 10.00 mg/l 1 x

TC **9.62** **2000323** **8.23** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 11:31:47	10.92	2229041	1	757	2	-	Yes
2	3 11 2020 11:35:20	9.15	1917757	1	756	2	-	Yes
3	3 11 2020 11:38:05	9.63	2003134	1	756	2	-	Yes
4	3 11 2020 11:40:51	8.77	1851360	1	756	2	-	Yes

---

10 S5 Standard TC Std. 25.00 mg/l 1 x

TC **26.62** **4988451** **5.23** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 11:44:34	28.59	5333765	1	756	2	-	Yes
2	3 11 2020 11:48:18	26.78	5016204	1	756	2	-	Yes
3	3 11 2020 11:51:24	26.05	4887673	1	755	2	-	Yes
4	3 11 2020 11:54:26	25.07	4716164	1	755	2	-	Yes

---

11 S6 Standard TC Std. 50.00 mg/l 1 x

TC **51.44** **9349073** **3.99** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 11:58:24	53.10	9641413	1	755	2	-	Yes
2	3 11 2020 12:02:18	48.34	8804449	1	755	2	-	Yes
3	3 11 2020 12:05:23	51.89	9428399	1	755	2	-	Yes
4	3 11 2020 12:08:31	52.42	9522032	1	754	2	-	Yes

---

12 S7 Standard TC Std. 100.00 mg/l 1 x

TC **98.97** **17701760** **2.11** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 12:12:40	101.60	18164138	1	754	2	-	Yes
2	3 11 2020 12:16:51	96.59	17284360	1	754	2	-	Yes

3	3 11 2020 12:20:15	99.53	17799645	1	754	2	-	Yes
4	3 11 2020 12:23:36	98.16	17558897	1	754	2	-	Yes

---

13 S8 Unknown ICV - 50.00 mg/L 1 x

	TC	**47.90**	**8727437**	**3.17**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 12:27:57	48.11	8765237	1	754	2	-	Yes
2	3 11 2020 12:31:56	46.41	8465854	1	753	2	-	Yes
3	3 11 2020 12:35:16	47.06	8579342	1	753	2	-	Yes
4	3 11 2020 12:38:28	50.02	9099315	1	753	2	-	Yes

---

14 S9 Unknown ICB 1 x

	TC	**ZERO !**	**240608**	**19.03**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	3 11 2020 12:42:30	1.02	489488	1	753	2	-	-
2	3 11 2020 12:45:56	ZERO !	245925	1	753	2	-	Yes
3	3 11 2020 12:48:23	ZERO !	196992	1	753	2	-	Yes
4	3 11 2020 12:50:53	ZERO !	217190	1	752	2	-	Yes
5	3 11 2020 12:53:11	ZERO !	302325	1	752	2	-	Yes

Analysis Name 050520 - 170892.adb

Template Name 050520 - 170892.tdb
Method Name N / A
Operator TMG

Date Tuesday, May 5, 2020
Time 8:43

Start Oven Temp. 738 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info ICAL 0381 INST: TOCW
CCV 0390 LCS 0391 SPIKE 0359

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %

SampleTime 240 s

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC0381 - 031020	Mar 11 2020, 9:29	18164138	100	1	0.99896	100 µl	Yes
	A2: 0		*A1: 175725.315032163*		*A0: 310375.939836697*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	IB	1 x

	Injection Type	Conc.	Area	CV	Inj. Volume
	TC	**ZERO !**	**163556**	**12.42**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 8:54:20	0.27	357410	1	747	2	-	-
2	5 5 2020 8:57:52	ZERO !	171901	1	748	2	-	Yes
3	5 5 2020 9:00:22	ZERO !	149180	1	749	2	-	Yes
4	5 5 2020 9:02:49	ZERO !	188294	1	750	2	-	Yes
5	5 5 2020 9:05:19	ZERO !	144849	1	751	2	-	Yes

2	S1	Unknown	CCV	1 x

	TC	**49.63**	**9031586**	**1.01**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 9:08:38	49.62	9029406	1	753	2	-	Yes
2	5 5 2020 9:12:49	50.26	9142562	1	755	2	-	Yes
3	5 5 2020 9:16:10	49.00	8920169	1	755	2	-	Yes
4	5 5 2020 9:19:22	49.64	9034210	1	755	2	-	Yes

3	S5	Unknown	LCSW	1 x

	TC	**49.96**	**9090269**	**1.01**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 9:23:26	50.70	9218798	1	757	2	-	Yes
2	5 5 2020 9:27:32	49.85	9070428	1	757	2	-	Yes
3	5 5 2020 9:30:45	49.46	9002387	1	758	2	-	Yes
4	5 5 2020 9:33:54	49.85	9069463	1	757	2	-	Yes

4	2	Unknown	MBW	1 x

	TC	**ZERO !**	**229779**	**29.37**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 9:38:02	ZERO !	271077	1	758	2	-	Yes
2	5 5 2020 9:41:30	ZERO !	171562	1	758	2	-	Yes
3	5 5 2020 9:44:00	ZERO !	303159	1	758	2	-	Yes
4	5 5 2020 9:46:32	ZERO !	173320	1	758	2	-	Yes
5	5 5 2020 9:49:04	0	0	0	758	2	-	-

5	3	Unknown	412553	1 x

		TC	**1.64**	**598917**	**14.12**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 9:53:55	2.18	692936	1	759	2	-	Yes
	2	5 5 2020 9:57:20	1.92	647882	1	758	2	-	Yes
	3	5 5 2020 10:00:01	1.23	527055	1	758	2	-	Yes
	4	5 5 2020 10:02:35	1.24	527797	1	757	2	-	Yes
	5	5 5 2020 10:05:07	ZERO !	128659	1	757	2	-	-

6	4	Unknown	412558		1 x

		TC	**1.68**	**605995**	**12.32**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 10:08:19	2.32	717302	1	758	2	-	Yes
	2	5 5 2020 10:11:40	1.53	579882	1	757	2	-	Yes
	3	5 5 2020 10:14:14	1.46	566142	1	757	2	-	Yes
	4	5 5 2020 10:16:49	1.42	560656	1	757	2	-	Yes
	5	5 5 2020 10:19:17	0	0	0	757	2	-	-

7	5	Unknown	412559		1 x

		TC	**2.58**	**764504**	**15.71**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 10:24:09	3.61	944325	1	758	2	-	Yes
	2	5 5 2020 10:27:33	2.28	711203	1	757	2	-	Yes
	3	5 5 2020 10:30:06	2.26	708288	1	756	2	-	Yes
	4	5 5 2020 10:32:33	2.18	694201	1	756	2	-	Yes
	5	5 5 2020 10:35:02	ZERO !	223452	1	756	2	-	-

8	6	Unknown	412562		1 x

		TC	**6.32**	**1419885**	**6.31**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 10:38:16	7.07	1552647	1	756	2	-	Yes
	2	5 5 2020 10:41:35	6.14	1388491	1	755	2	-	Yes
	3	5 5 2020 10:44:08	5.95	1356280	1	755	2	-	Yes
	4	5 5 2020 10:46:38	6.10	1382122	1	755	2	-	Yes

9	7	Unknown	412563		1 x

NOT USED

		TC	**7.63**	**1651085**	**5.79**		**100 µl**		
	ample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 10:49:59	8.43	1791454	1	755	2	-	Yes
	2	5 5 2020 10:53:15	7.46	1621432	1	755	2	-	Yes
	3	5 5 2020 10:55:48	7.21	1577285	1	755	2	-	Yes
	4	5 5 2020 10:58:22	7.42	1614170	1	754	2	-	Yes

10	8	Unknown	412563		1 x

		TC	**0.71**	**436343**	**12.67**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 11:01:45	1.18	518569	1	755	2	-	Yes
	2	5 5 2020 11:04:44	0.61	417595	1	754	2	-	Yes
	3	5 5 2020 11:06:58	0.56	409258	1	753	2	-	Yes
	4	5 5 2020 11:09:14	0.51	399950	1	753	2	-	Yes
	5	5 5 2020 11:11:30	ZERO !	96424	1	753	2	-	-

11	9	Unknown	MSW412563		1 x

		TC	**46.66**	**8509583**	**1.03**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 11:14:31	47.18	8600950	1	753	2	-	Yes
	2	5 5 2020 11:18:07	46.01	8396260	1	753	2	-	Yes
	3	5 5 2020 11:20:57	46.56	8491694	1	753	2	-	Yes
	4	5 5 2020 11:23:56	46.89	8549429	1	753	2	-	Yes

12	10	Unknown	MSDW412563		1 x

		TC	**46.56**	**8491701**	**0.33**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 11:27:45	46.48	8477835	1	753	2	-	Yes
	2	5 5 2020 11:31:20	46.77	8528694	1	753	2	-	Yes
	3	5 5 2020 11:34:14	46.39	8463052	1	752	2	-	Yes

4	5 5 2020 11:37:08	46.59	8497226	1	752	2	-	Yes

15	S1	Unknown	CCV				1 x		
		TC	**49.06**	**8931049**		**1.76**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 12:09:13	48.32	8800580	1	752	2	-	Yes
	2	5 5 2020 12:12:56	48.96	8914513	1	752	2	-	Yes
	3	5 5 2020 12:16:03	48.61	8852463	1	752	2	-	Yes
	4	5 5 2020 12:19:08	50.34	9156643	1	752	2	-	Yes

16	13	Unknown	CCB				1 x		
		TC	**ZERO !**	**248226**		**3.34**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 12:23:09	ZERO !	257945	1	752	2	-	Yes
	2	5 5 2020 12:26:07	ZERO !	250136	1	752	2	-	Yes
	3	5 5 2020 12:28:23	ZERO !	237934	1	751	2	-	Yes
	4	5 5 2020 12:30:39	ZERO !	246890	1	751	2	-	Yes

23	20	Unknown	413571					1 x	
		TC	**1.33**	**544032**		**4.73**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 13:52:55	1.49	572342	1	751	2	-	Yes
	2	5 5 2020 13:55:54	1.19	519905	1	751	2	-	Yes
	3	5 5 2020 13:58:09	1.42	559232	1	750	2	-	Yes
	4	5 5 2020 14:00:28	1.22	524651	1	750	2	-	Yes
24	21	Unknown	413572					1 x	
		TC	**ZERO !**	**264453**		**5.18**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 14:04:03	ZERO !	261151	1	751	2	-	Yes
	2	5 5 2020 14:06:52	ZERO !	246759	1	751	2	-	Yes
	3	5 5 2020 14:09:03	ZERO !	277934	1	750	2	-	Yes
	4	5 5 2020 14:11:16	ZERO !	271971	1	750	2	-	Yes
25	22	Unknown	413574					1 x	
		TC	**ZERO !**	**230248**		**41.47**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 14:15:11	ZERO !	297811	1	751	2	-	Yes
	2	5 5 2020 14:18:03	ZERO !	247009	1	751	2	-	Yes
	3	5 5 2020 14:20:13	ZERO !	285411	1	751	2	-	Yes
	4	5 5 2020 14:22:24	ZERO !	90762	1	750	2	-	Yes
	5	5 5 2020 14:26:25	0	0	0	751	2	-	-
26	23	Unknown	413575					1 x	
		TC	**ZERO !**	**306450**		**9.05**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 14:31:20	0.12	331846	1	752	2	-	Yes
	2	5 5 2020 14:34:13	ZERO !	269055	1	752	2	-	Yes
	3	5 5 2020 14:36:23	ZERO !	302702	1	751	2	-	Yes
	4	5 5 2020 14:38:36	0.07	322198	1	751	2	-	Yes
27	S1	Unknown	CCV					1 x	
		TC	**48.82**	**8888801**		**0.42**		**100 µl**	
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	5 5 2020 14:42:27	48.56	8842789	1	752	2	-	Yes
	2	5 5 2020 14:46:23	49.07	8932991	1	752	2	-	Yes
	3	5 5 2020 14:49:36	48.85	8894793	1	751	2	-	Yes
	4	5 5 2020 14:52:56	48.79	8884632	1	752	2	-	Yes

28 24 Unknown CCB 1 x

TC **ZERO !** **280236** **10.30** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 14:57:01	0.07	322411	1	752	2	-	Yes
2	5 5 2020 15:00:08	ZERO !	258263	1	752	2	-	Yes
3	5 5 2020 15:02:28	ZERO !	266158	1	751	2	-	Yes
4	5 5 2020 15:04:49	ZERO !	274115	1	751	2	-	Yes
5	5 5 2020 15:07:06	0	0	0	751	2	-	-

29 25 Unknown 413576 1 x

TC **0.62** **419749** **17.67** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 15:12:01	1.21	522627	1	753	2	-	Yes
2	5 5 2020 15:15:11	0.65	425429	1	753	2	-	Yes
3	5 5 2020 15:17:33	0.32	366561	1	752	2	-	Yes
4	5 5 2020 15:19:53	0.31	364379	1	752	2	-	Yes
5	5 5 2020 15:22:13	ZERO !	86145	1	752	2	-	-

30 26 Unknown 413971 1 x

TC **0.59** **415058** **8.97** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 15:25:24	0.76	443785	1	752	2	-	Yes
2	5 5 2020 15:28:25	0.34	370124	1	752	2	-	Yes
3	5 5 2020 15:30:42	0.78	447495	1	752	2	-	Yes
4	5 5 2020 15:33:01	0.50	398831	1	752	2	-	Yes

31 27 Unknown 413972 1 x

TC **0.18** **342735** **9.03** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 15:36:31	0.41	382206	1	752	2	-	Yes
2	5 5 2020 15:39:28	0.23	350907	1	751	2	-	Yes
3	5 5 2020 15:41:42	0.09	326563	1	751	2	-	Yes
4	5 5 2020 15:43:57	0.01	311266	1	751	2	-	Yes

32 28 Unknown 413973 1 x

TC **0.18** **342761** **8.93** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 15:47:39	0.43	385426	1	751	2	-	Yes
2	5 5 2020 15:50:33	0.03	314910	1	752	2	-	Yes
3	5 5 2020 15:52:43	0.18	342510	1	752	2	-	Yes
4	5 5 2020 15:54:59	ZERO !	101504	1	751	2	-	-
5	5 5 2020 15:59:01	0.10	328199	1	752	2	-	Yes

33 29 Unknown 413974 1 x

TC **ZERO !** **301954** **42.31** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 16:02:06	0.36	374077	1	752	2	-	Yes
2	5 5 2020 16:04:58	ZERO !	110744	1	752	2	-	Yes
3	5 5 2020 16:08:59	0.33	368886	1	752	2	-	Yes
4	5 5 2020 16:11:14	0.25	354109	1	752	2	-	Yes
5	5 5 2020 16:13:25	ZERO !	82130	1	752	2	-	-

34 30 Unknown DUP412563 1 x

TC **ZERO !** **243125** **31.95** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 16:16:30	ZERO !	299781	1	753	2	-	Yes
2	5 5 2020 16:19:22	ZERO !	260844	1	753	2	-	Yes
3	5 5 2020 16:21:34	ZERO !	129098	1	752	2	-	Yes
4	5 5 2020 16:25:27	ZERO !	282778	1	753	2	-	Yes
5	5 5 2020 16:27:39	ZERO !	57378	1	752	2	-	-

35 S2 Unknown CCV 1 x

TC **48.53** **8838977** **0.94** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 16:32:19	48.16	8773365	1	753	2	-	Yes
2	5 5 2020 16:36:16	48.18	8776707	1	753	2	-	Yes
3	5 5 2020 16:39:25	48.64	8857130	1	753	2	-	Yes
4	5 5 2020 16:42:37	49.16	8948707	1	753	2	-	Yes

---

36 31 Unknown CCB 1 x

TC **ZERO !** **305795** **8.01** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	5 5 2020 16:47:02	0.10	328770	1	753	2	-	Yes
2	5 5 2020 16:50:09	ZERO !	276384	1	752	2	-	Yes
3	5 5 2020 16:52:24	ZERO !	295089	1	752	2	-	Yes
4	5 5 2020 16:54:44	0.07	322940	1	752	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WANIONS IC QSM 5.0 Analytical Run
170726 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415081						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	415082						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	415078						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	415079						WANIONS IC QSM 5.0				
		Chloride		LCSW							
		Nitrate Nitrogen		LCSW							
		Sulfate		LCSW							
	415080						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW							
		Chloride		MBW							
		Sulfate		MBW							

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170726 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	414001							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	414002							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
152873	412553		04/27/2020	1015		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
152873	412558		04/27/2020	1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	415088							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV							
		Chloride			CCV							
		Sulfate			CCV							

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170726 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415089							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB							
		Chloride			CCB							
		Sulfate			CCB							
152873	412558		04/27/2020	1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
		Sulfate	***RERUN***									
152873	412559		04/27/2020	1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Sulfate										
		Nitrate Nitrogen										
152873	412559		04/27/2020	1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***									
		Sulfate	***RERUN***									
		Nitrate Nitrogen	***RERUN***									
152873	412562		04/27/2020	1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170726 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
152873	412563		04/27/2020	1325			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*								
		Nitrate Nitrogen			*								
		Sulfate			*								
	415085		04/27/2020	1325					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	412563							
		Chloride			DUP	412563							
		Sulfate			DUP	412563							
	415086		04/27/2020	1325					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	412563							
		Chloride			MSW	412563							
		Sulfate			MSW	412563							
	415087		04/27/2020	1325					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSDW	415086							
		Chloride			MSDW	415086							
		Sulfate			MSDW	415086							
	415084								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV								
		Chloride			CCV								
		Sulfate			CCV								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170726 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415083						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

63

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC37-01 Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: DX120-System 2

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
170717 170726 170728	04/28/2020	TMG	RLD	05/05/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

Dionex Run Log - System 2

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	CCV ID's	LCS ID's	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviwed by/Date
03/06/20	12:50	03/09/20	10:33	TMG	169313 169314 169316	IC2849	030620 -	IC2913 IC2916	IC2914 IC2917	IC2915 IC2918	18.6	1461	1.01	IC2864	RLD 03/19/2020
03/09/20	14:18	03/10/20	11:47	TMG	169368 169369	IC2849	030920 -	IC2913 IC2919	IC2914 IC2920	IC2915 IC2921	19.2	1482	1.01	IC2864	RLD 03/19/2020
03/10/20	13:01	03/10/20	17:59	TMG	169413	IC2849	031020 -	IC2913 IC2919	IC2914 IC2920	IC2915 IC2921	19.1	1492	1	IC2864	RLD 03/19/2020
03/11/20	9:44	03/12/20	09:31	TMG	169419 169420 169436	IC2849	031120 -	IC2913 IC2922	IC2914 IC2923	IC2915 IC2924	19.2	1478	1	IC2864	RLD 03/19/2020
03/12/20	14:44	03/12/20	21:27	TMG	169456 169457 169509	IC2849	031220 -	IC2925 IC2928	IC2926 IC2929	IC2927 IC2930	19.1	1482	1.01	IC2864	RLD 03/19/2020
03/13/20	13:36	03/13/20	17:09	TMG	169538	IC2849	031320 -	IC2925 IC2928	IC2926 IC2929	IC2927 IC2930	18.9	1478	1.01	IC2864	RLD 03/19/2020
03/16/20	11:44	03/17/20	10:01	TMG	169551 169552	IC2849	031620 -	IC2925 IC2928	IC2926 IC2929	IC2927 IC2930	18.7	1533	0.99	IC2864	RLD 03/19/2020
03/17/20	11:57	03/18/20	08:25	TMG	169592 169593	IC2849	031720 -	IC2925 IC2928	IC2926 IC2929	IC2927 IC2930	18.4	1508	0.99	IC2931	RLD 04/03/2020
03/19/20	12:19	03/20/20	09:11	TMG	169654 169655 169659	IC2849	031920 -	IC2937 IC2940	IC2938 IC2941	IC2939 IC2942	18.3	1476	1	IC2931	RLD 04/03/2020
03/20/20	14:36	03/24/20	12/L46	TMG	169712 169713 169714 169715 169740 169741	IC2849	032020 -	IC2937 IC2940	IC2938 IC2941	IC2939 IC2942	18.4	1521	1	IC2931	RLD 04/03/2020
03/25/20	13:01	03/25/20	21:09	TMG	169719	IC2849	032520 -				18.6	1532	1	IC2931	RLD 04/03/2020
03/26/20	9:45	03/28/20	12:52	TMG	169848 169849	IC2849	032620 -	IC2947 IC2950	IC2948 IC2951	IC2949 IC2952	18.7	1511	1	IC2931	RLD 04/03/2020
03/30/20	9:31	03/31/20	05:19	TMG	169941 169942	IC2849	033020 -	IC2947 IC2950	IC2948 IC2951	IC2949 IC2952	18.9	1458	1	IC2931	RLD 04/03/2020
03/31/20	10:05	04/02/20	09:15	TMG/KMT	169972 169973	IC2849	033120 -	IC2947 IC2950	IC2948 IC2951	IC2949 IC2952	18.5	1563	1	IC2931	RLD 04/03/2020
04/03/20	9:25	04/07/20	12:50	TMG/KMT	170047 170053 170077 170125	IC2849	040320 -	IC2953 IC2956	IC2954 IC2957	IC2955 IC2958	18.4	1544	1	IC2931	RLD 05/06/2020
04/07/20	14:23	04/08/20	13:52	TMG	170131 170164 170165	IC2849	040720 -	IC2953 IC2964	IC2954 IC2965	IC2955 IC2966	19.1	1622	0.99	IC2967	RLD 05/06/2020
04/09/20	12:20	04/10/20	13:14	TMG	170214 170216	IC2849	040920 -	IC2968 IC2971	IC2969 IC2972	IC2970 IC2973	18.3	1645	0.99	IC2967	RLD 05/06/2020
04/13/20				TMG	170302 170303	IC2849	041320 -	IC2968 IC2971	IC2969 IC2972	IC2970 IC2973	18.2	1633	0.99	IC2967	RLD 05/06/2020
04/14/20				TMG	170337 170338	IC2849	041420 -	IC2968 IC2971	IC2969 IC2972	IC2970 IC2973	18.3	1627	0.99	IC2967	RLD 05/06/2020
04/15/20	12:46	04/16/20	13:33	TMG	170368 170369 170377 170385	IC2849	041520 -	IC2968 IC2971	IC2969 IC2972	IC2970 IC2973	18.5	1655	0.99	IC2967	RLD 05/06/2020
04/17/20	9:57	04/20/20	10:59	TMG	170429 170444	IC2849	041720 -	IC2977 IC2980	IC2978 IC2981	IC2979 IC2982	18.3	1637	0.99	IC2967	RLD 05/06/2020
04/20/20	14:47	04/21/20	11:32	TMG	170497	IC2849	042020 -	IC2977 IC2980	IC2978 IC2981	IC2979 IC2983	18.3	1655	0.99	IC2967	RLD 05/06/2020
04/21/20	15:54	04/22/20	10:00	TMG	170532 170534	IC2849	042120 -	IC2977 IC2980	IC2978 IC2981	IC2979 IC2981	18.5	1762	0.99	IC2967	RLD 05/06/2020
04/22/20				TMG	170565 170569	IC2849	042220 -	IC2977 IC2991	IC2978 IC2992	IC2979 IC2993	18.5	1735	1	IC2967	RLD 05/06/2020
04/23/20				TMG	IC2990	IC2990	042320 -	IC2994 IC2997	IC2995 IC2998	IC2996 IC2999	18.3	1791	1	IC2967	RLD 05/06/2020
04/24/20	13:38	04/27/20	19:09	TMG	170652 170653 170689	IC2849	042420 -	IC2994 IC2997	IC2995 IC2998	IC2996 IC2999	18.4	1779	1	IC2967	RLD 05/06/2020
04/28/20	11:25	04/29/20	10:16	TMG	170715 170716 170717 170726 170727 170728	IC2990	042820 -	IC2994 IC3003	IC2995 IC3004	IC2996 IC3005	18.6	1771	1	IC2967	RLD 05/06/2020
04/29/20	13:03	05/01/20	11:08	TMG	170755 170763 170764	IC2990	042920 -	IC2994 IC3003	IC2995 IC3004	IC2996 IC3005	18.7	1785	1	IC2967	RLD 05/06/2020
05/05/20				TMG	170922	IC2849	050520 -				18.9	1618	1		

WANIONS IC QSM 5.0 Analytical Run
170809 on 05/05/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415016						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	415017						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	413992						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	413991						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	413990						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170809 on 05/05/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
152924	413571		04/29/2020 0940		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
152924	413571		04/29/2020 0940		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
152924	413572		04/29/2020 0952		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
	413989						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	413988						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170809 on 05/05/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
152924	413574		04/29/2020	1110		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
152924	413575		04/29/2020	1245		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
152924	413576		04/29/2020	1410		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	413987		04/29/2020	1410				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	413576			0			
		Chloride			DUP	413576			0			
		Sulfate			DUP	413576			0			
	413986		04/29/2020	1410				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	413576			0			
		Chloride			MSW	413576			0			
		Sulfate			MSW	413576			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170809 on 05/05/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415007		04/29/2020 1410				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 413986							
		Chloride		MSDW 413986							
		Sulfate		MSDW 413986							
	413985						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	415020						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

54

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: Aquion - System 4

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
170809 170810 170822	04/30/2020	TMG	RLD	05/05/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If No: Affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If No: Affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

WANIONS IC QSM 5.0 Analytical Run
170840 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	414351							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	414350							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	414349							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
152962	413971		04/30/2020	0955		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	414353							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170840 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	414352							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
152962	413972		04/30/2020	1100		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
152962	413973		04/30/2020	1100		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
152962	413974		04/30/2020	1250		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Sulfate										
		Chloride										
		Nitrate Nitrogen										
	415041		04/30/2020	1250				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	413974						
		Chloride			DUP	413974						
		Sulfate			DUP	413974						

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
170840 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415042		04/30/2020 1250				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSW 413974							
		Chloride		MSW 413974							
		Sulfate		MSW 413974							
	415043		04/30/2020 1250				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 415042							
		Chloride		MSDW 415042							
		Sulfate		MSDW 415042							
	415044						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	415045						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

42

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: Aquion - System 4

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
170839 170840	05/01/2020	TMG	RLD	05/05/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		If No: Affected sample must be reanalyzed including the LCS.
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		If No: Affected sample should be reanalyzed with accecptable LCS recoveries if possible. Detects reported with an LCS failure must be qualified with a "Q" flag. Nondetected analytes reported with a low LCS recovery must also be qualified with a "Q" flag.
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

Aquion Run Log - System 4

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	CCV ID's	LCS ID's	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
04/28/20	11:27	04/29/20230	18:30	TMG	170715 170716 170727	IC2990A	042820 -	IC2994 IC3003	IC2995 IC3004	IC2996 IC3005	19.59	868	1		RLD 05/06/2020
04/30/20	14:03	05/01/20	10:22	TMG	170809 170810 170822	IC2990A	043020 -	IC3006 IC3009	IC3007 IC3010	IC3008 IC3011	19.87	872	1		RLD 05/06/2020
05/01/20	12:41	05/01/20	18:23	TMG	170839 170840	IC2990A	050120 -	IC3006 IC3009	IC3007 IC3010	IC3008 IC3011	20.72	858	1		RLD 05/06/2020
05/04/20	11:17	05/04/20	12:55	TMG	170870	IC2990A	050420 -	IC3006 IC3018	IC3007 IC3019	IC3008 IC3020	20.41	869	1		
05/05/20	9:46	05/06/20	10:37	TMG	170869 170921	IC2647A	050520 -	IC3006 IC3018	IC3007 IC3019	IC3008 IC3020	20.57	847	0.97		
05/06/20	15:28	05/06/20	17:35	TMG	170977	IC2647A	050620 -	IC3006 IC3021	IC3007 IC3022	IC3008 IC3023	20.14	854	0.97		
05/08/20	8:31	05/08/20	13:30	TMG	170546 171021	IC2647A	050820 -	IC3024 IC3027	IC3025 IC3028	IC3026 IC3029	19.77	854	0.97		
05/11/20	9:43	05/11/20	12:46	TMG	IC3030 LL	IC3030 LL	051120 -	IC3031	IC3031	IC3032	20.18	868	1		
05/11/20	15:25	05/11/20	17:32	TMG	171064 LL	IC3030 LL	051120 -	IC3031	IC3031	IC3032	20.75	872	1		
05/12/20				TMG	171063 171081	IC2647A	051220 -	IC3024 IC3034	IC3025 IC3035	IC3026 IC3036		844	0.97		

LPVO3_07_IC

IC-Volatiles Standards Prep Logbook

Logbook Created: 02/18/2019

NOTEBOOK VIEW: LTN_LPVO3_07_IC_Default, NOTEBOOK: LPVO3_07_IC, PAGE: 175
Page is Locked
Author: TGRUNDAHL on: 5/11/2020 8:55:02 AM
Witness: Kthompson on: 5/11/2020 11:15:27 AM
Project: Unassigned
Page Title: 050720

Standard Log #:	IC3024	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	05/07/2020	Expiration Date:	05/14/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2574) , 15 ml 1000 mg/L Chloride (IC2901) , and 25 ml 1000 mg/L Sulfate (IC2902), and brought to volume Milli-Q DI H20		

Standard Log #:	IC3025	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	05/07/2020	Expiration Date:	05/14/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2986) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC3026	Standard/Reagent:	SPIKE MIX

Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	05/07/2020	Expiration Date:	05/14/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2574), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2902), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3027	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	05/07/2020	Expiration Date:	05/08/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3028	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	05/07/2020	Expiration Date:	05/08/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3029	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	05/07/2020	Expiration Date:	05/08/2020

Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O

1

CT Laboratories, LLC

Standard Log #:	IC3012	Standard:	IC Eluent Dionex
Analyst:	TMG	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	05/01/2020	Expiration Date (1 Year):	05/01/2021
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC2630 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC3013	Standard/Reagent:	IC Eluent Aquion
Analyst:	TMG	Final Concentration:	4.5nM carb 1.4bi carb
Prep Date:	05/01/2020	Expiration Date:	05/01/2021
Prep:	Into a 20L carboy, pipetted 100mL of Aquion Eluent Concentrate(IC 2935) and brought to volume with Milli-Q Di water.		

Standard Log #:	IC3006	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	04/30/2020	Expiration Date:	05/07/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2574) , 15 ml 1000 mg/L Chloride (IC2901) , and 25 ml 1000 mg/L Sulfate (IC2902), and brought to volume Milli-Q DI H20		

Standard Log #:	IC3007	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	04/30/2020	Expiration Date:	05/07/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2986) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC3008	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256 Cl,
Prep Date:	04/30/2020	Expiration Date:	05/07/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2574), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2902), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3009	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	04/30/2020	Expiration Date:	05/01/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3010	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	04/30/2020	Expiration Date:	05/01/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3011	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/30/2020	Expiration Date:	05/01/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC3003	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	04/28/2020	Expiration Date:	04/29/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3004	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	04/28/2020	Expiration Date:	04/29/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3005	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/28/2020	Expiration Date:	04/29/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC3000	Standard/Reagent:	LL CURVE
Analyst:	TMG	Final Concentration:	see description
Prep Date:	04/27/2020	Expiration Date:	04/28/2020
Prep:	WS: into 100 ml flask pipette 0.1mL of P(IC2650) and bring to volume Curve: into 11 separate sample tubes pipette 0, 0.100, 0.250, 0.500, 1.00, 2.00, 3.00, 4.00, 5.00, 7.50, and 10.0ml of WS bring each tube to 10 ml of total volume using Milli-Q H2O		

Standard Log #:	IC3001	Standard/Reagent:	LL 300.0 ICV-LCS
Analyst:	TMG	Concentration:	0.5mg/L
Prep Date:	04/27/2020	Expiration Date (24 Hours):	04/28/2020
PREP		Standards/Reagents Used	
Into a 100-mL volumetric flask, pipette 0.05 mL of Nitrate (1), Nitrite (2), and Phosphate (3) and bring to volume with Milli-Q Water.		(1) NA (2) NA (3) IC2650	

Standard Log #:	IC3002	Standard/Reagent:	LL SPIKE
Analyst:	TMG	Final Concentration:	10mg/L PO4
Prep Date:	04/27/2020	Expiration Date:	04/28/2020
Prep:	1mL of phosphate std(IC2650) into 100mL for spike: 0.25mL spike with 9.75mL sample		

Standard Log #:	IC2994	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	04/23/2020	Expiration Date:	04/30/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2901) , and 25 ml 1000 mg/L Sulfate (IC2840), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2995	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	04/23/2020	Expiration Date:	04/30/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2996	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	04/23/2020	Expiration Date:	04/30/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2840), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2997	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	04/23/2020	Expiration Date:	04/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC2998	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	04/23/2020	Expiration Date:	04/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2999	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/23/2020	Expiration Date:	04/24/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2989	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	04/22/2020	Expiration Date (48 Hours):	04/24/2020
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2900, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2650 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2990	Standard:	IC_Calibration_Dionex_B
Analyst:	TMG	Concentrations:	N/A
Prep Date:	04/22/2020	Expiration Date (48 hours):	04/24/2020

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2989	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2901	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2840	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2991	Standard/Reagent:	CCV NO2-P

Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	04/22/2020	Expiration Date:	04/23/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC2992	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	04/22/2020	Expiration Date:	04/23/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2993	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/22/2020	Expiration Date:	04/23/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2987	Standard/Reagent:	LL 300.0 ICV-LCS
Analyst:	TMG	Concentration:	0.500 mg/L
Prep Date:	04/20/2020	Expiration Date (24 Hours):	04/21/2020
PREP		Standards/Reagents Used	
Into a 100-mL volumetric flask, pipette 0.05 mL of Nitrate (1), Nitrite (2), and Phosphate (3) and bring to volume with Milli-Q Water.		(1) NA (2) NA (3) IC2650	

Standard Log #:	IC2988	Standard/Reagent:	LL SPIKE
Analyst:	TMG	Final Concentration:	10mg/L
Prep Date:	04/20/2020	Expiration Date:	04/21/2020
Prep:	1mL of phosphate std(IC2650) iinto 100mL for spike: 0.25mL spike with 9.75mL sample		

Standard Log #:	IC2983	Standard/Reagent:	SPIKE MIX
Analyst:	KMT	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	04/20/2020	Expiration Date:	04/27/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2840), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2984	Standard/Reagent:	Sodium carbonate
Analyst:	TMG	Final Concentration:	NA
Prep Date:	04/20/2020	Expiration Date:	08/2024
Prep:	CAT:S263 LOT:191666		

Standard Log #:	IC2985	Standard/Reagent:	LCS NO2 STOCK
Analyst:	TMG	Final Concentration:	1000ug/L
Prep Date:	04/20/2020	Expiration Date:	04/30/2021
Prep:	CAT: AS-NO2N9-2Y LOT:S-29NO2N-2Y		

Standard Log #:	IC2986	Standard/Reagent:	LCS MIX STOCK
Analyst:	TMG	Final Concentration:	175ug/mL F, NO3, PO4, BR

Prep Date:	04/20/2020	Expiration Date:	04/30/2021
Prep:	CAT: VCTWI-3-500 LOT:16-119JKS		

Standard Log #:	IC2977	Standard/Reagent:	CCV MIX
Analyst:	KMT	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	04/16/2020	Expiration Date:	04/22/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2901) , and 25 ml 1000 mg/L Sulfate (IC2840), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2978	Standard/Reagent:	LCSW MIX
Analyst:	KMT	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	04/16/2020	Expiration Date:	04/22/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2979	Standard/Reagent:	SPIKE MIX
Analyst:	KMT	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	04/16/2020	Expiration Date:	04/22/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2840), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2980	Standard/Reagent:	CCV NO2-P
Analyst:	KMT	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	04/16/2020	Expiration Date:	04/17/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2981	Standard/Reagent:	LCSW NO2
Analyst:	KMT	Final Concentration:	7.0mg/L NO2
Prep Date:	04/16/2020	Expiration Date:	04/17/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2982	Standard/Reagent:	SPIKE NO2-P
Analyst:	KMT	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/16/2020	Expiration Date:	04/17/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2974	Standard/Reagent:	LL CURVE PO4
Analyst:	TMG	Final Concentration:	SEE DESCRIPTION
Prep Date:	04/13/2020	Expiration Date:	04/15/2020
Prep:	WS: into 100 ml flask pipette 0.1mL of P(W44043) and bring to volume Curve: into 11 separate sample tubes pipette 0, 0.100, 0.250, 0.500, 1.00, 2.00, 3.00, 4.00, 5.00, 7.50, and 10.0ml of WS bring each tube to 10 ml of total volume using Milli-Q H2O		

Standard Log #:	IC2975	Standard/Reagent:	LL 300.0 ICV-LCS
Analyst:	TMG	Concentration:	0.500 mg/L
Prep Date:	04/13/2020	Expiration Date (24 Hours):	04/15/2020
PREP		Standards/Reagents Used	
Into a 100-mL volumetric flask, pipette 0.05 mL of Nitrate (1), Nitrite (2), and Phosphate (3) and bring to volume with Milli-Q Water.		(1) NA (2) NA (3) IC2650	

Standard Log #:	IC2976	Standard/Reagent:	LL SPIKE
Analyst:	TMG	Final Concentration:	10mg/L
Prep Date:	04/13/2020	Expiration Date:	04/15/2020
Prep:	1mL of phosphate std(IC2650) iinto 100mL for spike: 0.25mL spike with 9.75mL sample		

Standard Log #:	IC2968	Standard/Reagent:	CCV MIX
Analyst:	KMT	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	04/09/2020	Expiration Date:	04/15/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2901) , and 25 ml 1000 mg/L Sulfate (IC2840), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2969	Standard/Reagent:	LCSW MIX
Analyst:	KMT	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	04/092020	Expiration Date:	04/15/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2970	Standard/Reagent:	SPIKE MIX
Analyst:	KMT	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	04/09/2020	Expiration Date:	04/15/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2840), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2971	Standard/Reagent:	CCV NO2-P
Analyst:	KMT	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	04/09/2020	Expiration Date:	04/10/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2972	Standard/Reagent:	LCSW NO2
Analyst:	KMT	Final Concentration:	7.0mg/L NO2
Prep Date:	04/09/2020	Expiration Date:	04/10/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2973	Standard/Reagent:	SPIKE NO2-P
Analyst:	KMT	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/09/2020	Expiration Date:	04/10/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2964	Standard/Reagent:	CCV NO2-P
Analyst:	KMT	Final Concentration:	7.0mg/L NO2
Prep Date:	04/07/2020	Expiration Date:	04/08/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2965	Standard/Reagent:	LCSW NO2
Analyst:	KMT	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	04/07/2020	Expiration Date:	04/08/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2966	Standard/Reagent:	SPIKE NO2-P
Analyst:	KMT	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/07/2020	Expiration Date:	04/08/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brought to volume with milli-Q H2O		

Standard Log #:	IC2967	Standard:	IC Eluent Dionex
			3.5 mM Sodium Carbonate

Analyst:	KMT	Concentrations:	1.0 mM Sodium Bicarbonate
Prep Date:	04/07/2020	Expiration Date (1 Year):	04/07/2021
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC2630 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2959	Standard/Reagent:	HEX W CURVE
Analyst:	DGS	Final Concentration:	see description
Prep Date:	04/07/2020	Expiration Date:	4/12/2020
Prep:	Working standard (PDS): Dilute the analyte stock standard solution(1:1000) in Milli-Q water Std 7:Add 1mL of PDS into 100mL flask and fill with Milli-q water Std 6:Add 0.5mL of PDS into 100mL flask and fill with Milli-q water Std 5:Add 0.1mL of PDS into 100mL flask and fill with Milli-q water		

Standard Log #:	IC2960	Standard/Reagent:	CCV PDS HEX
Analyst:	DGS	Final Concentration:	1000 ug/L
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Dilute stock standard (IC2866) 1:1000 into reagent water.		

Standard Log #:	IC2961	Standard/Reagent:	LCS PDS HEX
Analyst:	DGS	Final Concentration:	1000ug/L
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Dilute stock standard (IC 2867) 1:1000 into reagent water.		

Standard Log #:	IC2962	Standard/Reagent:	PCR HEX
Analyst:	DMG	Final Concentration:	N/A

Prep Date:	04/06/2020	Expiration Date:	04/11/2020
Prep:	Add 28 mL concentrated sulfuric acid in 1 L. In a separate 100ml volumetric flask dissolve 500mg 1,5-Diphynyl Carbazide ( ) into MeOH and add in sulfuric acid solution.		

Standard Log #:	IC2963	Standard/Reagent:	HEX ELUENT
Analyst:	DMG	Final Concentration:	N/A
Prep Date:	04/06/2020	Expiration Date:	04/13/2020
Prep:	Add 66g ammonium sulfate and 13mL ammonium Hydroxide into 2L volumetric flask.		

Standard Log #:	IC2953	Standard/Reagent:	CCV Mix
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	04/02/2020	Expiration Date:	04/09/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2574) , 15 ml 1000 mg/L Chloride (IC2901) , and 25 ml 1000 mg/L Sulfate (IC2902), and brought to volume Milli-Q DI H20		

Standard Log #:	IC2954	Standard/Reagent:	LCSW Mix
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	04/02/2020	Expiration Date:	04/09/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2665) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2955	Standard/Reagent:	Spike Mix
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	04/02/2020	Expiration Date:	04/09/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2574), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2902), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2956	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	04/02/2020	Expiration Date:	04/03/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2957	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	04/02/2020	Expiration Date:	04/03/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2958	Standard/Reagent:	Spike NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	04/02/2020	Expiration Date:	04/03/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2932	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	03/17/2020	Expiration Date:	03/18/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2933	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	03/17/2020	Expiration Date:	03/18/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2934	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	03/17/2020	Expiration Date:	03/18/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2935	Standard/Reagent:	Aquion Eluent Conc.
Analyst:	TMG	Final Concentration:	4.5mM CARB 1.4mM BICAF

Prep Date:	03/17/2020	Expiration Date:	03/17/2021
Prep:	23.52g Sodium Bicarbonate and 95.38g Sodium Carbonate into 1L milli-q H2O.		

Standard Log #:	IC2897	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	02/25/2020	Expiration Date:	02/26/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2898	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	02/25/2020	Expiration Date:	02/26/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2899	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	02/25/2020	Expiration Date:	02/26/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2900	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L

Prep Date:	02/25/2020	Expiration Date:	07/2021
Prep:	CAT #:250-220-55X LOT#: S191010033		

Standard Log #:	IC2901	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	02/25/2020	Expiration Date:	07/2021
Prep:	CAT #: 250-220-37X LOT#: S191015047		

Standard Log #:	IC2902	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	02/25/2020	Expiration Date:	06/2021
Prep:	CAT #: 250-220-70X LOT#: S190913029		

Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2846	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2847	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2848	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/30/2020	Expiration Date (48 Hours):	02/01/2020

Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2650 and brought to volume with Milli-Q DI H_20.

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2848	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2791	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2840	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2850	Standard/Reagent:	Analytical Column
Analyst:	TMG	Final Concentration:	NA
Prep Date:	01/30/2020	Expiration Date:	NA
Prep:	Serial #: 191205322 Lot#: 01914189		

Standard Log #:	IC2851	Standard/Reagent:	Guard Column
Analyst:	TMG	Final Concentration:	NA

Prep Date:	01/30/2020	Expiration Date:	NA
Prep:	Serial #: 191203132 Lot#: 01914183		

Prep Date:	01/23/2020	Expiration Date:	01/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2838	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/23/2020	Expiration Date:	01/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2839	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/23/2020	Expiration Date:	01/24/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2840	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L SO4
Prep Date:	01/23/2020	Expiration Date:	01/23/2021

Prep:	CAT#: 250-220-701 LOT#:S190913029 exp:01/23/2021

Standard Log #:	IC2841	Standard/Reagent:	Sodium Bicarbonate
Analyst:	TMG	Final Concentration:	na
Prep Date:	01/23/2020	Expiration Date:	05/01/23
Prep:	Rec.11/26/2019 Retest:05/01/2023		

Standard Log #:	IC2661	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2662	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2663	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2664	Standard/Reagent:	NO2 LCS STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL

Prep Date:	10/17/2019	Expiration Date:	05/30/2020
Prep:	LOT#: 4-167NO2N-2Y CAT#:AS-NO2N9-2Y EXP:05/30/2020		

Standard Log #:	IC2665	Standard/Reagent:	LCSW MIX STOCK
Analyst:	TMG	Final Concentration:	1250ug/mL SO4, 750ug/mL
Prep Date:	10/17/2019	Expiration Date:	09/30/2020
Prep:	LOT#: 15-128JKS CAT#:VCTWI-3-500 EXP:09/30/2020		

Standard Log #:	IC2650	Standard/Reagent:	PO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	10/10/2019	Expiration Date:	10/10/2020
Prep:	LOT#: S190327034 CAT#: 250-220-611 EXP:10/10/2020		

Standard Log #:	IC2651	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2652	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2653	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Standard Log #:	IC2646	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	10/09/2019	Expiration Date (48 Hours):	10/11/2019
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2245 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC2647	Standard:	IC_Calibration_Dionex_B
Analyst:	TMG	Concentrations:	N/A
Prep Date:	10/09/2019	Expiration Date (48 hours):	10/11/2019

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2646	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2619	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2593	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2648	Standard/Reagent:	AS14 DIONEX COLUMN

Analyst:	TMG	Final Concentration:	NA
Prep Date:	10/09/2019	Expiration Date:	NA
Prep:	Dionex As14 IonPac column Product # 046124 Serial #: 190805020 Lot# : 01914032		

Standard Log #:	IC2649	Standard/Reagent:	GUARD COLUMN
Analyst:	TMG	Final Concentration:	NA
Prep Date:	10/09/2019	Expiration Date:	NA
Prep:	SERIAL #: 190812098		

Standard Log #:	IC2574	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L NO3
Prep Date:	08/29/2019	Expiration Date:	08/29/2020
Prep:	LOT #:S190225004 CAT#:250-220-521 EXP:08/29/2020		

Standard Log #:	IC2575	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2426) , and 25 ml 1000 mg/L Sulfate (IC2427), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2576	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2577	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L

Standard Log #:	IC2535	Standard/Reagent:	FI STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S190129008 Cat #: 250-220-401 Exp: 08/08/2020		

Standard Log #:	IC2536	Standard/Reagent:	Br STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S1920213009 Cat #: 250-220-236 Exp: 08/08/2020		

Standard Log #:	IC2537	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO
Prep Date:	08/08/2019	Expiration Date:	08/09/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:		Standard/Reagent:	

WCOD QSM Analytical Run
170862 on 05/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	419032								WCOD QSM				
					ICV								
	419033								WCOD QSM				
					ICB								
	413136		04/28/2020	1438					COD QSM		GW		
		54IDW								76294			
152962	413975		04/30/2020	1515			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	COD QSM		GW	**4**	
		49IDW								76294			
	414432								COD QSM				
					MBW					76294			
	414433								COD QSM				
					LCSW					76294			
	414434		04/28/2020	1438					COD QSM				
		54IDW			MSW	413136				76294			
	414435		04/28/2020	1438					COD QSM				
		54IDW			MSDW	414434				76294			
	418489								WCOD QSM				
					CCV								
	418490								WCOD QSM				
					CCB								
	418491								WCOD QSM				
					CCV								
	418492								WCOD QSM				
					CCB								

12 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 05/14/2020

Prep Batch **76,294** Date Prepped: 05/04/2020 Prepped By ATJ

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	414432	MBW		COD QSM	LIQUID					
	414433	LCSW		COD QSM	LIQUID					
	413136			COD QSM	GROUND WATER				4	
152962	413975			COD QSM	GROUND WATER				4	
	414434	MSW	413136	COD QSM	GROUND WATER					
	414435	MSDW	414434	COD QSM	GROUND WATER					

Notes:_____

COD Data Validation Checklist

		Method: Chemical Oxygen Demand EPA 410.4			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
17082	05/04/2020	ATJ	etk	05/14/2020	yes

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Does a digestion sheet accompany the data package?	---	Yes		Yes		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	Yes		Yes		
3. Was a passing calibration test applied to sample analysis?	≥0.995	Yes		Yes		
4. Was a passing ICV analyzed immediately after the calibration?	90-110%	Yes		Yes		
5. Was a passing ICB analyzed immediately after the ICV?	< |LOD|or client/project specific	Yes		Yes		
6. Were CCVs and CCB analyzed at the required frequency?	1 per 10 samples	Yes		Yes		
7. Did analyzed CCVs meet the required acceptance criteria?	90-110%	Yes		Yes		
8. Did analyzed CCBs meet the acceptance criteria?	< |LOD|or client/project specific	Yes		Yes		
9. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	Yes		Yes		
10. Was the method blank within acceptance criteria?	< |LOD|or client/project specific	Yes		Yes		
11. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	Yes		Yes		
12. Did the LCS meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits	Yes		Yes		
13. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	Yes		Yes		
14. Did the MS/ MSD's meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits		No		No	413136 MS/MSD failed high - parent sample M flagged

15. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	Yes		Yes		
16. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	Yes		NA		
17. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	Yes		NA		
18. Were the samples digested within hold time?	28 days	Yes		Yes		
19. Was the max temperature(s) for reactor(s) documented?	---	Yes		Yes		
20. Was the method specifed temperature reached?		Yes		Yes		
21. Were reagents/standards used before expiration date?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		

CHEMICAL OXYGEN DEMAND REAGENT LOG

Prep Batch(es): 76293 76294
Date/Time/Analyst: 05-04-2020 14:00 ATJ
Run(s): 170861 862
Date/Time/Analyst: 05-05-2020 10:00 ATJ

Reagents:	W #	Exp Date
ICAL Preparation	W48439	06/23/2020
CCV Preparation	W48440	06/23/2020
LCS/ICV Preparation	W48441	06/23/2020
Silver Sulfate Acid	W48027	12/31/2020
Potassium Dichromate Dig Solution	W47821	11/19/2020

Spiked Samples:	W #	Exp Date
Spiking Solution	W48441	06/23/2020
Concentration 2000 mg/L		
Volume of Spike Used 0.2 mL		
Final Sample Volume 2.5 mL		
Final Spike Concentration 148.2 mg/L		

Date: 05/04/2020
Time: 14:00

COD DIGESTION BLOCK TEMPS

	A	B
Temperature (Max) 150°C ± 2°C:		148

	E	D
Temperature (Max) 150°C ± 2°C:	149.5	

GENESYS 30 Instrument Run Logbook

Date	Start Time	End Time	Analyst	Test/Analyte	Calibration Test #	Run #/ Comments	Maintenance	Review
01/27/20	8:30	15:15	ATJ	COD	COD W47962	168418		4-21-2020 HLB
02/04/20	7:45	08:16	ATJ	COD	COD W47962	168575 576		4-21-2020 HLB
02/11/20	10:00	10:30	ATJ	COD	COD W47963	168726 727		4-21-2020 HLB
02/18/20	8:00	08:13	ATJ	COD	COD W47963	168864		4-21-2020 HLB
02/25/20	13:30	13:50	ATJ	COD	COD W47964	169007		4-21-2020 HLB
03/09/20	14:00	14:30	ATJ	COD	COD W47964	169344		4-21-2020 HLB
03/13/20	13:10	14:00	HLB	PERMANGANATE	PERM W48391	169531		4-21-2020 HLB
03/18/20	7:45	09:00	ATJ	COD	COD W47964	169582		4-21-2020 HLB
03/25/20	8:05	08:45	ATJ	COD	COD W48439	169736 738 739		4-21-2020 HLB
03/31/20	14:00	14:10	ATJ	COD	COD W48439	169983		4-21-2020 HLB
04/14/20	8:45	09:20	ATJ	COD	COD W48439	170117		4-21-2020 HLB
04/15/20	10:30	10:50	ATJ	COD	COD W48439	170310		4-21-2020 HLB
04/28/20	8:30	08:55	ATJ	COD	COD W48439	170675 676		
05/05/20	9:50	10:11	ATJ	COD	COD W48439	170861 862		
05/12/20	9:00	09:20	ATJ	COD	COD W48439	171068		

Standard Log #:	W48439	Standard/Reagent:	COD Ical/CCV Stock Std.
Analyst:	ATJ	Concentration:	1,000 mg/L
Prep Date:	03-23-2020	Expiration Date (3 Months):	06-23-2020
PREP		Standards/Reagents Used	
Into a 500mL volumetric flask, dissolved 0.425g of Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.		(1) W33269	

Standard Log #:	W48440	Standard/Reagent:	COD CCV
Analyst:	ATJ	Concentration:	400 mg/L
Prep Date:	03-23-2020	Expiration Date (3 Months):	06-23-2020
PREP		Standards/Reagents Used	
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.		(1) W48439	

Standard Log #:	W48441	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	ATJ	Concentration:	2,000 mg/L
Prep Date:	03-23-2020	Expiration Date	06-23-2020

		(3 Months):	
PREP			Standards/Reagents Used
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.			(1) W39424

Standard Log #:	W48442	Standard/Reagent:	COD LCS
Analyst:	ATJ	Concentration:	400 mg/L
Prep Date:	03-23-2020	Expiration Date (3 Months):	06-23-2020
PREP			Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.			(1) W48441

LPWC01_15
WetChem Reagent Prep Logbook
Logbook Created: 11/21/2019

NOTEBOOK VIEW: LTN_LPWC01_15_Default, NOTEBOOK: LPWC01_15, PAGE: 15
Page is Locked
Author: hbeckel on: 1/2/2020 8:17:51 AM
Page is not Witnessed
Project: Unassigned
Page Title: 123119

Standard Log #:	W48027	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	HLB	Concentration:	N/A
Prep Date:	12-31-19	Expiration Date (1 Year):	12-31-20
PREP		Standards/Reagents Used	
Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).		(1) WC39 (2) WC22	

1

CT Laboratories, LLC

Standard Log #:	W47821	Standard/Reagent:	Dichromate Digestion Solution
Analyst:	GMJ	Concentration:	N/A
Prep Date:	11/19/19	Expiration Date (1 Year):	11/19/20

PREP	Standards/Reagents Used
Into a 2L volumetric flask, dissolved 66.6g of Mercuric sulfate (1) in about 500 mL of DI water. Volumetrically added 334 mL of Sulfuric acid (2) and dissolved 20.42g of Potassium dichromate (3) and then filled to volume with DI water.	(1) W46750 (2) WC13 (3) W46749

Standard Log #:	W46749	Chemical:	Potassium Dichromate
Analyst:	SAW	Vendor:	JT Baker (VWR)
Date Received:	2/22/19	Catalog #:	3090-01
Expiration Date (if any):	3/6/25	Lot #:	0000213858
Comments:	Opened 4/29/19		

Standard Log #:	W46750	Chemical:	mERCURY (II) SULFATE
Analyst:	SAW	Vendor:	BTC
Date Received:	3/11/19	Catalog #:	212940-100G
Expiration Date (if any):	4/29/20	Lot #:	50004425
Comments:	Opened 4/29/19		

Standard Log #:	W39424	Chemical:	Potassium hydrogen phthalate
Analyst:	SAW	Vendor:	ACROS
Date Received:	7/1/16	Catalog #:	424061000
Expiration Date (if any):	N/A	Lot #:	A0365830
Comments:			

PROJECT _____ Notebook No. _____ 31

Continued From Page _____

W33266 GES 1/7/14 — Sodium hypochlorite soln - Fisher cat # SS290-4 lot # 133042 exp 7/2014

W33267 GES 1/7/14 — NH_3 IL Hypochlorite: Into a 500mL vol. volumetrically combined 30mL W33266 & filled to mark w/ DI H_2O. exp 1/8/14

W33268 BJS 1/7/14 — TKN MDL ✓: (0.46mg/L) Into a 100mL vol flask pipetted 0.46mL NH_3/TKN 1000mg/L Stock W32416 + filled to volume w/ DI. Then pipetted 20mL into TKN tube.

W33269 Bms 01/07/14 — Potassium Hydrogen Phthalate (KHP): Agros Organics Catelog #: 424061000, Lot#: A0317291 (Received 06/24/13)

W33270 AGK 01/07/14 — TOCW ICAL/CCV stock (1000mg/L): Into a 100mL vol, dissolved 0.2128g KHP (W 33269) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33271 01/07/14 AGK — TOCW ICV/LCS stock (1000mg/L) Into a 100mL vol, dissolved 0.2128g KHP (W 29079) and brought to volume w/ milli-Q H_2O Exp: 07/07/14

W33272 AGK 01/07/14 01/07/14 AGK — TOCW CCV Std: Into a 100mL vol pipetted 50mL of W33270 and Brought to Volume with Milli-Q H_2O Exp: 02-07-14

W33273 01/07/14 AGK — TOCW LCS Std: Into a 100mL vol pipetted 5.0mL of W33271 and brought to volume w/ milli-Q H_2O Exp: 02-07-14

W33274 01/07/14 AGK — TOCW Ical: Into 7 50mL vol, pipetted 0.005, 0.25, 0.5, 1.25, 2.5, and 5.0mL of W33270 and brought to volume with milli-Q H_2O Exp: 02/07/14

Continued on Page

Read and Understood By

1/9/14 CS
Signed — Date — Signed — Date

Standard Log #:	WC39	Chemical:	Sulfuric Acid ACS 2.5L
Analyst:	HLB	Vendor:	EMD
Date Received:	6-27-19	Catalog #:	SX1244-5
Expiration Date (if any):		Lot #:	58351
Comments:			

Standard Log #:	WC22	Chemical:	Silver Sulfate ACS 98%
Analyst:	HLB	Vendor:	Alfa Aesar/Thermo Fisher
Date Received:	12-2-19	Catalog #:	11417
Expiration Date (if any):	12-2-24	Lot #:	W04F005
Comments:			

Standard Log #:	WC13	Chemical:	SULFURIC ACID
Analyst:	GMJ	Vendor:	EMD MILIPORE CORPORATION
Date Received:	8/27/19	Catalog #:	SX1244-5
Expiration Date (if any):	NA	Lot #:	58346
Comments:	OPENED 11/19/19		

WPH Analytical Run
170848 on 05/13/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	413917		04/30/2020 1400				PH SM4500H+B		WW		
		WW									
152962	413975		04/30/2020 1515		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	PH		GW	**4**	
		49IDW									
	414053		04/29/2020 1630				PH SM4500H+B		WW		
		DE-RO REJECT									
	414056		04/29/2020 1600				PH SM4500H+B		WW		
		DM-RO REJECT									
	414067		04/30/2020 0700				PH SM4500H+B		WW	**1**	
		PLANT 1									
	414068		04/30/2020 0700				PH SM4500H+B		WW	**1**	
		PLANT 2									
	414069		04/30/2020 0700				PH SM4500H+B		WW	**1**	
		PLANT 4									
	414082		04/30/2020 0800				PH SM4500H+B		WW		
		FINAL									
	414342		04/30/2020 0800				PH SM4500H+B				
		FINAL		DUP	414082			0			
	414343		04/30/2020 1515				PH				
		49IDW		DUP	413975			0			

10 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

pH Data Validation Checklist

		Method: pH EPA 150.1, SM 4500-H+B, EPA 9040C, EPA 9045D			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
170848	05/01/2020	SRW	etk	05/04/2020	yes

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Was the calibration slope recorded on the bench sheet?	95-110%	Yes		Yes		
2. Were reagents/standards used before expiration date?	---	Yes		Yes		
3. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	Yes		Yes		
4. Were the duplicates within acceptable limits?	Differ by $\leq$ 0.10 pH units	Yes		Yes		
5. Are all samples on the job lists accounted for?	---	Yes		Yes		
6. Were SM 4500-H+B samples bracketed by calibration buffer 7?	Every 10 samples, Differ by $\leq$ 0.10 pH units	Yes		Yes		

Mettler Toledo (Easy Seven) pH Calibration & Maintenance Run Logbook

		pH Buffer Reference ID #			3 Point Calibration						
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope (95-110%)	Temp ° C	Comments	Review
04/14/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	19.7		4-21-2020 HLB
04/15/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	98%	19.6		4-21-2020 HLB
04/16/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	19.6		4-21-2020 HLB
04/17/20	HLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	98%	20.9		4-21-2020 HLB
04/20/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	19.9		4-21-2020 HLB
04/21/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.07	97%	19.6		4-21-2020 HLB
04/22/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	19.8		
04/23/20	HLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.03	4	10.08	97%	18.6		
04/24/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	19.9		
04/27/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	20.3		
04/28/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	20.1		
04/29/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	20.1		
04/30/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	20		
05/01/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	W46764 EX:05/2/20	7.02	4	10.06	97%	20.1		
05/04/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.05	97%	20.6		
05/05/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	97%	19.9		
05/06/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	97%	19.8		
05/07/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	98%	20.2		
05/08/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	97%	20.2		
05/11/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	98%	20.3		
05/12/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	97%	20.1		
05/13/20	RLB	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	97%	20.3		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date	Start Time	End Time	Analyst	Analyte	Lims Run #(s)	Comments
04/14/20	14:00	14:30	ATJ	PH	170353	
04/15/20	14:30	15:00	HLB	PH	170386	
04/16/20	14:30	14:50	HLB	PH	170438	
04/17/20	14:10	14:20	SRW	PH	170468	
04/20/20	15:10	15:20	RLB	PH	170503	
04/21/20	14:00	14:15	HLB	PH	170535	
04/22/20	14:00	14:19	ATJ	PH	170570	
04/23/20	15:15	15:45	HLB	PH	170606	
04/24/20	14:15	14:45	SRW	PH	170660	
04/27/20	14:15	14:30	SRW	PH	170685	
04/28/20	14:00	14:30	ATJ	PH	170725	
04/29/20	14:00	14:20	HLB	PH	170762	
04/30/20	14:10	14:35	HLB	PH	170818	
05/01/20	15:30	16:00	SRW	PH	170848	
05/04/20	14:20	14:40	RLB	PH	170886	
05/05/20	14:35	15:00	ATJ	PH	170924	
05/06/20	14:40	15:15	HLB	PH	170975	
05/07/20	14:00	14:15	HLB	PH	171014	
05/08/20	14:30	15:00	SRW	PH	171050	
05/11/20	14:25	14:40	RLB	PH	171077	
05/12/20	14:00	14:30	ATJ	PH	171103	
05/13/20	14:00	14:20	hlb	PH	171145	

Standard Log #:	WC70	Chemical:	pH Buffer 7
Analyst:	HLB	Vendor:	Inorganics Ventures
Date Received:	2-13-2020	Catalog #:	PHYELLOW-7
Expiration Date (if any):	2-13-2021	Lot #:	P2-WCS680595
Comments:	bag opened 2-13-2020		

WC_StdLog_01
Wet Chem Chemical Logbook
Logbook Created: 10/22/2019

NOTEBOOK VIEW: LTN_WC_StdLog_01_Default, NOTEBOOK: WC_StdLog_01, PAGE: 22
Page is Locked
Author: swachter on: 1/7/2020 9:37:47 AM
Page is not Witnessed
Project: Unassigned
Page Title: 123019

Standard Log #:	WC38	Chemical:	pH 4 Calibration Std 4L
Analyst:	HLB	Vendor:	Inorganic Ventures
Date Received:	12-30-19	Catalog #:	PHRED-4-4L
Expiration Date (if any):	12-30-20	Lot #:	P2-WCS680743
Comments:			

Standard Log #:	W46764	Chemical:	PH BUFFER 10
Analyst:	LJS	Vendor:	INORGANIC VENTURES
Date Received:	5/2/19	Catalog #:	PHBLUE-10-4L
Expiration Date (if any):	5/2/20	Lot #:	P2-WCS675599
Comments:			

WORGANIC CARBON QSM 5.0 Analytical Run
170892 on 05/07/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415563						WORGANIC CARBON QSM 5.0				
				CCV				0			
	415564						WORGANIC CARBON QSM 5.0				
				LCSW				0			
	415565						WORGANIC CARBON QSM 5.0				
				MBW				0			
152873	412553		04/27/2020 1015		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		13MW4									
152873	412558		04/27/2020 1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		13MW3									
152873	412559		04/27/2020 1125		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		13TW3									
152873	412562		04/27/2020 1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		49MW04									
152873	412563		04/27/2020 1325		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		13MW2		Designated MS/MSD							
	416190		04/27/2020 1325				ORGAN CARBON T QSM 5.0				
		13MW2		MSW 412563							
	416191		04/27/2020 1325				ORGAN CARBON T QSM 5.0				
		13MW2		MSDW 416190							
	413129		04/28/2020 1000				ORGAN CARBON T QSM 5.0		GW	4	
		54MW13									
	413132		04/28/2020 1000				ORGAN CARBON T QSM 5.0		GW	4	
		54TW13									
	415569						WORGANIC CARBON QSM 5.0				
				CCV				0			
	415570						WORGANIC CARBON QSM 5.0				
				CCB				0			
	413133		04/28/2020 1130				ORGAN CARBON T QSM 5.0		GW	4	
		54MW10									
	413134		04/28/2020 1245				ORGAN CARBON T QSM 5.0		GW	4	
		54MW12		Designated MS/MSD							
	415571		04/28/2020 1245				ORGAN CARBON T QSM 5.0				
		54MW12		DUP 413134				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Distribution: C:\LIMSREPS\ANALYTICALRUN.RPT

WORGANIC CARBON QSM 5.0 Analytical Run
170892 on 05/07/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415572		04/28/2020	1245					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	413134				0			
	415573		04/28/2020	1245					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	415572				0			
	413135		04/28/2020	1420					ORGAN CARBON T QSM 5.0		GW	4	
		54MW1											
152924	413571		04/29/2020	0940			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48MW06											
152924	413572		04/29/2020	0952			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		49EQB-48MW06											
152924	413574		04/29/2020	1110			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48MW1											
152924	413575		04/29/2020	1245			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		49MW01											
	415574								WORGANIC CARBON QSM 5.0				
					CCV					0			
	415575								WORGANIC CARBON QSM 5.0				
					CCB					0			
152924	413576		04/29/2020	1410			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48MW2											
152962	413971		04/30/2020	0955			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		50MW02											
152962	413972		04/30/2020	1100			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48MW3											
152962	413973		04/30/2020	1100			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		48TW3											
152962	413974		04/30/2020	1250			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	4	
		49MW02											
	416192		04/27/2020	1325					ORGAN CARBON T QSM 5.0				
		13MW2			DUP	412563							
	415577								WORGANIC CARBON QSM 5.0				
					CCV					0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
170892 on 05/07/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	415578						WORGANIC CARBON QSM 5.0				
				CCB				0			

34 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist	Instrument: TOCW

LIMS Run #(s)	Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)
170892	05/05/2020	KMT	RLD	05/07/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		
4. Were the ICV and ICB analyzed?	---	Yes		Yes		
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)		No		No	Invalid (Dup <RL) No qualifier
20. Are all samples on the job lists accounted for?	---	Yes		Yes		
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
04/27/2020	10:02	04/27/2020	18:25	KMT	170664, 170669, 170670	W	0381	
~~04/29/2020~~		N/A		KMT	170699	S	0387	ending CCV. CCB on 4/29/20 after instrument service
04/30/2020	09:48	04/30/2020	10:46	KMT	170699	S	0387	
04/30/2020	14:24	04/30/2020	23:53	KMT	170808, 170811, 170817	W	0381	
05/01/2020	08:48	05/01/2020	11:35	KMT	170826	W	0381	
05/05/2020	08:54	05/05/2020	16:47	KMT	170892	W	0381	

Reviewed By:_____

Standard Log #:	TOC0390	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/15/2020	Expiration Date (1 Month):	05/15/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0391	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/15/2020	Expiration Date (1 Month):	05/15/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0384	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/13/2020	Expiration Date (1 Month):	05/13/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0382	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/07/2020	Expiration Date (1 Month):	05/07/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0383	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/07/2020	Expiration Date (1 Month):	05/07/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0379	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	03/10/2020	Expiration Date (1 Month):	04/10/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0380	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	03/10/2020	Expiration Date (1 Month):	04/10/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0381	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	03/10/2020	Expiration Date (1 Month):	04/10/2020
	Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0376 and brought to volume with Milli-Q H_2O:		

Prep:

volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 193
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 020520

Standard Log #:	TOC0374	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	02/05/2020	Expiration Date (1 Month):	03/05/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0375	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	02/05/2020	Expiration Date (1 Month):	03/05/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0376	Standard/Reagent:	CCV STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	02/05/2020	Expiration Date:	08/31/2021
Prep:	LOT: 0006475816 EXP:08/31/2021		

1

CT Laboratories, LLC

Standard Log #:	TOC0373	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	01/31/2020	Expiration Date (1 Month):	02/29/2020

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0258 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0369	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	01/13/2020	Expiration Date (1 Month):	02/13/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0370	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	01/13/2020	Expiration Date (1 Month):	02/13/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0367	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	12/18/2019	Expiration Date (1 Month):	01/18/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0368A	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	12/18/2019	Expiration Date (1 Month):	01/18/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0368	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	11/26/2019	Expiration Date (1 Month):	12/26/2019
	Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0258 and brought to volume with Milli-Q H_2O:		

Prep:

volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0364	Standard/Reagent:	25%PHOSPHORIC ACID
Analyst:	TMG	Final Concentration:	25%
Prep Date:	11/12/2019	Expiration Date:	11/12/2020
Prep:	Into a 500ml vol. flask add 125ml phosphoric acid (W38600) and bring to volume with DI water.		

Content below was appended to locked page by tgrundahl on 12/19/2019 10:52:42 AM

Standard Log #:	TOC0364A	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	11/26/2019	Expiration Date (1 Month):	12/26/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0365A	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	11/26/2019	Expiration Date (1 Month):	12/26/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0359	Standard/Reagent:	LCS TOC STOCK STD
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	10/28/2019	Expiration Date:	09/01/2021
Prep:			

Standard Log #:	TOC0360	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0361	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0357	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/16/2019	Expiration Date (1 Month):	11/16/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0358	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/16/2019	Expiration Date (1 Month):	11/16/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0355	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/02/2019	Expiration Date (1 Month):	11/02/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0356	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/02/2019	Expiration Date (1 Month):	11/02/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 181
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 090919

Standard Log #:	TOC0352	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	09/09/2019	Expiration Date (1 Month):	10/09/2019

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0258 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

1

CT Laboratories, LLC

Standard Log #:	TOC0350	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	09/04/2019	Expiration Date (1 Month):	10/04/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0351	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	09/04/2019	Expiration Date (1 Month):	10/04/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0259 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0332	Standard:	TOCW LOD Check
Analyst:	TMG	Concentration:	1.5 mg/L
Prep Date:	06/05/2019	Expiration Date (1 Month):	07/05/2019
Prep:	Into a 100 mL volumetric flask, pipetted 0.15mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0333	Standard:	TOCW LOQ Check
Analyst:	TMG	Concentration:	3.0 mg/L
Prep Date:	06/05/2019	Expiration Date (1 Month):	07/05/2019
Prep:	Into a 100 mL volumetric flask, pipetted 0.30mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0258	Standard/Reagent:	TOC CCV STOCK STD
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/05/2018	Expiration Date:	02/28/2020
Prep:	Ultra Scientific TOC standard @ 1000 or - 5 ug/mL Lot # CS-0215		

Standard Log #:	TOC0259	Standard/Reagent:	TOC LCS STOCK STD
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/05/2018	Expiration Date:	11/01/2019
Prep:	CAT# 250-250-05X LOT# S171123022		

Standard Log #:	TOC0260	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	06/05/2018	Expiration Date (1 Month):	07/05/2018
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0261	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	06/05/2018	Expiration Date (1 Month):	07/05/2018
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0206 and brought to volume with Milli-Q DI H_2O.		

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Weston Solutions, Inc.
Project Contact: Tony Pace
Telephone: 757-819-5310
Project Name: Radford AAP SWMU-49
Project #:
Location: Radford, VA
Sampled By: W. Bounds/P. Taylor

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 152873
Company: WESTON SOLUTIONS.
Project: RADFORD AAP
Logged By: JLS PM: BM

n:
RCRA SDWA NPDES
aste Other _____

Report To:
EMAIL: Tony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St., Ste. 605
Hampton, VA 23669

Invoice To:*
EMAIL:
Company: Same as above
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOCs 8260C	MEE RSK-175	Anions 9056A	Chlorate/Chlorite 300.1	TOC 9060A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test							
4/27/20	—	GW	G		TB-1 (Trip Blank)	N	2					2		412552
4/27/20	1015	GW	G		13MW4	N	3	2	1	1	1	8		412553
4/27/20	1125	GW	G		13MW3	N	3	2	1	1	1	8		412558
4/27/20	1125	GW	G		13TW3	N	3	2	1	1	1	8		412559
4/27/20	1230	GW	G		49MW04	N	3	2	1	1	1	8		412560
4/27/20	1325	GW	G		13MW2	N	9	6	3	3	3	24		412563

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
	4/27/2020 1730	Fedex	4/27/2020 1730	Ice Present (Yes) No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp 2.8 IR Gun 27
	4/28/2020 1240		4/28/2020 1215	Cooler # 6160

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

Temperature 2.8

IR Gun # 27

Initials ELB

Date 4-28-20 Time 12:15

Cooler #: 6160

QEC Quality Environmental Containers 800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 4/27/2020
SIGNATURE

QEC Quality Environmental Containers 800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 4/27/2020
SIGNATURE

ORIGIN ID:WALA (770) 855-6275
PAUL I TAYLOR
WESTON SOLUTIONS INC
5655 PEACHTREE PKWY STE 150

PEACHTREE CORNERS, GA 30092
UNITED STATES US

SHIP DATE: 27APR20
ACTWGT: 45.20 LB
CAD: 6995155/SSFE2102
DIMS: 24x14x13 IN

BILL THIRD PARTY

TO CT LAB
CT LAB
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760

REF: 038865525003130
INV:
PO:
DEPT:

FedEx Express

TRK# 0201 3922 9139 9140

TUE - 28 APR 10:30A
PRIORITY OVERNIGHT

XH LNRA

AHS
53913
WI-US MSN

Folder #: 152873

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU-49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 153515

Project Manager: *BMS* **Date Received:** 04/28/20 **Log Date:** 04/28/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 2.8 oC

SAMPLE #: 412552 DESCR: TB-1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED: 04/27/2020**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/11/2020	05/10/2020		Logged

SAMPLE #: 412553 DESCR: 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/27/2020 Time: 1015**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/11/2020	05/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/11/2020	05/10/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/29/2020	05/10/2020		Logged
			Chloride						
			Nitrate Nitrogen						

C:\LIMSREPS\CONFIRMATION.RPT

Folder #: 152873 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 412553 **DESCR:** 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/27/2020 **Time:** 1015

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/25/2020	05/10/2020		Logged

SAMPLE #: 412558 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/27/2020 **Time:** 1125

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/11/2020	05/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/11/2020	05/10/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/29/2020	05/10/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/25/2020	05/10/2020		Logged

SAMPLE #: 412559 **DESCR:** 13TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/27/2020 **Time:** 1125

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/11/2020	05/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/11/2020	05/10/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/29/2020	05/10/2020		Logged
			Chloride						

Folder #: 152873 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 412559 **DESCR:** 13TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/27/2020 **Time:** 1125

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/25/2020	05/10/2020		Logged

SAMPLE #: 412562 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/27/2020 **Time:** 1230

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/11/2020	05/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/11/2020	05/10/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				04/29/2020	05/10/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/25/2020	05/10/2020		Logged

SAMPLE #: 412563 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/27/2020 **Time:** 1325

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y* ***DESIGNATED MATRIX SPIKE***	05/11/2020	05/10/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***	05/11/2020	05/10/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	04/29/2020	05/10/2020		Logged

Folder #: 152873 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 412563 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/27/2020 **Time:** 1325

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)			***DESIGNATED MATRIX SPIKE***	05/25/2020	05/10/2020		Logged

Invoice Number: 153515 **Preliminary Invoice Estimate:** $ 1,264.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	7	$ 12.00	0.00	$ 84.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	7	$ 12.00	0.00	$ 84.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	7	$ 12.00	0.00	$ 84.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	7	$ 16.00	0.00	$ 112.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	7	$ 16.00	0.00	$ 112.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	7	$ 16.00	0.00	$ 112.00
ORGAN CARBON T QSM 5.0	GROUND WATER	7	$ 28.00	0.00	$ 196.00
VOC 8260 QSM 5.0	GROUND WATER	7	$ 60.00	0.00	$ 420.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**7**	TOC
MISC	**7**	CHLORATE/CHLORITE
UNPRES PL	**7**	Anions
VOA HCL	**37**	VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 152873
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 04/28/2020 12:41
Received Date / Time / By: 04/28/2020 12:15 EKB

Project Name: RADFORD AAP SWMU-49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 04/28/2020 12:40 JLS
Project #: PM: BMS

Coolers: 6160
Custody Seals Present : **Y**

Temperature: 2.8 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 392291399140
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS (DATED 4/27/2020 AND SIGNED) WERE PRESENT AND INTACT UPON RECEIPT.

EDA-PRESERVED BOTTLES FOR CHLORATE/CHLORITE ANALYSIS WERE RECEIVED FOR ALL FIELD SAMPLES; HOWEVER, THIS ANALYSIS IS NOT REQUIRED FOR THE SWMU-49 SAMPLES, PER THE PROJECT SCOPE. AS SUCH, THE CHLORATE/CHLORITE ANLAYSIS WAS CANCELLED. REPLACEMENT EDA-PRESERVED BOTTLES WILL BE SHIPPED TO THE FIELD CREW TO USE DURING THE SWMU-54 SAMPLING.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
412552 TB-1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	**(*VOA HCL*) = 2**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
412553 13MW4				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	**(*UNPRES PL*) = 1**		
412553 13MW4				
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	**(*MISC*) = 1**		
412553 13MW4				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	**(*VOA HCL*) = 5**		
412553 13MW4				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	**(*H2SO4 PL*) = 1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
412558 13MW3				
	UNPRES PL	1	/	Anions

		Total # of Containers of Type	(***UNPRES PL***) = **1**		
412558	13MW3				
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	(***MISC***) = **1**		
412558	13MW3				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	(***VOA HCL***) = **5**		
412558	13MW3				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
412559 13TW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
412559 13TW3				
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	(***MISC***) = **1**		
412559 13TW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
412559 13TW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
412562 49MW04				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
412562 49MW04				
	MISC	1	/	CHLORATE/CHLORITE
	Total # of Containers of Type	(***MISC***) = **1**		
412562 49MW04				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
412562 49MW04				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**

152873

412563	13MW2				
		UNPRES PL	1	/	Anions
		UNPRES PL	1	/	ANIONS
		UNPRES PL	1	/	ANIONS
		Total # of Containers of Type	(***UNPRES PL***) = **3**		
412563	13MW2				
		MISC	1	/	CHLORATE/CHLORITE
		MISC	1	/	CHLORATE/CHLORITE
		MISC	1	/	CHLORATE/CHLORITE
		Total # of Containers of Type	(***MISC***) = **3**		
412563	13MW2				
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		VOA HCL	1	/	GAS,VOC
		Total # of Containers of Type	(***VOA HCL***) = **15**		
412563	13MW2				
		H2SO4 PL	1	Y /	TOC
		H2SO4 PL	1	Y /	TOC
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	(***H2SO4 PL***) = **3**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Weston Solutions, Inc.
Project Contact: Tony Pace
Telephone: 757-819-5316
Project Name: Radford AAP - SWMU 49 Place
Project #:
Location: Radford, VA
Sampled By: W. Bounds / P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 152924
Company: WESTON SOLUTIONS,
Project: RADFORD AAP-SWMU4
Logged By: EKB PM: BM

A SDWA NPDES
Other _____

Report To:
EMAIL: Tony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St., Ste. 603
Hampton, VA 23669

Invoice To:*
EMAIL:
Company: Same as above
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOCs 8260C	MEE RSK-175	Anions 9056A	TOC 9060A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
4/29/20	0940	GW	G		48MW06	N	3	2	1	1	7		413571
4/29/20	0952	GW	G		49EQB-48MW06	N	3	2	1	1	7		413572
4/29/20	—	GW	G		TB-2 (Trip Blank)	N	2				2		413573
4/29/20	1110	GW	G		48MW1	N	3	2	1	1	7		413574
4/29/20	1245	GW	G		49MW01	N	3	2	1	1	7		413575
4/29/20	1410	GW	G		48MW2	N	3	2	1	1	7		413576

Relinquished By: [signature]
Date/Time: 4/29/2020 1600
Received by:
Date/Time

Received By: Fedex
Date/Time: 4/29/2020 1600
Received for Laboratory by: [signature]
Date/Time: 4/30/20 10:00

ells 4-30-2020 10:38

Lab Use Only
Ice Present Yes No
Temp 5.9 IR Gun 27
Cooler # 6175

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified.
(b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.
1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.
1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.
1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.
1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.
1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).
1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.
3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.
3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.
4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.
4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.
4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.
4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.
4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.
4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.
5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.
5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.
5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.
5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.
5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present YES NO

Temperature 3.9 #27

IR Gun # 27

Initials

Date 4/30/20 Time 10:00

Cooler #: 675

Folder #: 152924

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU-49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 153565

Project Manager: *BMS* **Date Received:** 04/30/20 **Log Date:** 04/30/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 5.9 oC

SAMPLE #: 413571 DESCR: 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/29/2020 Time: 0940**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/13/2020	05/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/13/2020	05/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				05/01/2020	05/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/27/2020	05/12/2020		Logged

Folder #: 152924 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 413572 **DESCR:** 49EQB-48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/29/2020 **Time:** 0952

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/13/2020	05/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/13/2020	05/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				05/01/2020	05/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.0	(EPA 9060A)				05/27/2020	05/12/2020		Logged

SAMPLE #: 413573 **DESCR:** TB-2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 04/29/2020 **Time:** 1200

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/13/2020	05/12/2020		Logged

SAMPLE #: 413574 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/29/2020 **Time:** 1110

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/13/2020	05/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/13/2020	05/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				05/01/2020	05/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 152924 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 413574 **DESCR:** 48MW1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/29/2020 **Time:** 1110

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/27/2020	05/12/2020		Logged

SAMPLE #: 413575 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/29/2020 **Time:** 1245

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/13/2020	05/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/13/2020	05/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				05/01/2020	05/12/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				05/27/2020	05/12/2020		Logged

SAMPLE #: 413576 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/29/2020 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/13/2020	05/12/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				05/13/2020	05/12/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				05/01/2020	05/12/2020		Logged
			Chloride						

Folder #: 152924 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 413576 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/29/2020 **Time:** 1410

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				05/27/2020	05/12/2020		Logged

Invoice Number: 153565 **Preliminary Invoice Estimate:** $ 920.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	5	$ 12.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	5	$ 12.00	0.00	$ 60.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	5	$ 12.00	0.00	$ 60.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	5	$ 16.00	0.00	$ 80.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	5	$ 16.00	0.00	$ 80.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	5	$ 16.00	0.00	$ 80.00
ORGAN CARBON T QSM 5.0	GROUND WATER	5	$ 28.00	0.00	$ 140.00
VOC 8260 QSM 5.0	GROUND WATER	5	$ 60.00	0.00	$ 300.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**5**	TOC
UNPRES PL	**5**	Anions
VOA HCL	**27**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 152924
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 04/30/2020 10:40
Received Date / Time / By: 04/30/2020 10:00 DJL

Project Name: RADFORD AAP SWMU-49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 04/30/2020 10:38 EKB
Project #: PM: BMS

Coolers: 6175
Custody Seals Present : **Y**

Temperature: 5.9 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 392366654350
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS (DATED 4/29/2020 AND SIGNED) WERE PRESENT AND INTACT UPON RECEIPT.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
413571 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413571 48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413571 48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
413572 49EQB-48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413572 49EQB-48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413572 49EQB-48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
413573 TB-2				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	(***VOA HCL***) = **2**		
413574 48MW1				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413574 48MW1				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413574 48MW1				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
413575 49MW01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413575 49MW01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413575 49MW01				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
413576 48MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413576 48MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413576 48MW2				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: Weston Solutions, Inc.
Project Contact: Tony Pace
Telephone: 757-819-5310
Project Name: Radford AAP-SWMU 49 Pl
Project #:
Location: Radford, VA
Sampled By: W. Bounds / P. Taylor

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 152962
Company WESTON SOLUTIONS,
Project: RADFORD AAP-SWMU -
Logged By: EKB PM: BM

CRA SDWA NPDES
te Other _____

Report To: Tony Pace
EMAIL: Tony.Pace@WestonSolutions.com
Company: Weston Solutions, Inc.
Address: 2 Eaton St. Ste. 603
Hampton, VA 23669
Invoice To:* Same as above
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOCs 8260C	MEE RSK-175	Anions 9056A	TOC 9060A	pH 9040	Col) 4104	Total Metals 6010C 7470A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test									
4/30/20	—	GW	G		TB-3 (Trip Blank)	N	2							2		413970
4/30/20	0955	GW	G		501MW02	N	3	2	1	1				7		971
4/30/20	1100	GW	G		48MW3	N	3	2	1	1				7		972
4/30/20	1100	GW	G		48TW3	N	3	2	1	1				7		973
4/30/20	1250	GW	G		49MW02	N	3	2	1	1				7		974
4/30/20	1515	GW	G		49IDW	N					1	1	1	3		975

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
[signature]	4/30/2020 1700	Fedex	4/30/2020 1700	Ice Present Yes No
Received by:	Date/Time	Received for Laboratory by:	Date/Time	Temp 3.6 IR Gun 24
		[signature]	5/1/20 9:45	Cooler # 6435

[signature] & 5-1-2020 11:04

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Ice Present YES NO

Cooler Receipt Form

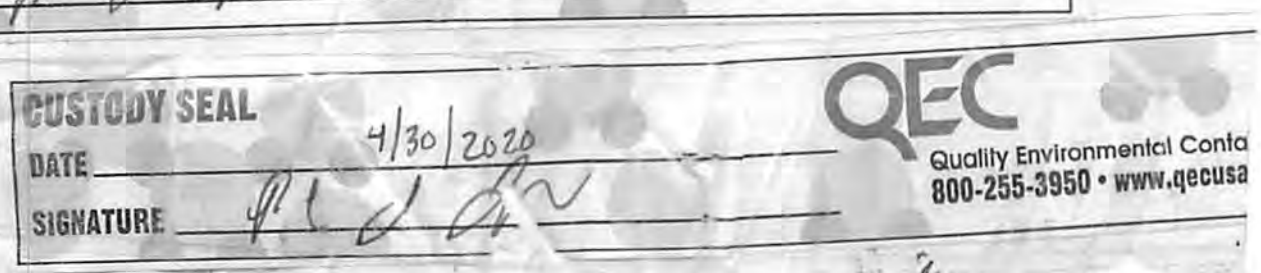
Temperature 3.1

IR Gun # 24

Initials

Date 5/1/20 Time 9:45

Cooler #: 6435



Folder #: 152962

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU-49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 153603

Project Manager: *BMS* **Date Received:** 05/01/20 **Log Date:** 05/01/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 3.1 oC

SAMPLE #: 413970 DESCR: TB-3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED: 04/30/2020**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	05/14/2020	05/13/2020		Logged

SAMPLE #: 413971 DESCR: 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 04/30/2020 Time: 0955**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		05/13/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					05/13/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)					05/13/2020		Logged
			Chloride						
			Nitrate Nitrogen						

Folder #: 152962 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 413971 **DESCR:** 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/30/2020 **Time:** 0955

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					05/13/2020		Logged

SAMPLE #: 413972 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/30/2020 **Time:** 1100

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		05/13/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					05/13/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)					05/13/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					05/13/2020		Logged

SAMPLE #: 413973 **DESCR:** 48TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/30/2020 **Time:** 1100

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		05/13/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					05/13/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)					05/13/2020		Logged
			Chloride						

Folder #: 152962 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 413973 **DESCR:** 48TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/30/2020 **Time:** 1100

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					05/13/2020		Logged

SAMPLE #: 413974 **DESCR:** 49MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/30/2020 **Time:** 1250

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*		05/13/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)					05/13/2020		Logged
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)					05/13/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)					05/13/2020		Logged

SAMPLE #: 413975 **DESCR:** 49IDW **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/30/2020 **Time:** 1515

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					05/13/2020		Entered
989	COD QSM	(EPA 410.4)					05/13/2020		Logged
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)					05/13/2020		NeedPrep
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)					05/13/2020		NeedPrep
1200	ICP TOTAL QSM 5.0	(EPA 6010C)					05/13/2020		NeedPrep
			Total Aluminum						

Folder #: 152962 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 413975 **DESCR:** 49IDW **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 04/30/2020 **Time:** 1515

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0(EPA 7470A)						05/13/2020		NeedPrep

Folder #: 152962 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

Invoice Number: 153603 **Preliminary Invoice Estimate:** $ 876.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	4	$ 12.00	0.00	$ 48.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	4	$ 12.00	0.00	$ 48.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	4	$ 12.00	0.00	$ 48.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.50	0.00	$ 3.50
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.00	0.00	$ 23.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	4	$ 16.00	0.00	$ 64.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	4	$ 16.00	0.00	$ 64.00

METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	4	$ 16.00	0.00	$ 64.00
ORGAN CARBON T QSM 5.0	GROUND WATER	4	$ 28.00	0.00	$ 112.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	4	$ 60.00	0.00	$ 240.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**5**	COD
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**5**	Anions
VOA HCL	**22**	VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 152962
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 05/01/2020 11:06
Received Date / Time / By: 05/01/2020 09:45 DJL

Project Name: RADFORD AAP SWMU-49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 05/01/2020 11:04 EKB
Project #: PM: BMS

Coolers: 6435
Custody Seals Present : **Y**

Temperature: 3.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 392408613979
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS (DATED 4/30/2020 AND SIGNED) WERE PRESENT AND INTACT UPON RECEIPT.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
413970 TB-3				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	(***VOA HCL***) = **2**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
413971 50MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413971 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413971 50MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
413972 48MW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413972 48MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
413972 48MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
413973 48TW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413973 48TW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413973 48TW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
413974 49MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
413974 49MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
413974 49MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
413975 49IDW				
	H2SO4 PL	1	Y /	COD
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		
413975 49IDW				
	HNO3	1	Y /	HG,ICP,K,NA
	Total # of Containers of Type	(***HNO3***) = **1**		
413975 49IDW				
	UNPRES PL	1	/	pH
	Total # of Containers of Type	(***UNPRES PL***) = **1**		

Condition Code	*Condition Description*
1	Sample Received OK

CT LABORATORIES

delivering more than data from your environmental analyses

ANALYTICAL RESULTS FOR:

ANTHONY PACE
WESTON SOLUTIONS, INC.
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

PROJECT SITE:	RFAAP SWMU-49; RADFORD, VA
DOD CONTRACT #:	
PROJECT #:	
SDG:	***154947***
FOLDERS:	154947, 155037, 155089
PREPARED:	August 14, 2020
TOTAL # OF PAGES:	1352

The data contained in the following report have been reviewed by the appropriate CT Laboratories' LLC staff members. In addition, CT Laboratories LLC certifies that to the best of our knowledge that the analyses reported herein are true, complete and correct within the limits of the methods employed and that they follow the applicable requirements as specified by the project plan, state-specific, NELAC or DOD QSM requirements. The estimated uncertainty of measurement is only available upon request. The reported results relate only to the tested samples. This report shall not be reproduced, except in full, without written approval of CT Laboratories LLC.

APPROVED BY: Brett Szymanski
PROJECT MANAGER

Certifications: IL (NELAP 200073), KS (NELAP E-10368), WI (157066030), DOD ELAP (A2LA 3806.01), VA (NELAP 4602038), MD (WI 00061), LA (NELAP ACC20160002), ISO17025 (A2LA 3806.01), GA EDP Stipulation (Accreditor: LA NELAP, ACC#: ACC20160002, Scope: Non-potable water solid and chemical materials, biological tissue, Effective: 12/10/2014, Expires: annually)

CT LABORATORIES

delivering more than data from your environmental analyses

Table of Contents

Section	Page
Cover Page	1
Table of Contents	2
Case Narrative and Summary of Detects (if applicable)	3
Data Qualifier Sheet	7
Sample Delivery Group Summary	9
QC Batch Cross Reference	10
VOC QC Summary Documents	13
VOC Sample Data Documents	107
VOC ICAL Documents	221
VOC CCV Documents	306
VOC QC Documents	341
VOC Logbook Documents	364
Metals CLP Forms Documents	401
Metals Raw Data Documents	463
Metals Logbook Documents	629
Inorganic CLP Forms Documents	990
Inorganic Raw Data Documents	1106
Inorganic Logbook Documents	1218
Chain of Custody, PM Confirmation and Sample Condition Forms	1320

CT LABORATORIES

delivering more than data from your environmental analyses

Case Narrative

Client: Bering Sea Environmental
Project: RFAAP SWMU-49, Radford, VA
Sample Receipt Dates: 07/21/2020, 07/23/2020, & 07/24/2020
SDG #: *154947* (Folder #'s 154947, 155037, & 155089)

Fifteen water samples were received and analyzed for a variety of parameters, including: VOCs, Dissolved Gases, Metals, pH, COD, Anions, and TOC. Three Trip Blanks were included with the VOCs. The assigned sample ID number, date sampled, and date received are indicated in the attached Project Summary. The samples were received intact and at a temperature within method specified acceptance limits. A breakdown of sample receipt information can be found on the Sample Condition Report located in the last section of the data package and any exceptions are noted below. The analyses were performed following DOD QSM 5.1 requirements.

Manual integrations may have been performed on the data provided with this package. If manual integrations were performed, a Reason #(s) was included on the raw data that corresponds to the "Index Key for Manual Integration Rationale." The raw data includes a "Before" and "After" manual integration illustration. The manual integrations were initialed and dated by the analyst, as well as, by the person reviewing the data.

Sample Analysis and Quality Control

Volatile Analysis:

The samples were analyzed using US EPA Methods 8260C (VOC) and RSK-175 (Dissolved Gases). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Surrogate Recovery Data
Matrix Spike/Matrix Spike Duplicate Recovery Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log
Chromatograms

All analysis results met the method specified quality control criteria with the following exceptions:

Detailed reports were provided for the 8260 data for all detected compounds, as well as, for those compounds manually integrated (if applicable). Compounds not reported on the form 1's were either not detected or did not meet identification criteria so they were reported as non-detects.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

VOC (8260C) Water Analysis

Analytical Run # 173473

CCV1 had low recoveries outside of specified limits for 1,4-dioxane and 1,2-dibromo-3-chloropropane and a high recovery for bromomethane. These compounds were qualified with a "Z" flag in the associated samples.

The Laboratory Control Sample (LCS) had a low recovery for 1,4-dioxane. This compound was qualified with a "Q" flag in the associated samples.

Dissolved Gases (RSK-175) Analysis

Analytical Run # 173491

Sample # 447995 had a pH >2. This sample was qualified with a "T" flag for being insufficiently preserved.

Analytical Run # 173623

All analytical results for this run met the method/project specified quality control criteria.

The MS/MSD analysis for this sequence run was performed on a sample from a different SDG.

Metals Analysis:

The samples were analyzed using US EPA Methods 6010C (ICP) and 7470A (Hg). All samples were analyzed within the holding time. The following summaries of quality control procedures are included:

Initial and Continuing Calibration Verification
Blanks Summary
ICP Interference Check Data
Spike Sample Recovery
Duplicates Data
Laboratory Control Sample Data
Analysis Run Log

All analysis results met the method specified quality control criteria with the following exceptions:

ICP Metals (6010C) Water Analysis

Continuing Calibration Verification (CCV) standards were analyzed at two levels (CCV1 & CCV2) with potentially differing wavelengths. Data associated with CCV's were evaluated based on the concentration of the element in the samples and compared to the appropriate CCV level/wavelength.

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Analytical Run # 173504

Magnesium was detected in the Method Blank (MB) greater than the absolute value of the Method Detection Limit (|MDL|) but less than ½ the Reporting Limit (RL). The sample was reported and not qualified because the MB magnesium result was less than 1/10th of the sample magnesium result.

The Matrix Spike (MS) and Matrix Spike Duplicate (MSD) for sample # 450344 had recoveries outside of acceptable limits for aluminum, copper, and iron. A Serial Dilution (L) was analyzed and was not applicable for copper because the parent sample raw result was less than 50 times the Limit of Quantitation (LOQ). The L was not acceptable for aluminum and iron because the results exceeded the Relative Percent Difference (RPD) limit. A Post Digestion Spike (PDS) was analyzed and was unacceptable for copper. The parent sample was reported and qualified with an "M" flag for the failing element.

The Duplicate (DUP) for sample # 450344 was not applicable for antimony, arsenic, beryllium, cadmium, chromium, cobalt, copper, lead, nickel, selenium, silver, thallium, vanadium, and zinc because the parent sample results were less than five times the LOQ. A MSD was analyzed to demonstrate precision and was acceptable. The parent sample was reported and not qualified.

ICP Sodium & Potassium (6010C) Water Analysis

Analytical Run # 173505

All analytical results for this run met the method/project specified quality control criteria.

CVAA Mercury (7470A) Water Analysis

Analytical Run # 173576

The sample QC was performed on a sample from SDG # 154987.

All analytical results for this run met the method/project specified quality control criteria.

Inorganic Analysis:

The samples were analyzed using US EPA Methods 9060A (TOC), 9040C (pH), 410.4 (COD) and 9056A (Anions). All samples were analyzed within the holding time unless noted below. The following summaries of quality control procedures are included:

Duplicate Analysis Data
Laboratory Control Spike Data
Method Blank Data
Initial Calibration Summary
Calibration Check Summary
Analysis Run Log
Prep Log

Some samples may have been analyzed and/or reanalyzed diluted to obtain results for all target analytes within the calibration range of the instrument.

Anions (9056A) Water Analysis

Analytical Run # 173314

The MS and the MSD for sample # 447995 had a low recovery for sulfate. The parent sample result for this analyte was qualified with an "M" flag.

Analytical Run # 173401

All analytical results for this run met the method/project specified quality control criteria.

Analytical Run # 173456

The MS and the MSD for sample # 450340 had a high recovery for nitrate. The parent sample result for this analyte was qualified with an "M" flag.

COD (410.4) Water Analysis

Analytical Run # 173688

The MS/MSD analysis for this run was performed on a sample from a different SDG (SDG # 154987).

pH (9040C) Water Analysis

Analytical Run # 173461

All analytical results for this run met the method/project specified quality control criteria.

TOC (9060A) Water Analysis

Analytical Run # 173667

The DUP for sample # 447995 exceeded RPD limits. The DUP result was less than the Limit of Detection (LOD) so analytical precision could not be calculated. The DUP was considered invalid and the parent sample result was not qualified for the precision failure.

Analytical Run # 173668

All analytical results for this run met the method/project specified quality control criteria.

The MS/MSD analysis for this run was performed on a sample from a different SDG (SDG # 154987).

CT LABORATORIES

delivering more than data from your environmental analyses

Data Qualifiers

Code	Description
A	Analyte averaged calibration criteria within acceptable limits.
B	Analyte detected in associated Method Blank.
C	Toxicity present in BOD sample.
D	Diluted Out.
E	Safe, No Total Coliform detected.
F	Unsafe, Total Coliform detected, no E. Coli detected.
G	Unsafe, Total Coliform detected and E. Coli detected.
H	Holding time exceeded.
J	Estimated value.
L	Significant peaks were detected outside the chromatographic window.
M	Matrix spike and/or Matrix Spike Duplicate recovery outside acceptance limits.
N	Insufficient BOD oxygen depletion.
O	Complete BOD oxygen depletion.
P	Concentration of analyte differs more than 40% between primary and confirmation analysis.
Q	Laboratory Control Sample outside acceptance limits.
R	See Narrative at end of report.
S	Surrogate standard recovery outside acceptance limits due to apparent matrix effects.
T	Sample received with improper preservation or temperature.
U	Analyte concentration was not above the detection level.
V	Raised Quantitation or Reporting Limit due to limited sample amount or dilution for matrix background interference.
W	Sample amount received was below program minimum.
X	Analyte exceeded calibration range.
Y	Replicate/Duplicate precision outside acceptance limits.
Z	Calibration criteria exceeded.

CT LABORATORIES

delivering more than data from your environmental analyses

MANUAL INTEGRATION REASON CODES

CTLaboratories has identified four general cases with valid reasons supporting the use of manual integration techniques. These codes are used on chromatograms in this data package to document the reasons for manual integrations per CTLaboratories' SOP SS-10 current revision.

#1: **Data system failed to select the correct peak or missed the peak entirely.**
In some cases the chromatography system selects and integrates the "wrong peak". In this case the analyst must correct the selection and force the system to integrate the proper peak. In other instances the system may miss the peak completely. In this case the analyst manually integrated the peak

#2: **Data System Splits the Peak Incorrectly or Integrates a False Peak as a Rider Peak.**
This phenomenon is common at low concentrations where the signal to noise ratio is low. A single compound (peak) is incorrectly split into multiple peaks or integrated as a main peak with one or more rider peaks resulting in low or high area counts for the target compound.

#3: Improperly Integrated Isomers and/or coeluting compounds.
For when the system fails to distinguish coeluting compounds and or isomers. The integration areas and concentrations may be inaccurate, and they must be corrected by manual integration. Prime examples are compounds that are unresolved and integrated improperly when present at low concentrations in standards or samples.

#4: System Established Incorrect Baseline.
There are numerous situations in chromatography where the system establishes the baseline incorrectly. Some baseline errors will be obvious to the analyst and may be corrected via manual procedures.

#5: Miscellaneous.
Some situations involving integration errors may require in-depth review and technical judgment. These cases should be brought to the attention of the group supervisor. If the form of manual integration is not clearly covered by these four cases, then review and approval by the group supervisor or the *QA/QC* Supervisor will be required.

CT LABORATORIES
delivering more than data from your environmental analyses

1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

Sample Delivery Group

154947

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name: RADFORD AAP SWMU-49
Project #:

	CT Sample #	Folder #	Client Sample #	Sample Description	Matrix	Date Sampled	Date Received
1	447991	154947		13MW4	GROUND WATER	07/20/2020	07/21/2020
2	447992	154947		13MW3	GROUND WATER	07/20/2020	07/21/2020
3	447993	154947		13TW3	GROUND WATER	07/20/2020	07/21/2020
4	447994	154947		49MW04	GROUND WATER	07/20/2020	07/21/2020
5	447995	154947		13MW2	GROUND WATER	07/20/2020	07/21/2020
6	447996	154947		TB-1	TRIP BLANK	07/20/2020	07/21/2020
7	449329	155037		50MW02	GROUND WATER	07/22/2020	07/23/2020
8	449330	155037		48MW2	GROUND WATER	07/22/2020	07/23/2020
9	449331	155037		48MW3	GROUND WATER	07/22/2020	07/23/2020
10	449332	155037		48TW3	GROUND WATER	07/22/2020	07/23/2020
11	449333	155037		49MW2	GROUND WATER	07/22/2020	07/23/2020
12	449334	155037		49EB2	GROUND WATER	07/22/2020	07/23/2020
13	449335	155037		TB-49	TRIP BLANK	07/22/2000	07/23/2020
14	450340	155089		48MW06	GROUND WATER	07/23/2020	07/24/2020
15	450341	155089		48MW01	GROUND WATER	07/23/2020	07/24/2020
16	450342	155089		49MW01	GROUND WATER	07/23/2020	07/24/2020
17	450343	155089		TB-48	TRIP BLANK	07/23/2020	07/24/2020
18	450344	155089		IDW-48/49	GROUND WATER	07/23/2020	07/24/2020

CT LABORATORIES
delivering more than data from your environmental analyses
1230 Lange Court • Baraboo, WI 53913 • 608-356-2760
www.ctlaboratories.com

QC Batch Cross Reference Summary

WESTON SOLUTIONS, INC.
ANTHONY PACE
2 EATON STREET
SUITE 603
HAMPTON, VA 23669

Project Name:	RADFORD AAP SWMU-49
Project #:	
Report Date:	08/14/2020
Date Received:	07/24/2020
SDG #:	154947

Inorganic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
450344	pH	EPA 9040C	GROUND WATER		173461

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
450344	COD QSM	EPA 410.4	GROUND WATER	77490	173688

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
447991	Anions QSM 5.0	EPA 9056A	GROUND WATER		173314
447992	Anions QSM 5.0	EPA 9056A	GROUND WATER		173314
447993	Anions QSM 5.0	EPA 9056A	GROUND WATER		173314
447994	Anions QSM 5.0	EPA 9056A	GROUND WATER		173314
447995	Anions QSM 5.0	EPA 9056A	GROUND WATER		173314
449329	Anions QSM 5.0	EPA 9056A	GROUND WATER		173401
449330	Anions QSM 5.0	EPA 9056A	GROUND WATER		173401
449331	Anions QSM 5.0	EPA 9056A	GROUND WATER		173401
449332	Anions QSM 5.0	EPA 9056A	GROUND WATER		173401
449333	Anions QSM 5.0	EPA 9056A	GROUND WATER		173401
449334	Anions QSM 5.0	EPA 9056A	GROUND WATER		173401
450340	Anions QSM 5.0	EPA 9056A	GROUND WATER		173456
450341	Anions QSM 5.0	EPA 9056A	GROUND WATER		173456
450342	Anions QSM 5.0	EPA 9056A	GROUND WATER		173456
447992	Anions QSM 5.0	EPA 9056A	GROUND WATER		173314
447993	Anions QSM 5.0	EPA 9056A	GROUND WATER		173314
450340	Anions QSM 5.0	EPA 9056A	GROUND WATER		173456

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
447991	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173667
447992	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173667
447993	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173667
447994	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173667

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU-49
Project #:
SDG #: 154947

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
447995	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173667
449329	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
449330	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
449331	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
449332	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
449333	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
449334	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
450340	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
450341	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668
450342	Organic Carbon, Total QSM 5.0	EPA 9060A	GROUND WATER		173668

Metal Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
450344	Potassium, Total QSM 5.0	EPA 6010C	GROUND WATER	77404	173505

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
450344	Sodium, Total QSM 5.0	EPA 6010C	GROUND WATER	77404	173505

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
450344	ICP Metals, Total QSM 5.0	EPA 6010C	GROUND WATER	77404	173504

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
450344	Mercury, Total QSM	EPA 7470A	GROUND WATER	77414	173576

Organic Parameters

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
447991	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
447992	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
447993	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
447994	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
447995	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
447996	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		173473
449329	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
449330	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
449331	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
449332	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
449333	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473

CT LABORATORIES
delivering more than data from your environmental analyses

Project Name: RADFORD AAP SWMU-49
Project #:
SDG #: 154947

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
449334	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
449335	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		173473
450340	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
450341	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
450342	VOC's by 8260 QSM 5x	EPA 8260C	GROUND WATER		173473
450343	VOC's by 8260 QSM 5x	EPA 8260C	TRIP BLANK		173473

CTI LAB#:	Parameter	Method	Matrix	Prep Batch #	Analytical Run #
447991	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77419	173491
447992	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77419	173491
447993	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77419	173491
447994	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77419	173491
447995	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77419	173491
449329	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
449330	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
449331	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
449332	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
449333	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
449334	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
450340	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
450341	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623
450342	Dissolved Gases QSM 5.0	Mod RSK 175	GROUND WATER	77461	173623

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL SUMMARY
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:22	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U T	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U T	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U T	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.96	J	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447995
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:09	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	5.4		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.61	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447992
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.2		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:05	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447991
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.98	J	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:15	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	5.2		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.57	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447993
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 16:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.1		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2020 / 10:25	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.33	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.85	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.93	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.29	J	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450341
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2020 / 09:52	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.70		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.79	J	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	4.4		0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.7	J	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	8.4		0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.82	J	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450340
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	5.6		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:40	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	24		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	3.3		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449330
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	2.8		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:46	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.88	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	65		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	15		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449331
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.88	J	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	67		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	14		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449332
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 19:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	15		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 15:21	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449334
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 16:00	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/30/2020 / 10:31	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:		Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	2.8		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.42	J	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	1.6	J	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450342
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 21:53	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Date & Time Analyzed:	07/27/2020 / 11:19	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.60	U	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	1.1		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447994
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 17:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:54	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.77		0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

49MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449333
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 20:23	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Date & Time Analyzed:	07/29/2020 / 15:37	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
74-84-0	Ethane	0.70	U	0.40	0.70	0.80	0.80
74-85-1	Ethene	1.0	U	0.50	1.0	1.1	1.1
74-82-8	Methane	0.30	J	0.30	0.60	0.70	0.70

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.41	J	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	1.8		0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.46	J	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	GROUND WATER	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449329
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 18:24	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	1.8		0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447996
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 13:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	1.3		0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447996
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 13:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	5.2		0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.0	U	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-1

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	447996
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 13:50	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-48

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450343
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-48

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450343
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	1.2	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-48

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	450343
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:51	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449335
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
71-55-6	1,1,1-Trichloroethane	0.60	U	0.29	0.60	1.0	1.0
79-34-5	1,1,2,2-Tetrachloroethane	0.60	U	0.30	0.60	1.0	1.0
79-00-5	1,1,2-Trichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-34-3	1,1-Dichloroethane	0.60	U	0.30	0.60	1.0	1.0
75-35-4	1,1-Dichloroethene	1.0	U	0.40	1.0	2.0	2.0
87-61-6	1,2,3-Trichlorobenzene	0.60	U	0.23	0.60	1.0	1.0
120-82-1	1,2,4-Trichlorobenzene	0.60	U	0.28	0.60	1.0	1.0
96-12-8	1,2-Dibromo-3-chloropropane	0.60	U Z	0.25	0.60	1.0	1.0
106-93-4	1,2-Dibromoethane	0.60	U	0.30	0.60	1.0	1.0
95-50-1	1,2-Dichlorobenzene	0.60	U	0.30	0.60	1.0	1.0
107-06-2	1,2-Dichloroethane	0.60	U	0.24	0.60	1.0	1.0
78-87-5	1,2-Dichloropropane	0.60	U	0.18	0.60	1.0	1.0
541-73-1	1,3-Dichlorobenzene	0.60	U	0.26	0.60	1.0	1.0
123-91-1	1,4-Dioxane	50	U Z,Q	34	50	100	100
78-93-3	2-Butanone	6.0	U	2.6	6.0	10	10
591-78-6	2-Hexanone	6.0	U	3.0	6.0	10	10
108-10-1	4-Methyl-2-pentanone	6.0	U	2.2	6.0	10	10
67-64-1	Acetone	10	U	4.0	10	20	20
71-43-2	Benzene	1.0	U	0.40	1.0	2.0	2.0
74-97-5	Bromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-27-4	Bromodichloromethane	0.60	U	0.29	0.60	1.0	1.0
75-25-2	Bromoform	1.0	U	0.40	1.0	2.0	2.0
74-83-9	Bromomethane	2.0	U Z	0.90	2.0	4.0	4.0
75-15-0	Carbon disulfide	2.0	U	0.60	2.0	4.0	4.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449335
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
56-23-5	Carbon tetrachloride	0.60	U	0.30	0.60	1.0	1.0
108-90-7	Chlorobenzene	0.60	U	0.30	0.60	1.0	1.0
75-00-3	Chloroethane	1.0	U	0.50	1.0	2.0	2.0
67-66-3	Chloroform	0.60	U	0.30	0.60	1.0	1.0
74-87-3	Chloromethane	1.0	U	0.60	1.0	2.0	2.0
156-59-2	cis-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-01-5	cis-1,3-Dichloropropene	0.30	U	0.16	0.30	0.60	0.60
110-82-7	Cyclohexane	0.60	U	0.30	0.60	1.0	1.0
124-48-1	Dibromochloromethane	0.60	U	0.30	0.60	1.0	1.0
75-71-8	Dichlorodifluoromethane	1.0	U	0.40	1.0	2.0	2.0
100-41-4	Ethylbenzene	0.60	U	0.30	0.60	1.0	1.0
76-13-1	Freon 113	2.0	U	0.70	2.0	4.0	4.0
98-82-8	Isopropylbenzene	0.60	U	0.30	0.60	1.0	1.0
179601-23-1	m & p-Xylene	1.2	U	0.70	1.2	2.0	2.0
79-20-9	Methyl Acetate	1.0	U	0.50	1.0	2.0	2.0
1634-04-4	Methyl tert-butyl ether	0.60	U	0.30	0.60	1.0	1.0
108-87-2	Methylcyclohexane	0.60	U	0.26	0.60	1.0	1.0
75-09-2	Methylene chloride	0.64	J	0.40	1.0	2.0	2.0
95-47-6	o-Xylene	0.60	U	0.26	0.60	1.0	1.0
100-42-5	Styrene	0.60	U	0.29	0.60	1.0	1.0
127-18-4	Tetrachloroethene	0.60	U	0.27	0.60	1.0	1.0
108-88-3	Toluene	0.60	U	0.21	0.60	1.0	1.0
156-60-5	trans-1,2-Dichloroethene	0.60	U	0.30	0.60	1.0	1.0
10061-02-6	trans-1,3-Dichloropropene	0.60	U	0.23	0.60	1.0	1.0

CT LABORATORIES
delivering more than data from your environmental analyses

1A

VOLATILE ORGANICS ANALYSIS

Sample Description

TB-49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	TRIP BLANK	SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	449335
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	
Analytical Run #:	173473	Dilution Factor:	1.00
Date & Time Analyzed:	07/28/2020 / 14:20	GPC Cleanup Date/Time:	/
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
79-01-6	Trichloroethene	0.60	U	0.30	0.60	1.0	1.0
75-69-4	Trichlorofluoromethane	1.0	U	0.40	1.0	2.0	2.0
75-01-4	Vinyl chloride	0.30	U	0.14	0.30	0.60	0.60

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	154947
Sample wt/vol:	21.9 (g/mL)	CTL Sample ID:	451027
% Solids:		Date Received:	07/21/2020
Soil Extract Vol:	21.9 (mL)	Date/Time Prepared:	07/27/2020 / 09:45
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77419
Analytical Run #:	173491	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	07/27/2020	10:21	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	07/27/2020	10:21	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	07/27/2020	10:21	0.3	U	0.3	0.7	***0.4***

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Description

METHOD BLANK

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	452617
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	173473	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
71-55-6	1,1,1-Trichloroethane	07/28/2020	13:20	0.29	U	0.29	1.00	***0.50***
79-34-5	1,1,2,2-Tetrachloroethane	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
79-00-5	1,1,2-Trichloroethane	07/28/2020	13:20	0.30	U	0.30	1.00	***0.50***
75-34-3	1,1-Dichloroethane	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
75-35-4	1,1-Dichloroethene	07/28/2020	13:20	0.4	U	0.4	2.0	***1.0***
87-61-6	1,2,3-Trichlorobenzene	07/28/2020	13:20	0.23	U	0.23	1.00	***0.50***
120-82-1	1,2,4-Trichlorobenzene	07/28/2020	13:20	0.28	U	0.28	1.00	***0.50***
96-12-8	1,2-Dibromo-3-chloropropane	07/28/2020	13:20	0.25	U	0.25	1.00	***0.50***
106-93-4	1,2-Dibromoethane	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
95-50-1	1,2-Dichlorobenzene	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
107-06-2	1,2-Dichloroethane	07/28/2020	13:20	0.24	U	0.24	1.00	***0.50***
78-87-5	1,2-Dichloropropane	07/28/2020	13:20	0.18	U	0.18	1.00	***0.50***
541-73-1	1,3-Dichlorobenzene	07/28/2020	13:20	0.26	U	0.26	1.00	***0.50***
123-91-1	1,4-Dioxane	07/28/2020	13:20	34	U	34	100	***50***
78-93-3	2-Butanone	07/28/2020	13:20	2.6	U	2.6	10.0	***5.0***
591-78-6	2-Hexanone	07/28/2020	13:20	3	U	3	10	***5***
108-10-1	4-Methyl-2-pentanone	07/28/2020	13:20	2.2	U	2.2	10.0	***5.0***
67-64-1	Acetone	07/28/2020	13:20	4	U	4	20	***10***
71-43-2	Benzene	07/28/2020	13:20	0.4	U	0.4	2.0	***1.0***
74-97-5	Bromochloromethane	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
75-27-4	Bromodichloromethane	07/28/2020	13:20	0.29	U	0.29	1.00	***0.50***
75-25-2	Bromoform	07/28/2020	13:20	0.4	U	0.4	2.0	***1.0***
74-83-9	Bromomethane	07/28/2020	13:20	0.9	U	0.9	4.0	***2.0***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	452617
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	173473	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
75-15-0	Carbon disulfide	07/28/2020	13:20	0.6	U	0.6	4.0	***2.0***
56-23-5	Carbon tetrachloride	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
108-90-7	Chlorobenzene	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
75-00-3	Chloroethane	07/28/2020	13:20	0.5	U	0.5	2.0	***1.0***
67-66-3	Chloroform	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
74-87-3	Chloromethane	07/28/2020	13:20	0.6	U	0.6	2.0	***1.0***
156-59-2	cis-1,2-Dichloroethene	07/28/2020	13:20	0.3	U	0.3	1.00	***0.5***
10061-01-5	cis-1,3-Dichloropropene	07/28/2020	13:20	0.16	U	0.16	0.60	***0.30***
110-82-7	Cyclohexane	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
124-48-1	Dibromochloromethane	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
75-71-8	Dichlorodifluoromethane	07/28/2020	13:20	0.4	U	0.4	2.0	***1.0***
100-41-4	Ethylbenzene	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
76-13-1	Freon 113	07/28/2020	13:20	0.7	U	0.7	4.0	***2.0***
98-82-8	Isopropylbenzene	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
179601-23-1	m & p-Xylene	07/28/2020	13:20	0.7	U	0.7	2.0	***1.0***
79-20-9	Methyl Acetate	07/28/2020	13:20	0.5	U	0.5	2.0	***1.0***
1634-04-4	Methyl tert-butyl ether	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
108-87-2	Methylcyclohexane	07/28/2020	13:20	0.26	U	0.26	1.00	***0.50***
75-09-2	Methylene chloride	07/28/2020	13:20	0.4	U	0.4	2.0	***1.0***
95-47-6	o-Xylene	07/28/2020	13:20	0.26	U	0.26	1.00	***0.50***
100-42-5	Styrene	07/28/2020	13:20	0.29	U	0.29	1.00	***0.50***
127-18-4	Tetrachloroethene	07/28/2020	13:20	0.27	U	0.27	1.00	***0.50***
108-88-3	Toluene	07/28/2020	13:20	0.21	U	0.21	1.00	***0.50***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	154947
Sample wt/vol:	(g/mL)	CTL Sample ID:	452617
% Solids:		Date Received:	07/24/2020
Soil Extract Vol:	(mL)	Date/Time Prepared:	/
Analytical Method:	EPA 8260C	Analytical Prep Batch #	0
Analytical Run #:	173473	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	W072320.	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
156-60-5	trans-1,2-Dichloroethene	07/28/2020	13:20	0.3	U	0.3	1.0	***0.50***
10061-02-6	trans-1,3-Dichloropropene	07/28/2020	13:20	0.23	U	0.23	1.00	***0.50***
79-01-6	Trichloroethene	07/28/2020	13:20	0.3	U	0.3	1.0	***0.5***
75-69-4	Trichlorofluoromethane	07/28/2020	13:20	0.4	U	0.4	2.0	***1.0***
75-01-4	Vinyl chloride	07/28/2020	13:20	0.14	U	0.14	0.60	***0.30***

CT LABORATORIES
delivering more than data from your environmental analyses

1A-2

VOLATILE ORGANICS ANALYSIS (MB or CCB)

Sample Description

METHOD BLANK

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:		SDG No.:	154947
Sample wt/vol:	23.2 (g/mL)	CTL Sample ID:	453670
% Solids:		Date Received:	07/23/2020
Soil Extract Vol:	23.2 (mL)	Date/Time Prepared:	07/29/2020 / 13:50
Analytical Method:	Mod RSK 175	Analytical Prep Batch #	77461
Analytical Run #:	173623	Dilution Factor:	1.00
Cleanup Date/Time/Type:	. . ,		
TCLP / SPLP / MLP or ASTM Procedure Extraction Date (*if applicable*):			/
ICAL Calibration #:	P4DG121319	Concentration Units:	ug/L

CAS NO.	Analyte	Analysis Date/Time		Concentration	Qualifiers	DL/LOD	RL	*Control Limit*
74-84-0	Ethane	07/29/2020	14:38	0.4	U	0.4	0.8	***0.4***
74-85-1	Ethene	07/29/2020	14:38	0.5	U	0.5	1.1	***0.6***
74-82-8	Methane	07/29/2020	14:38	0.3	U	0.3	0.7	***0.4***

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Analytical Method: EPA 8260C | SDG: 154947

Analytical Run #: 173473 | ICAL Calibration #: W072320.

CTLab #	447991				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	
CTLab #	**447992**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**447993**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**447994**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	
CTLab #	**447995**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	
CTLab #	**447996**				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	100	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	101	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	154947
Analytical Run #:	173473	ICAL Calibration #:	W072320.

CTLab #	449329				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	99	80	119	

CTLab #	449330				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	101	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	449331				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	105	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	102	80	119	

CTLab #	449332				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	449333				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	104	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	449334				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	100	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	154947
Analytical Run #:	173473	ICAL Calibration #:	W072320.

CTLab #	449335				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	101	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	450340				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	102	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	103	80	119	

CTLab #	450341				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	106	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	103	80	119	

CTLab #	450342				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	450343				
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	99	85	114	
d8-Toluene	100	100	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	452290	Sample Type:	Lab Control Spike		
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	101	89	112	
Dibromofluoromethane	100	99.0	80	119	

CT LABORATORIES
delivering more than data from your environmental analyses

2A

WATER VOLATILE SYSTEM MONITORING COMPOUND RECOVERY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Analytical Method:	EPA 8260C	SDG:	154947
Analytical Run #:	173473	ICAL Calibration #:	W072320.

CTLab #	452291	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	70	120	
Bromofluorobenzene	100	99.0	70	120	
d8-Toluene	100	101	85	120	
Dibromofluoromethane	100	99.0	85	115	

CTLab #	452617	Sample Type:		Method Blank	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	70	120	
Bromofluorobenzene	100	101	75	120	
d8-Toluene	100	100	85	120	
Dibromofluoromethane	100	101	85	115	

CTLab #	453177	Sample Type:		Matrix Spike	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	103	81	118	
Bromofluorobenzene	100	99.0	85	114	
d8-Toluene	100	102	89	112	
Dibromofluoromethane	100	100	80	119	

CTLab #	453178	Sample Type:		Matrix Spike Duplicate	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	102	81	118	
Bromofluorobenzene	100	100	85	114	
d8-Toluene	100	99.0	89	112	
Dibromofluoromethane	100	101	80	119	

CTLab #	453179	Sample Type:		Continuing Calibration Verification	
Surrogate	**Spike Amount**	**% Recovery**	**Lower Limit**	**Upper Limit**	**Qualifier**
1,2 Dichloroethane-d4	100	99.0	50	150	
Bromofluorobenzene	100	98.0	50	150	
d8-Toluene	100	101	50	150	
Dibromofluoromethane	100	100	50	150	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: GROUND WATER
SDG No.: 154947
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 173473
Sample No.: 453177
Parent Sample No.: 447995
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W072320.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
1,1,1-Trichloroethane	07/28/2020	22:23	74-131	10.4	BDL	10.0	104
1,1,2,2-Tetrachloroethane	07/28/2020	22:23	71-121	8.96	BDL	10.0	90
1,1,2-Trichloroethane	07/28/2020	22:23	80-119	10.0	BDL	10.0	100
1,1-Dichloroethane	07/28/2020	22:23	77-125	10.3	BDL	10.0	103
1,1-Dichloroethene	07/28/2020	22:23	71-131	11.1	BDL	10.0	111
1,2,3-Trichlorobenzene	07/28/2020	22:23	69-129	9.19	BDL	10.0	92
1,2,4-Trichlorobenzene	07/28/2020	22:23	69-130	9.31	BDL	10.0	93
1,2-Dibromo-3-chloropropane	07/28/2020	22:23	62-128	7.13	BDL	10.0	71
1,2-Dibromoethane	07/28/2020	22:23	77-121	9.01	BDL	10.0	90
1,2-Dichlorobenzene	07/28/2020	22:23	80-119	9.43	BDL	10.0	94
1,2-Dichloroethane	07/28/2020	22:23	73-128	9.83	BDL	10.0	98
1,2-Dichloropropane	07/28/2020	22:23	78-122	9.78	BDL	10.0	98
1,3-Dichlorobenzene	07/28/2020	22:23	80-119	9.73	BDL	10.0	97
1,4-Dioxane	07/28/2020	22:23	59-139	538	77	500	92
2-Butanone	07/28/2020	22:23	56-143	94.0	BDL	100	94
2-Hexanone	07/28/2020	22:23	57-139	95.2	BDL	100	95
4-Methyl-2-pentanone	07/28/2020	22:23	67-130	101	BDL	100	101
Acetone	07/28/2020	22:23	39-160	87.8	BDL	100	88
Benzene	07/28/2020	22:23	79-120	9.94	BDL	10.0	99
Bromochloromethane	07/28/2020	22:23	78-123	9.53	BDL	10.0	95
Bromodichloromethane	07/28/2020	22:23	79-125	9.38	BDL	10.0	94
Bromoform	07/28/2020	22:23	66-130	7.65	BDL	10.0	76
Bromomethane	07/28/2020	22:23	53-141	13.1	BDL	10.0	131
Carbon disulfide	07/28/2020	22:23	64-133	21.9	BDL	20.0	110
Carbon tetrachloride	07/28/2020	22:23	72-136	9.32	0.96	10.0	84
Chlorobenzene	07/28/2020	22:23	82-118	9.31	BDL	10.0	93
Chloroethane	07/28/2020	22:23	60-138	10.8	BDL	10.0	108
Chloroform	07/28/2020	22:23	79-124	10.2	BDL	10.0	102
Chloromethane	07/28/2020	22:23	50-139	11.4	BDL	10.0	114
cis-1,2-Dichloroethene	07/28/2020	22:23	78-123	9.80	BDL	10.0	98
cis-1,3-Dichloropropene	07/28/2020	22:23	75-124	9.20	BDL	10.0	92

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: GROUND WATER
SDG No.: 154947
Analytical Method: EPA 8260C
Concentration Units: ug/L
Analytical Run #: 173473
Sample No.: 453177
Parent Sample No.: 447995
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
ICAL Calibration #: W072320.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Cyclohexane	07/28/2020	22:23	71-130	10.6	BDL	10.0	106
Dibromochloromethane	07/28/2020	22:23	74-126	8.42	BDL	10.0	84
Dichlorodifluoromethane	07/28/2020	22:23	32-152	12.0	BDL	10.0	120
Ethylbenzene	07/28/2020	22:23	79-121	9.85	BDL	10.0	98
Freon 113	07/28/2020	22:23	70-136	21.4	BDL	20.0	107
Isopropylbenzene	07/28/2020	22:23	72-131	10.6	BDL	10.0	106
m & p-Xylene	07/28/2020	22:23	80-121	20.6	BDL	20.0	103
Methyl Acetate	07/28/2020	22:23	56-136	7.97	BDL	10.0	80
Methyl tert-butyl ether	07/28/2020	22:23	71-124	9.59	BDL	10.0	96
Methylcyclohexane	07/28/2020	22:23	72-132	10.4	BDL	10.0	104
Methylene chloride	07/28/2020	22:23	74-124	9.73	BDL	10.0	97
o-Xylene	07/28/2020	22:23	78-122	9.59	BDL	10.0	96
Styrene	07/28/2020	22:23	78-123	9.89	BDL	10.0	99
Tetrachloroethene	07/28/2020	22:23	74-129	11.2	BDL	10.0	112
Toluene	07/28/2020	22:23	80-121	10.6	BDL	10.0	106
trans-1,2-Dichloroethene	07/28/2020	22:23	75-124	10.4	BDL	10.0	104
trans-1,3-Dichloropropene	07/28/2020	22:23	73-127	8.61	BDL	10.0	86
Trichloroethene	07/28/2020	22:23	79-123	10.4	BDL	10.0	104
Trichlorofluoromethane	07/28/2020	22:23	65-141	12.2	BDL	10.0	122
Vinyl chloride	07/28/2020	22:23	58-137	12.1	BDL	10.0	121

Spike Recovery: 0 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

WATER VOLATILE MATRIX SPIKE RECOVERY

Sample Description

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 154947

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 173491 Sample No.: 451025 Parent Sample No.: 447995

Analytical Prep Batch #: 77419 Analytical Preparation Date/Time: 07/27/2020 09:45

ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/27/2020	11:28	74-131	4.28	BDL	4.79	89
Ethene	07/27/2020	11:28	72-133	6.10	BDL	6.81	90
Methane	07/27/2020	11:28	73-125	1.92	BDL	2.30	83

Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

13MW2

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 154947

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 173473 Sample No.: 453178 Parent Sample No.: 453177

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W072320.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
1,1,1-Trichloroethane	07/28/2020	22:53	11.0	10.0	110	5	74-131	20
1,1,2,2-Tetrachloroethane	07/28/2020	22:53	9.23	10.0	92	3	71-121	20
1,1,2-Trichloroethane	07/28/2020	22:53	9.79	10.0	98	2	80-119	20
1,1-Dichloroethane	07/28/2020	22:53	10.5	10.0	105	2	77-125	20
1,1-Dichloroethene	07/28/2020	22:53	11.3	10.0	113	1	71-131	20
1,2,3-Trichlorobenzene	07/28/2020	22:53	9.80	10.0	98	6	69-129	20
1,2,4-Trichlorobenzene	07/28/2020	22:53	9.91	10.0	99	6	69-130	20
1,2-Dibromo-3-chloropropane	07/28/2020	22:53	8.53	10.0	85	18	62-128	20
1,2-Dibromoethane	07/28/2020	22:53	9.60	10.0	96	6	77-121	20
1,2-Dichlorobenzene	07/28/2020	22:53	9.68	10.0	97	3	80-119	20
1,2-Dichloroethane	07/28/2020	22:53	9.94	10.0	99	1	73-128	20
1,2-Dichloropropane	07/28/2020	22:53	10.0	10.0	100	2	78-122	20
1,3-Dichlorobenzene	07/28/2020	22:53	9.78	10.0	98	0	80-119	20
1,4-Dioxane	07/28/2020	22:53	512	500	87	5	59-139	20
2-Butanone	07/28/2020	22:53	94.5	100	94	1	56-143	20
2-Hexanone	07/28/2020	22:53	97.3	100	97	2	57-139	20
4-Methyl-2-pentanone	07/28/2020	22:53	99.2	100	99	2	67-130	20
Acetone	07/28/2020	22:53	82.2	100	82	7	39-160	20
Benzene	07/28/2020	22:53	10.2	10.0	102	3	79-120	20
Bromochloromethane	07/28/2020	22:53	9.65	10.0	96	1	78-123	20
Bromodichloromethane	07/28/2020	22:53	9.94	10.0	99	6	79-125	20
Bromoform	07/28/2020	22:53	8.22	10.0	82	7	66-130	20
Bromomethane	07/28/2020	22:53	12.4	10.0	124	6	53-141	20
Carbon disulfide	07/28/2020	22:53	22.1	20.0	110	1	64-133	20
Carbon tetrachloride	07/28/2020	22:53	9.68	10.0	87	4	72-136	20
Chlorobenzene	07/28/2020	22:53	9.76	10.0	98	5	82-118	20
Chloroethane	07/28/2020	22:53	11.4	10.0	114	5	60-138	20
Chloroform	07/28/2020	22:53	10.3	10.0	103	1	79-124	20
Chloromethane	07/28/2020	22:53	11.5	10.0	115	0	50-139	20
cis-1,2-Dichloroethene	07/28/2020	22:53	9.91	10.0	99	1	78-123	20
cis-1,3-Dichloropropene	07/28/2020	22:53	9.45	10.0	94	3	75-124	20

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 154947

Analytical Method: EPA 8260C Concentration Units: ug/L

Analytical Run #: 173473 Sample No.: 453178 Parent Sample No.: 453177

Analytical Prep Batch #: 0 Analytical Preparation Date/Time:

ICAL Calibration #: W072320.

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Cyclohexane	07/28/2020	22:53	10.9	10.0	109	2	71-130	20
Dibromochloromethane	07/28/2020	22:53	8.93	10.0	89	6	74-126	20
Dichlorodifluoromethane	07/28/2020	22:53	11.7	10.0	117	3	32-152	20
Ethylbenzene	07/28/2020	22:53	9.96	10.0	100	1	79-121	20
Freon 113	07/28/2020	22:53	20.9	20.0	104	3	70-136	20
Isopropylbenzene	07/28/2020	22:53	10.8	10.0	108	2	72-131	20
m & p-Xylene	07/28/2020	22:53	21.1	20.0	106	3	80-121	20
Methyl Acetate	07/28/2020	22:53	8.75	10.0	88	9	56-136	20
Methyl tert-butyl ether	07/28/2020	22:53	9.70	10.0	97	1	71-124	20
Methylcyclohexane	07/28/2020	22:53	10.6	10.0	106	2	72-132	20
Methylene chloride	07/28/2020	22:53	9.95	10.0	100	2	74-124	20
o-Xylene	07/28/2020	22:53	9.80	10.0	98	2	78-122	20
Styrene	07/28/2020	22:53	10.1	10.0	101	2	78-123	20
Tetrachloroethene	07/28/2020	22:53	11.1	10.0	111	0	74-129	20
Toluene	07/28/2020	22:53	10.2	10.0	102	4	80-121	20
trans-1,2-Dichloroethene	07/28/2020	22:53	10.8	10.0	108	3	75-124	20
trans-1,3-Dichloropropene	07/28/2020	22:53	9.39	10.0	94	9	73-127	20
Trichloroethene	07/28/2020	22:53	10.6	10.0	106	1	79-123	20
Trichlorofluoromethane	07/28/2020	22:53	12.3	10.0	123	1	65-141	20
Vinyl chloride	07/28/2020	22:53	12.1	10.0	121	0	58-137	20

RPD or Spike Recovery: 0 out of 51 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE MATRIX SPIKE DUPLICATE RECOVERY

13MW2

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: GROUND WATER SDG No.: 154947

Analytical Method: Mod RSK 175 Concentration Units: ug/L

Analytical Run #: 173491 Sample No.: 451026 Parent Sample No.: 451025

Analytical Prep Batch #: 77419 Analytical Preparation Date/Time: 07/27/2020 09:45

ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Spike Result	Spike Amount	%R	%RPD	Control Limits (%R)	Control Limits (%RPD)
Ethane	07/27/2020	11:33	3.88	4.79	81	10	74-131	30
Ethene	07/27/2020	11:33	5.51	6.81	81	10	72-133	30
Methane	07/27/2020	11:33	1.77	2.30	77	8	73-125	30

RPD or Spike Recovery: 0 out of 3 outside QC limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 451028
SDG No.: 154947
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 451028
Parent Sample No.: 0
Analytical Prep Batch #: 77419
Analytical Preparation Date/Time: 07/27/2020 09:45
Analytical Run #: 173491
ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/27/2020	10:17	74-131	4.77		4.79	100
Ethene	07/27/2020	10:17	72-133	6.87		6.81	101
Methane	07/27/2020	10:17	73-125	2.20		2.30	96

Spike Recovery: 0 out of 3 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories | Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Sample No.: 452290 | SDG No.: 154947

Analytical Method: EPA 8260C | Concentration Units: ug/L

Sample No.: 452290 | Parent Sample No.: 0

Analytical Prep Batch #: 0 | Analytical Preparation Date/Time:

Analytical Run #: 173473 | ICAL Calibration #: W072320.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R	
1,1,1-Trichloroethane	07/28/2020	12:21	74-131	9.62		10.0	96	
1,1,2,2-Tetrachloroethane	07/28/2020	12:21	71-121	9.12		10.0	91	
1,1,2-Trichloroethane	07/28/2020	12:21	80-119	9.56		10.0	96	
1,1-Dichloroethane	07/28/2020	12:21	77-125	9.77		10.0	98	
1,1-Dichloroethene	07/28/2020	12:21	71-131	10.3		10.0	103	
1,2,3-Trichlorobenzene	07/28/2020	12:21	69-129	9.01		10.0	90	
1,2,4-Trichlorobenzene	07/28/2020	12:21	69-130	9.34		10.0	93	
1,2-Dibromo-3-chloropropane	07/28/2020	12:21	62-128	7.73		10.0	77	
1,2-Dibromoethane	07/28/2020	12:21	77-121	9.12		10.0	91	
1,2-Dichlorobenzene	07/28/2020	12:21	80-119	9.22		10.0	92	
1,2-Dichloroethane	07/28/2020	12:21	73-128	9.82		10.0	98	
1,2-Dichloropropane	07/28/2020	12:21	78-122	9.61		10.0	96	
1,3-Dichlorobenzene	07/28/2020	12:21	80-119	9.26		10.0	93	
1,4-Dioxane	07/28/2020	12:21	59-139	188		500	38	*FAIL*
2-Butanone	07/28/2020	12:21	56-143	87.0		100	87	
2-Hexanone	07/28/2020	12:21	57-139	89.3		100	89	
4-Methyl-2-pentanone	07/28/2020	12:21	67-130	93.4		100	93	
Acetone	07/28/2020	12:21	39-160	86.8		100	87	
Benzene	07/28/2020	12:21	79-120	9.62		10.0	96	
Bromochloromethane	07/28/2020	12:21	78-123	9.10		10.0	91	
Bromodichloromethane	07/28/2020	12:21	79-125	9.26		10.0	93	
Bromoform	07/28/2020	12:21	66-130	8.68		10.0	87	
Bromomethane	07/28/2020	12:21	53-141	12.6		10.0	126	
Carbon disulfide	07/28/2020	12:21	64-133	20.9		20.0	104	
Carbon tetrachloride	07/28/2020	12:21	72-136	8.50		10.0	85	
Chlorobenzene	07/28/2020	12:21	82-118	9.12		10.0	91	
Chloroethane	07/28/2020	12:21	60-138	10.2		10.0	102	
Chloroform	07/28/2020	12:21	79-124	9.61		10.0	96	

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

WATER VOLATILE LAB CONTROL SAMPLE

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Sample No.: 452290

SDG No.: 154947

Analytical Method: EPA 8260C

Concentration Units: ug/L

Sample No.: 452290

Parent Sample No.: 0

Analytical Prep Batch #: 0

Analytical Preparation Date/Time:

Analytical Run #: 173473

ICAL Calibration #: W072320.

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Chloromethane	07/28/2020	12:21	50-139	10.5		10.0	105
cis-1,2-Dichloroethene	07/28/2020	12:21	78-123	9.21		10.0	92
cis-1,3-Dichloropropene	07/28/2020	12:21	75-124	9.31		10.0	93
Cyclohexane	07/28/2020	12:21	71-130	9.85		10.0	98
Dibromochloromethane	07/28/2020	12:21	74-126	8.66		10.0	87
Dichlorodifluoromethane	07/28/2020	12:21	32-152	11.0		10.0	110
Ethylbenzene	07/28/2020	12:21	79-121	9.55		10.0	96
Freon 113	07/28/2020	12:21	70-136	19.7		20.0	98
Isopropylbenzene	07/28/2020	12:21	72-131	10.0		10.0	100
m & p-Xylene	07/28/2020	12:21	80-121	19.9		20.0	100
Methyl Acetate	07/28/2020	12:21	56-136	8.67		10.0	87
Methyl tert-butyl ether	07/28/2020	12:21	71-124	9.26		10.0	93
Methylcyclohexane	07/28/2020	12:21	72-132	9.86		10.0	99
Methylene chloride	07/28/2020	12:21	74-124	9.30		10.0	93
o-Xylene	07/28/2020	12:21	78-122	9.45		10.0	94
Styrene	07/28/2020	12:21	78-123	9.61		10.0	96
Tetrachloroethene	07/28/2020	12:21	74-129	10.3		10.0	103
Toluene	07/28/2020	12:21	80-121	9.92		10.0	99
trans-1,2-Dichloroethene	07/28/2020	12:21	75-124	9.66		10.0	97
trans-1,3-Dichloropropene	07/28/2020	12:21	73-127	9.03		10.0	90
Trichloroethene	07/28/2020	12:21	79-123	10.3		10.0	103
Trichlorofluoromethane	07/28/2020	12:21	65-141	11.1		10.0	111
Vinyl chloride	07/28/2020	12:21	58-137	10.9		10.0	109

Spike Recovery: 1 out of 51 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

3A

Sample Description

LCS

WATER VOLATILE LAB CONTROL SAMPLE

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample No.: 453671
SDG No.: 154947
Analytical Method: Mod RSK 175
Concentration Units: ug/L

Sample No.: 453671
Parent Sample No.: 0
Analytical Prep Batch #: 77461
Analytical Preparation Date/Time: 07/29/2020 13:50
Analytical Run #: 173623
ICAL Calibration #: P4DG121319

Analyte	Analysis Date/Time		Control Limit (%R)	Spike Result	Parent Result	Spike Amount	%R
Ethane	07/29/2020	14:34	74-131	4.02		4.79	84
Ethene	07/29/2020	14:34	72-133	5.70		6.81	84
Methane	07/29/2020	14:34	73-125	1.91		2.30	83

Spike Recovery: 0 out of 3 outside limits

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	451027	SDG No.:	154947
Matrix:	LIQUID	Date Extracted:	07/27/2020
Date Analyzed:	07/27/2020	Time Analyzed:	10:21
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	173491	Extraction Batch #:	77419
		ICAL Calibration #:	

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	451087	07/27/2020 10:13	P4DG121319
2	LCSW	451028	07/27/2020 10:17	P4DG121319
3	MBW	451027	07/27/2020 10:21	
4	13MW4	447991	07/27/2020 11:05	P4DG121319
5	13MW3	447992	07/27/2020 11:09	P4DG121319
6	13TW3	447993	07/27/2020 11:15	P4DG121319
7	49MW04	447994	07/27/2020 11:19	P4DG121319
8	13MW2	447995	07/27/2020 11:22	P4DG121319
9	13MW2MSW	451025	07/27/2020 11:28	P4DG121319
10	13MW2MSDW	451026	07/27/2020 11:33	P4DG121319
11	CCV	451088	07/27/2020 11:38	P4DG121319

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	452617	SDG No.:	154947
Matrix:	LIQUID	Date Extracted:	
Date Analyzed:	07/28/2020	Time Analyzed:	13:20
Analytical Method:	EPA 8260C	Extraction Method:	NONE
Analytical Run #:	173473	Extraction Batch #:	0
		ICAL Calibration #:	W072320.

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	BFB	454123	07/28/2020 12:07	
2	LCSW	452290	07/28/2020 12:21	W072320.
3	CCV	452291	07/28/2020 12:21	W072320.
4	MBW	452617	07/28/2020 13:20	W072320.
5	TB-1	447996	07/28/2020 13:50	W072320.
6	TB-49	449335	07/28/2020 14:20	W072320.
7	TB-48	450343	07/28/2020 14:51	W072320.
8	49EB2	449334	07/28/2020 15:21	W072320.
9	13MW4	447991	07/28/2020 15:52	W072320.
10	13MW3	447992	07/28/2020 16:23	W072320.
11	13TW3	447993	07/28/2020 16:53	W072320.
12	49MW04	447994	07/28/2020 17:24	W072320.
13	13MW2	447995	07/28/2020 17:54	W072320.
14	50MW02	449329	07/28/2020 18:24	W072320.
15	48MW2	449330	07/28/2020 18:54	W072320.
16	48MW3	449331	07/28/2020 19:24	W072320.
17	48TW3	449332	07/28/2020 19:53	W072320.
18	49MW2	449333	07/28/2020 20:23	W072320.
19	48MW06	450340	07/28/2020 20:53	W072320.
20	48MW01	450341	07/28/2020 21:23	W072320.
21	49MW01	450342	07/28/2020 21:53	W072320.
22	13MW2MSW	453177	07/28/2020 22:23	W072320.
23	13MW2MSDW	453178	07/28/2020 22:53	W072320.
24	CCVF	453179	07/28/2020 23:23	W072320.

CT LABORATORIES
delivering more than data from your environmental analyses

4A

VOLATILE METHOD BLANK SUMMARY

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Sample ID:	453670	SDG No.:	154947
Matrix:	LIQUID	Date Extracted:	07/29/2020
Date Analyzed:	07/29/2020	Time Analyzed:	14:38
Analytical Method:	Mod RSK 175	Extraction Method:	METHOD
Analytical Run #:	173623	Extraction Batch #:	77461
		ICAL Calibration #:	P4DG121319

THIS METHOD BLANK APPLIES TO THE FOLLOWING SAMPLES AND QC:

SEQUENCE	SAMPLE DESCRIPTION	SAMPLE ID	DATE/TIME ANALYZED	CALIBRATION # ID
1	CCV	454044	07/29/2020 14:30	P4DG121319
2	LCSW	453671	07/29/2020 14:34	P4DG121319
3	MBW	453670	07/29/2020 14:38	P4DG121319
4	CCV	454045	07/29/2020 15:29	P4DG121319
5	50MW02	449329	07/29/2020 15:37	P4DG121319
6	48MW2	449330	07/29/2020 15:40	P4DG121319
7	48MW3	449331	07/29/2020 15:46	P4DG121319
8	48TW3	449332	07/29/2020 15:51	P4DG121319
9	49MW2	449333	07/29/2020 15:54	P4DG121319
10	49EB2	449334	07/29/2020 16:00	P4DG121319
11	CCV	454041	07/29/2020 16:03	P4DG121319
12	CCV	454042	07/30/2020 08:15	P4DG121319
13	48MW06	450340	07/30/2020 09:52	
14	48MW01	450341	07/30/2020 10:25	
15	49MW01	450342	07/30/2020 10:31	
16	CCV	454043	07/30/2020 10:37	P4DG121319

BFB

Data File : C:\Instarch\Data\JUL2320B\BFB1.D Vial: 1
Acq On : 23 Jul 2020 16:44 Operator: RLD-DGS
Sample : BFB DIRECT INJ. Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method

Spectrum Information: Average of 2.053 to 2.065 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	16520	PASS
75	95	30	60	54.9	54945	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6592	PASS
173	174	0.00	2	0.6	554	PASS
174	95	50	100	98.9	98859	PASS
175	174	5	9	7.8	7673	PASS
176	174	95	101	96.0	94862	PASS
177	176	5	9	7.3	6920	PASS

W072320.M Tue Aug 04 09:58:57 2020

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2320B\BFB1.D
Injection Date : 23 Jul 2020 Log Time Period (hrs) : ALL
Injection Time : 16:44 Total files within period : 17
Sample Directory : C:\INSTARCH\DATA\JUL2320B\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	23 Jul 2020	17:57
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0	23 Jul 2020	18:26
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0	23 Jul 2020	18:56
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	23 Jul 2020	19:26
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0	23 Jul 2020	19:56
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0	23 Jul 2020	20:26
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0	23 Jul 2020	20:56
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0	23 Jul 2020	21:26
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0	23 Jul 2020	21:56
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	23 Jul 2020	22:55
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	23 Jul 2020	23:25
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20	24 Jul 2020	00:54

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2420\BFB1.D
Injection Date : 24 Jul 2020 Log Time Period (hrs) : ALL
Injection Time : 11:17 Total files within period : 30
Sample Directory : C:\INSTARCH\DATA\JUL2420\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
ICVR	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	24 Jul 2020	11:59

BFB

Data File : C:\INSTARCH\DATA\JUL2820\BFB1.D Vial: 1
Acq On : 28 Jul 2020 12:07 Operator: RLD-DGS
Sample : 173473,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.693 to 4.705 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.3	14105	PASS
75	95	30	60	53.6	43810	PASS
95	95	100	100	100.0	81754	PASS
96	95	5	9	6.4	5196	PASS
173	174	0.00	2	1.1	828	PASS
174	95	50	100	95.3	77888	PASS
175	174	5	9	7.4	5775	PASS
176	174	95	101	96.7	75301	PASS
177	176	5	9	7.4	5593	PASS

W072320.M Thu Jul 30 15:09:31 2020

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2820\BFB1.D
Injection Date : 28 Jul 2020 Log Time Period (hrs) : ALL
Injection Time : 12:07 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\JUL2820\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	173473,LCSW, 10.0/100 ug/L, 5.0 mL Pur	28 Jul 2020	12:21
MB1	1.00	1.00	1.00	173473,MBW, pH<2, 5.0 mL DI H20 Purge	28 Jul 2020	13:20
447996	1.00	1.00	1.00	173473,447996, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	13:50
449335	1.00	1.00	1.00	173473,449335, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	14:20
450343	1.00	1.00	1.00	173473,450343, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	14:51
449334	1.00	1.00	1.00	173473,449334, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	15:21
447991	1.00	1.00	1.00	173473,447991, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	15:52
447992	1.00	1.00	1.00	173473,447992, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	16:23
447993	1.00	1.00	1.00	173473,447993, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	16:53
447994	1.00	1.00	1.00	173473,447994, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	17:24
447995	1.00	1.00	1.00	173473,447995, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	17:54
449329	1.00	1.00	1.00	173473,449329, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	18:24
449330	1.00	1.00	1.00	173473,449330, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	18:54
449331	1.00	1.00	1.00	173473,449331, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	19:24
449332	1.00	1.00	1.00	173473,449332, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	19:53
449333	1.00	1.00	1.00	173473,449333, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	20:23
449340	1.00	1.00	1.00	173473,449340, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	20:53
449341	1.00	1.00	1.00	173473,449341, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	21:23
449342	1.00	1.00	1.00	173473,449342, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	21:53
447995MS	1.00	1.00	1.00	173473,MSW447995, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	22:23
447995SD	1.00	1.00	1.00	173473,MSDW447995, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	22:53
CCVF1	1.00	1.00	1.00	173473,CCVF, 10.0/100 ug/L, 5.0 mL Pur	28 Jul 2020	23:23

8A
VOLATILE INTERNAL STANDARD AREA AND RT SUMMARY

Lab Name : CT Laboratories, LLC Contract :
Project : Site : Location : Group :
Lab File ID (Standard): WCAL5.D Date Analyzed : 23 Jul 2020
Instrument ID : VMS3 Time Analyzed : 19:56
GC Column : DB-624UI ID : VMS3(mm) Heated Purge (Y:N) : N

	IS1		IS2		IS3	
	Area #	RT #	Area #	RT #	Area #	RT #
12 HOUR STD	1541336	7.72	1238274	11.63	729630	14.93
UPPER LIMIT	3082672	8.22	2476548	12.13	1459260	15.43
LOWER LIMIT	770668	7.22	619137	11.13	364815	14.43
File ID Sample						
447991 173473,44	1402084	7.72	1202868	11.63	678821	14.93
447992 173473,44	1391064	7.72	1175799	11.63	677151	14.93
447993 173473,44	1420218	7.72	1191283	11.63	695047	14.93
447994 173473,44	1402277	7.72	1182819	11.63	683759	14.93
447995 173473,44	1422507	7.72	1197136	11.63	694640	14.93
447995MS 173473,MS	1474473	7.72	1236186	11.63	749286	14.93
447995SD 173473,MS	1521361	7.72	1251434	11.63	756496	14.93
447996 173473,44	1386597	7.72	1165276	11.63	663284	14.93
449329 173473,44	1400434	7.72	1184421	11.63	673700	14.93
449330 173473,44	1415334	7.72	1195909	11.63	685005	14.93
449331 173473,44	1408758	7.72	1191006	11.63	685910	14.93
449332 173473,44	1446870	7.72	1218640	11.63	693557	14.93
449333 173473,44	1373838	7.72	1159039	11.63	665490	14.93
449334 173473,44	1092986	7.72	927979	11.63	516308	14.93
449335 173473,44	1422304	7.72	1198453	11.63	683564	14.93
449340 173473,44	1408670	7.72	1203047	11.63	680782	14.93
449341 173473,44	1404955	7.72	1182784	11.63	682228	14.93
449342 173473,44	1421880	7.72	1192157	11.63	688946	14.93
450343 173473,45	1438118	7.72	1213008	11.63	697883	14.93
CCVF1 173473,CC	1510078	7.72	1242055	11.63	758557	14.93
CCV-LCS1 173473,LC	1486807	7.72	1226848	11.63	732658	14.93
MB1 173473,MB	1418989	7.72	1186704	11.63	665896	14.93

IS1 = FLUOROBENZENE**ISTD**
IS2 = d5-CHLOROBENZENE**ISTD**
IS3 = d4-1,4-DICHLOROBENZENE**IS

AREA UPPER LIMIT = 200% of internal standard area
AREA LOWER LIMIT = 50% of internal standard area
RT UPPER LIMIT = 0.5 minutes of internal standard RT
RT LOWER LIMIT = -0.5 minutes of internal standard RT

Column to be used to flag values outside QC limit with an asterisk
* Values outside of contract required QC limits

VOLATILE ORGANIC ANALYSIS
SAMPLE DATA
DOCUMENTS

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447996.D Vial: 5
Acq On : 28 Jul 2020 13:50 Operator: RLD-DGS
Sample : 173473,447996, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:11:18 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1386597	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1165276	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	663284	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	385557	20.221	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	95188	20.027	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100	%		
61) SURRd8Tolule	9.72	98	1392228	20.043	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	581047	20.259	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.10	43	5253	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.26	76	4187	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	3908	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447996.D Vial: 5
Acq On : 28 Jul 2020 13:50 Operator: RLD-DGS
Sample : 173473,447996, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:11:18 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	166076	5.2179	ug/L		99
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.19	95	2721	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.64	88	5692	113.5991	ug/L	#	18
56)	Bromodiclrma	8.78	83	28058	1.2720	ug/L		99
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.63	91	3397	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447996.D Vial: 5
Acq On : 28 Jul 2020 13:50 Operator: RLD-DGS
Sample : 173473,447996, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:11:18 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

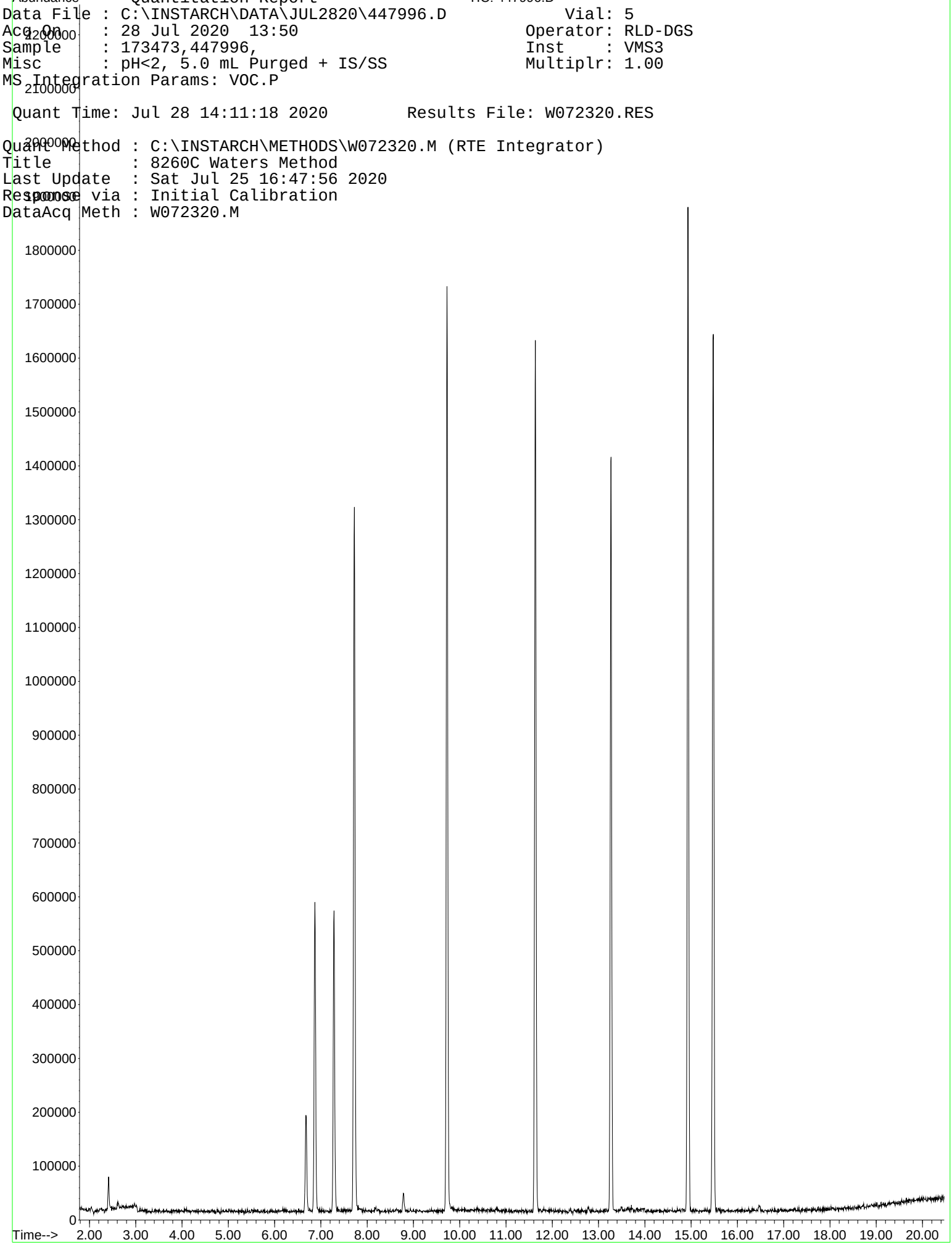
(#) = qualifier out of range (m) = manual integration

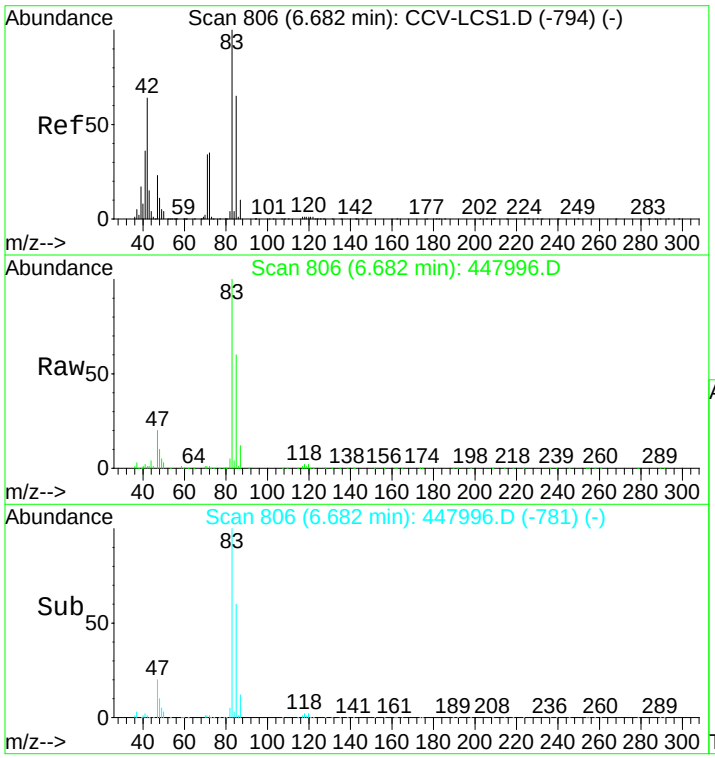
Quantitation Report (TIC: 447996.D)

Data File : C:\INSTARCH\DATA\JUL2820\447996.D Vial: 5
Acq On : 28 Jul 2020 13:50 Operator: RLD-DGS
Sample : 173473,447996, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:11:18 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

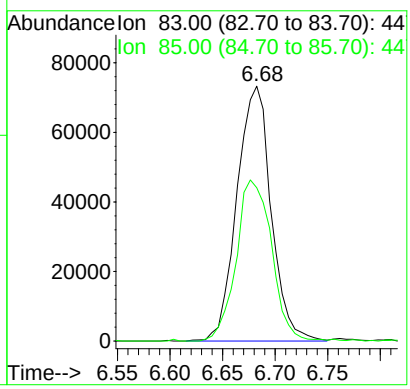


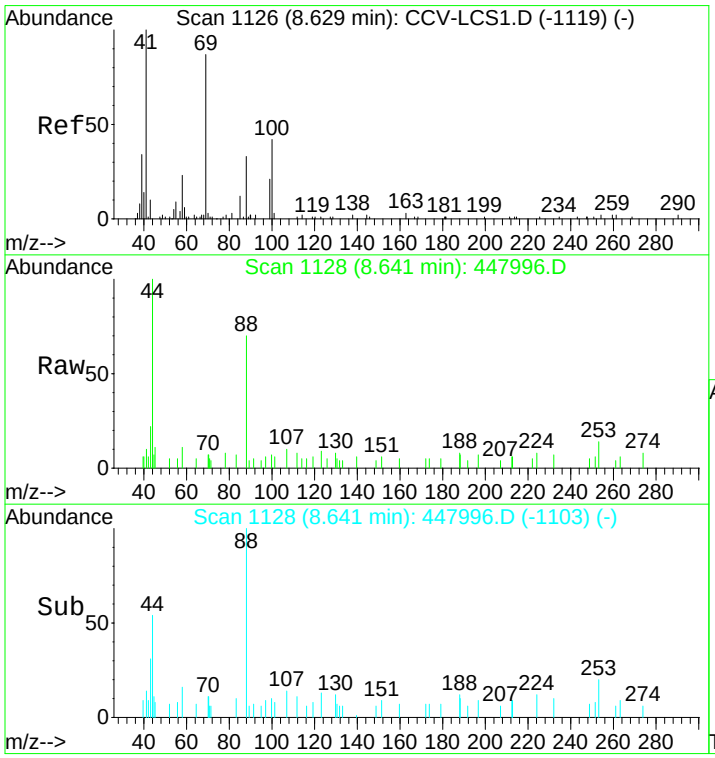


#39
Chloroform
Concen: 5.22 ug/L
RT: 6.68 min Scan# 806
Delta R.T. -0.00 min
Lab File: 447996.D
Acq: 28 Jul 2020 13:50

Tgt Ion: 83 Resp: 166076

Ion	Ratio	Lower	Upper
83	100		
85	65.7	46.3	86.3

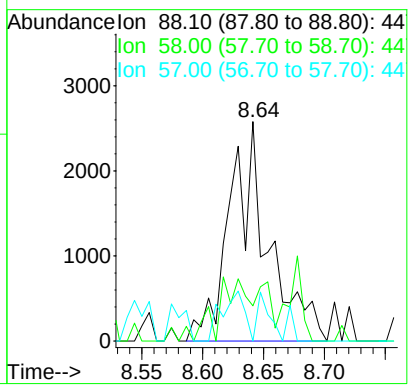




#55
14dioxane
Concen: 113.60 ug/L
RT: 8.64 min Scan# 1128
Delta R.T. 0.00 min
Lab File: 447996.D
Acq: 28 Jul 2020 13:50

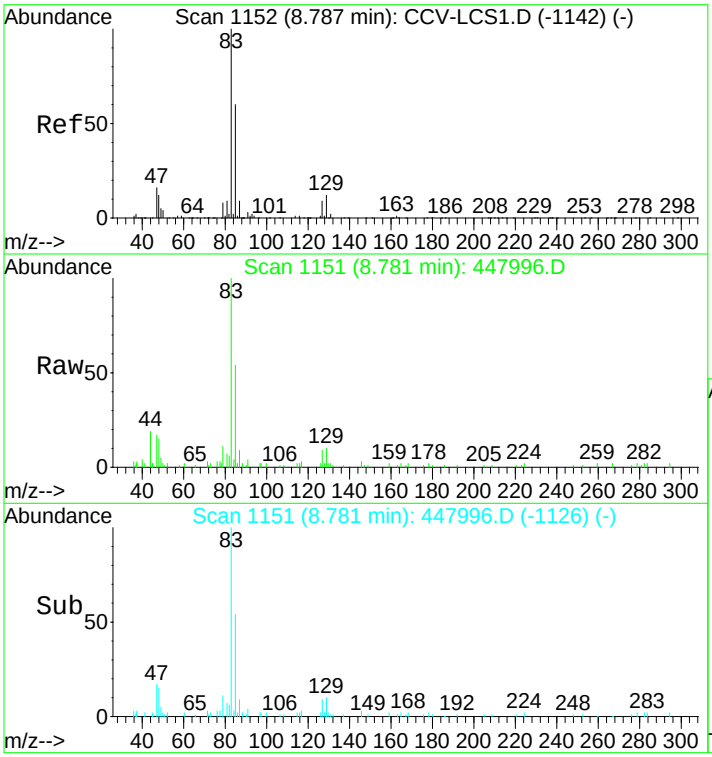
Tgt Ion: 88 Resp: 5692

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

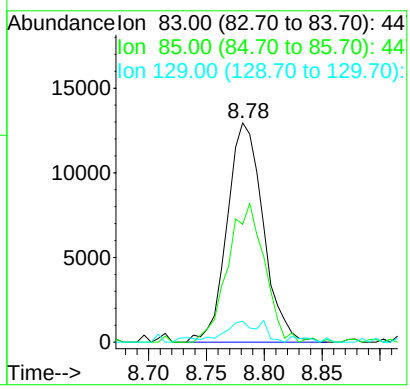
[redacted]



#56
Bromodiclrma
Concen: 1.27 ug/L
RT: 8.78 min Scan# 1151
Delta R.T. -0.00 min
Lab File: 447996.D
Acq: 28 Jul 2020 13:50

Tgt Ion: 83 Resp: 28058

Ion	Ratio	Lower	Upper
83	100		
85	64.9	44.4	84.4
129	9.6	0.0	31.9



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449335.D Vial: 6
Acq On : 28 Jul 2020 14:20 Operator: RLD-DGS
Sample : 173473,449335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:41:33 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1422304	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1198453	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	683564	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	393744	20.132	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %			
45) SURR12DCAd4	7.28	102	99557	20.420	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102 %			
61) SURRd8Tolule	9.72	98	1436009	20.155	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %			
83) SURR4BrFBenz	13.27	95	595977	20.163	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	5837	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3210	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	15672	0.6400	ug/L	96
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	3628	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449335.D Vial: 6
Acq On : 28 Jul 2020 14:20 Operator: RLD-DGS
Sample : 173473,449335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:41:33 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.		
40) 111trichlota	0.00	97	0	N.D.		
42) Cyclohexane	0.00	56	0	N.D.		
43) Carbtetraclo	0.00	119	0	N.D.		
44) 11dicloprope	0.00	110	0	N.D.		
46) Benzene	0.00	78	0	N.D.		
47) 12dichlorota	0.00	62	0	N.D.		
48) TAME	0.00	73	0	N.D.		
49) trichloroete	8.19	95	2620	N.D.		
50) methylcyclohexane	0.00	83	0	N.D.		
51) 12dicloropra	0.00	63	0	N.D.		
52) 23Dicl1propene	0.00	75	0	N.D.		
53) Dibromometha	0.00	93	0	N.D.		
54) methylmethacrylate	0.00	69	0	N.D.		
55) 14dioxane	8.64	88	5043	98.1198	ug/L #	76
56) Bromodiclrma	0.00	83	0	N.D.		
57) 2Nitropropane	0.00	43	0	N.D.		
58) 2CLEVE	0.00	63	0	N.D.		
59) c13dicloproe	0.00	75	0	N.D.		
60) 4Meth2Pentan	0.00	43	0	N.D.		
62) Toluene	0.00	92	0	N.D.		
63) t13Dicloprop	0.00	75	0	N.D.		
64) ethylmethacrylate	0.00	69	0	N.D.		
65) 112Triclotha	0.00	83	0	N.D.		
66) Tetrachlorte	0.00	166	0	N.D.		
67) 13Diclorpropa	0.00	76	0	N.D.		
69) 2Hexanone	0.00	43	0	N.D.		
70) Clorodibrmta	0.00	129	0	N.D.		
71) 12Dibrometha	0.00	107	0	N.D.		
72) Chlorobenzen	0.00	112	0	N.D.		
73) 1Clhexane	11.64	91	3554	N.D.		
74) 1112Tetclota	0.00	131	0	N.D.		
75) Ethylbenzene	0.00	91	0	N.D.		
76) m p-Xylene	0.00	106	0	N.D.		
77) o-Xylene	0.00	106	0	N.D.		
78) Styrene	0.00	104	0	N.D.		
79) Bromoform	0.00	173	0	N.D.		
80) Isopropylben	0.00	105	0	N.D.		
81) cyclohexanone	0.00	55	0	N.D.		
84) Bromobenzene	0.00	156	0	N.D.		
85) 1122Tetrclta	0.00	83	0	N.D.		
86) 123Triclproa	0.00	75	0	N.D.		
87) 14dichloro2butene	0.00	53	0	N.D.		
88) n-Propylbenz	0.00	91	0	N.D.		
89) 2chlorotolue	0.00	91	0	N.D.		
90) 4chlorotolue	0.00	91	0	N.D.		
91) 135Trimebenz	0.00	105	0	N.D.		
92) tbutylbenzen	0.00	119	0	N.D.		
93) 124Trimetben	0.00	105	0	N.D.		
94) sbutylbenzen	0.00	105	0	N.D.		
95) 13Diclorbenz	0.00	146	0	N.D.		
96) pIsopropylto	0.00	119	0	N.D.		
97) 14dichlorobe	0.00	146	0	N.D.		
98) 12dichlorobe	0.00	146	0	N.D.		
99) nButylbenzen	15.48	91	2670	N.D.		
100) 12dibromo3cl	0.00	157	0	N.D.		
101) 135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449335.D Vial: 6
Acq On : 28 Jul 2020 14:20 Operator: RLD-DGS
Sample : 173473,449335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:41:33 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

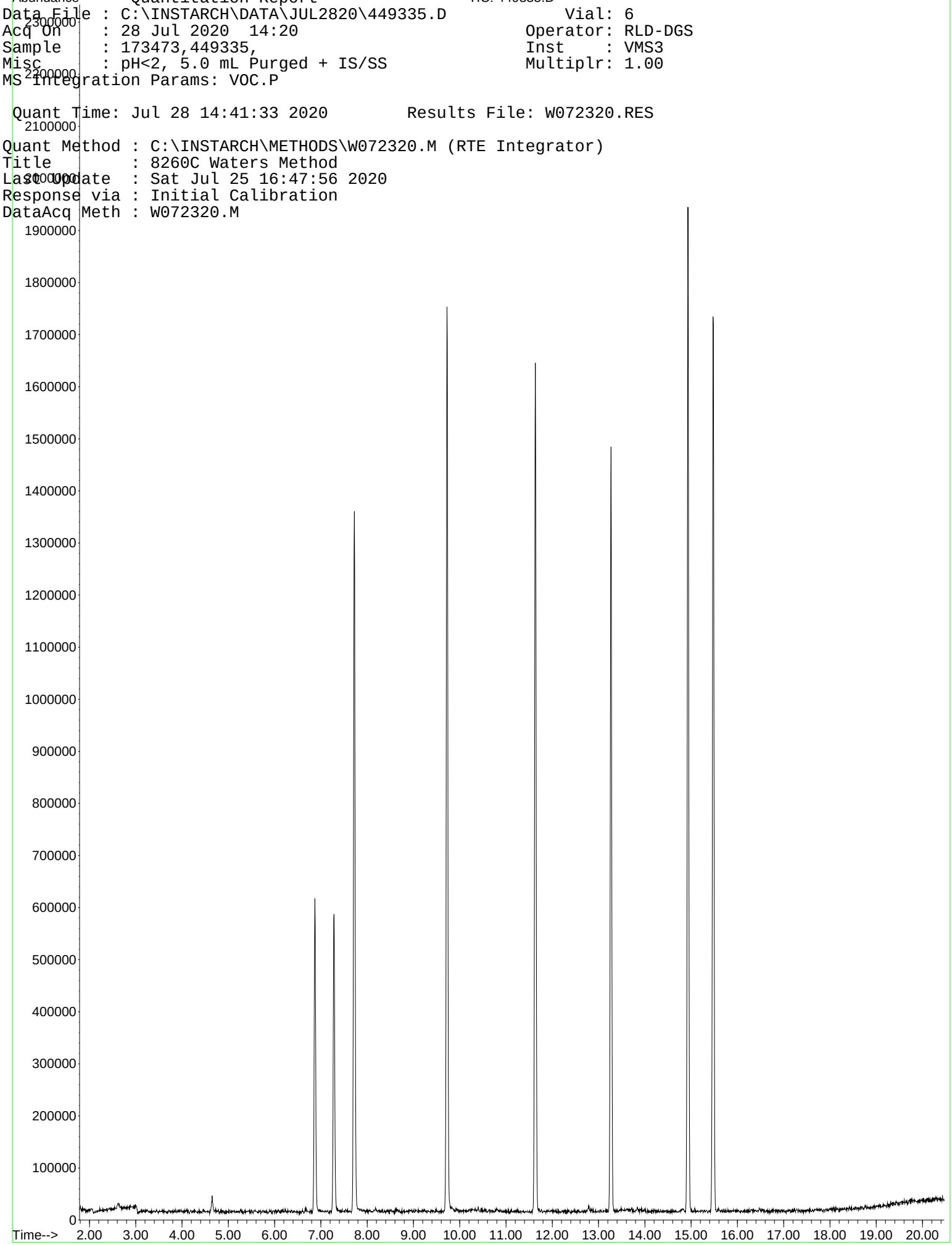
(#) = qualifier out of range (m) = manual integration

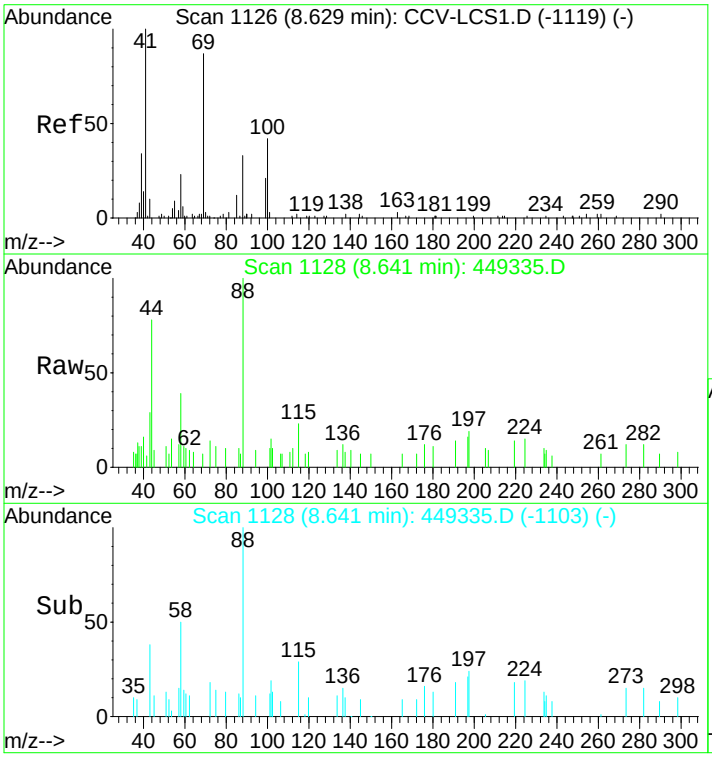
Abundance Quantitation Report TIC: 449335.D

Data File : C:\INSTARCH\DATA\JUL2820\449335.D Vial: 6
Acq On : 28 Jul 2020 14:20 Operator: RLD-DGS
Sample : 173473,449335, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 14:41:33 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

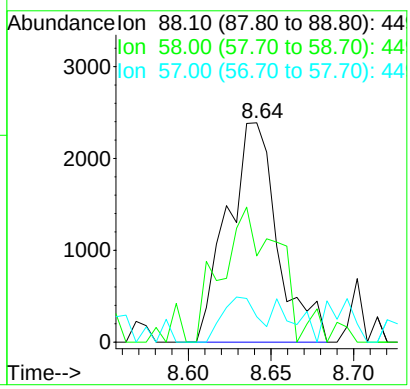




#55
14dioxane
Concen: 98.12 ug/L
RT: 8.64 min Scan# 1128
Delta R.T. 0.00 min
Lab File: 449335.D
Acq: 28 Jul 2020 14:20

Tgt Ion: 88 Resp: 5043

Ion	Ratio	Lower	Upper
88	100		
58	73.0	60.3	100.3
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\450343.D Vial: 7
Acq On : 28 Jul 2020 14:51 Operator: RLD-DGS
Sample : 173473,450343, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:12:02 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1438118	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1213008	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	697883	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	396322	20.041	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	100307	20.348	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1442407	20.022	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.27	95	600167	19.888	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.10	43	3984	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3408	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	4.64	84	26530	1.1817	ug/L	99
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	4786	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\450343.D Vial: 7
Acq On : 28 Jul 2020 14:51 Operator: RLD-DGS
Sample : 173473,450343, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:12:02 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	8.18	95	2924	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.65	88	3990	76.7783 ug/L #	18
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.63	91	3661	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.49	91	3005	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\450343.D Vial: 7
Acq On : 28 Jul 2020 14:51 Operator: RLD-DGS
Sample : 173473,450343, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:12:02 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

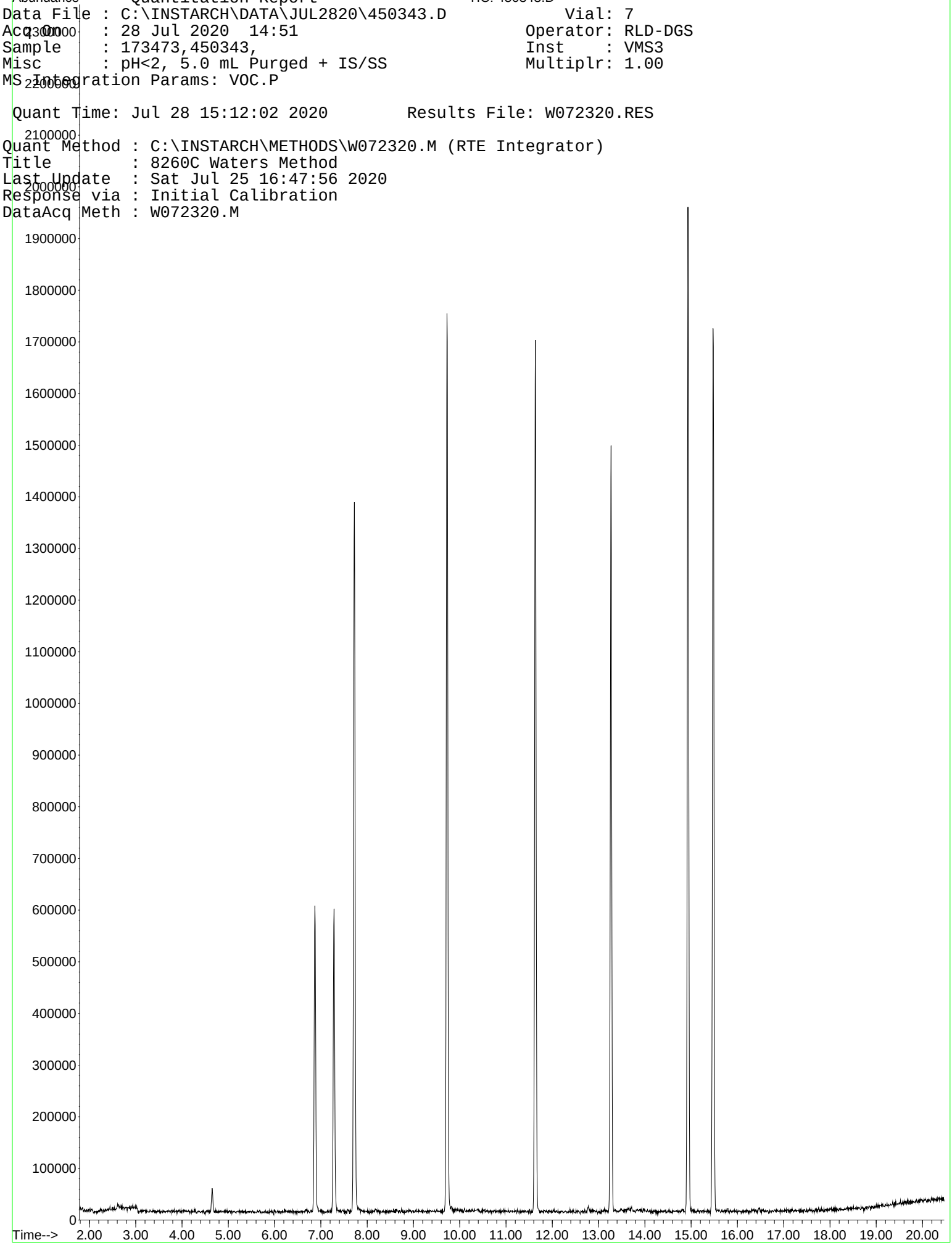
Quantitation Report

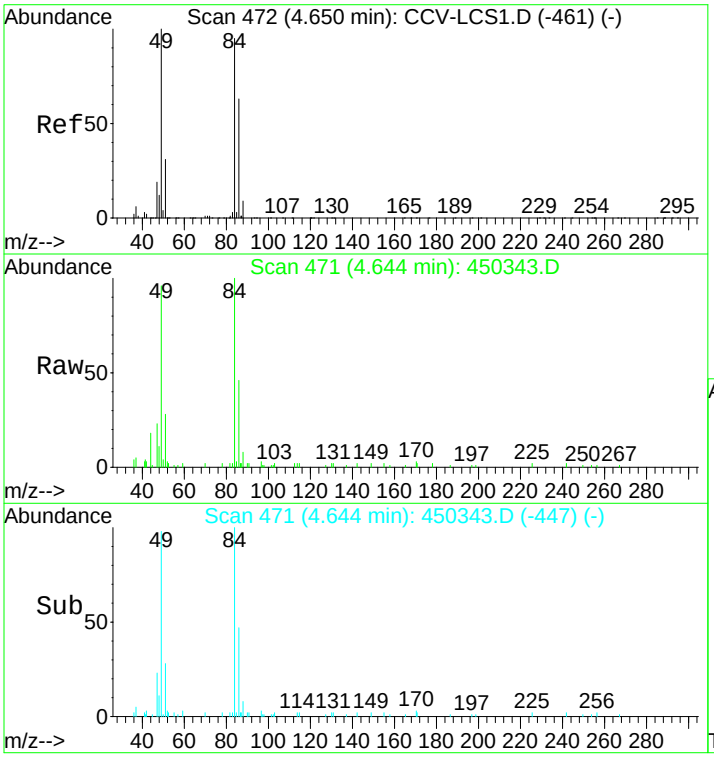
TIC: 450343.D

Data File : C:\INSTARCH\DATA\JUL2820\450343.D Vial: 7
Acq On : 28 Jul 2020 14:51 Operator: RLD-DGS
Sample : 173473,450343, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:12:02 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

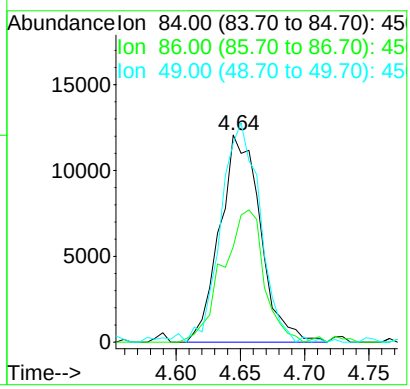


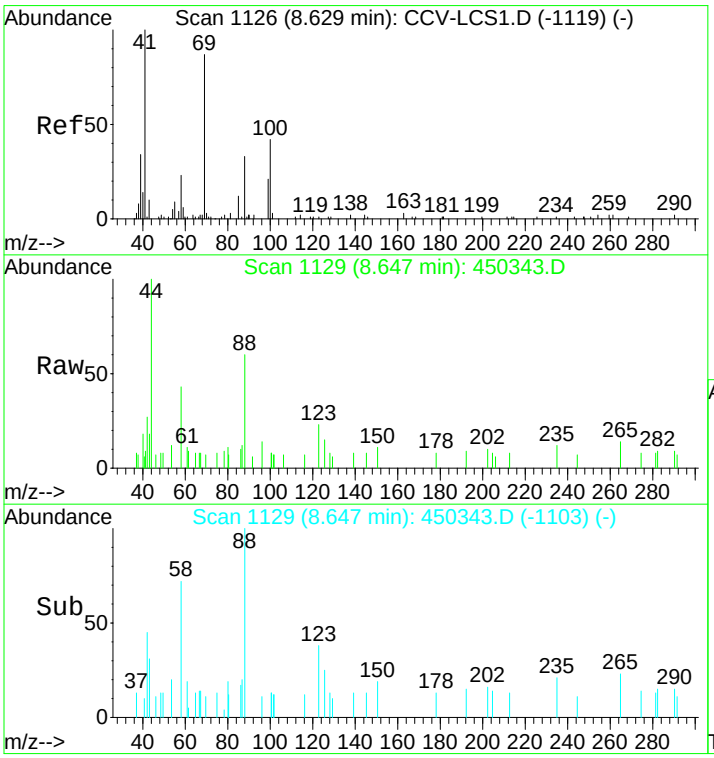


#20
Methylchlorid
Concen: 1.18 ug/L
RT: 4.64 min Scan# 471
Delta R.T. -0.01 min
Lab File: 450343.D
Acq: 28 Jul 2020 14:51

Tgt Ion: 84 Resp: 26530

Ion	Ratio	Lower	Upper
84	100		
86	64.6	46.5	86.5
49	104.0	84.3	124.3

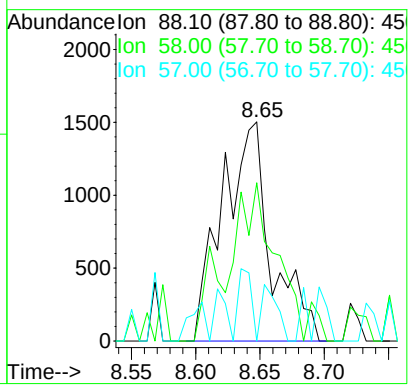




#55
14dioxane
Concen: 76.78 ug/L
RT: 8.65 min Scan# 1129
Delta R.T. 0.01 min
Lab File: 450343.D
Acq: 28 Jul 2020 14:51

Tgt Ion: 88 Resp: 3990

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449334.D Vial: 8
Acq On : 28 Jul 2020 15:21 Operator: RLD-DGS
Sample : 173473,449334, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:42:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1092986	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	927979	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	516308	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	299198	19.907 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100 %		
45) SURR12DCAd4	7.28	102	73856	19.713 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %		
61) SURRd8Tolule	9.72	98	1102135	20.129 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.26	95	452091	20.250 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.08	43	3963	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	3950	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	3027	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449334.D Vial: 8
Acq On : 28 Jul 2020 15:21 Operator: RLD-DGS
Sample : 173473,449334, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:42:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	0.00	95	0	N.D.	
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.65	88	4540	114.9480 ug/L #	63
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.63	91	2588	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	0.00	91	0	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449334.D Vial: 8
Acq On : 28 Jul 2020 15:21 Operator: RLD-DGS
Sample : 173473,449334, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:42:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

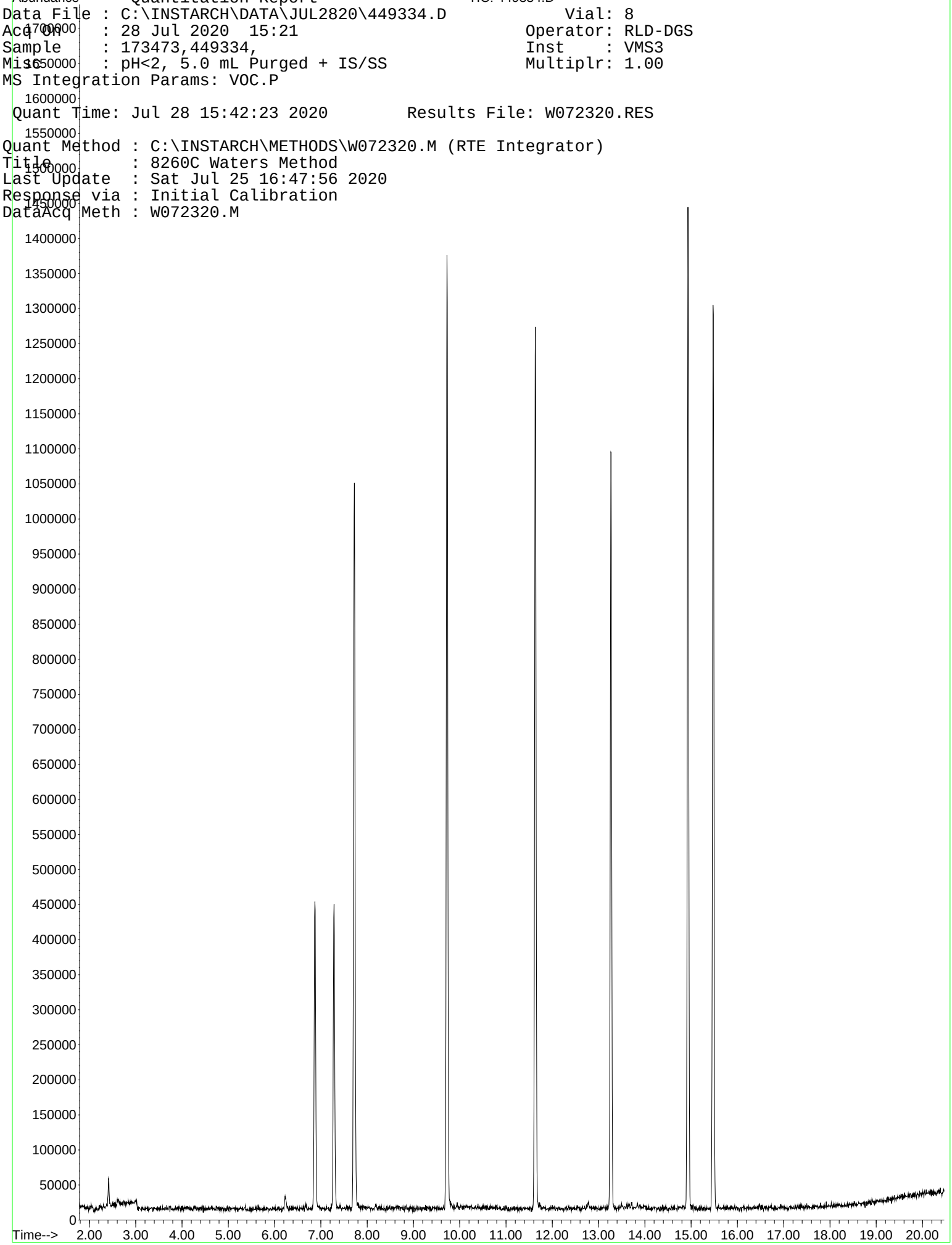
(#) = qualifier out of range (m) = manual integration

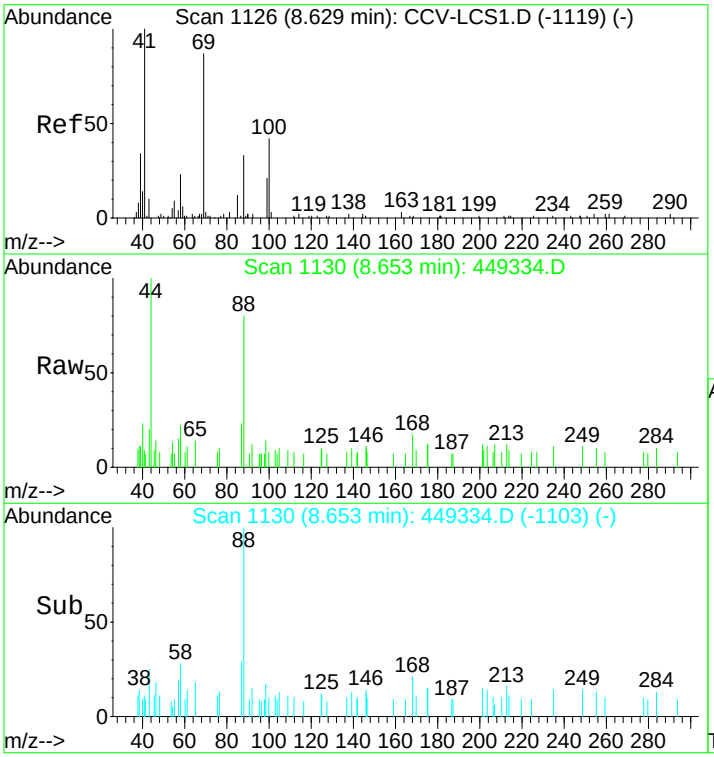
Abundance Quantitation Report TIC: 449334.D

Data File : C:\INSTARCH\DATA\JUL2820\449334.D Vial: 8
Acq On : 28 Jul 2020 15:21 Operator: RLD-DGS
Sample : 173473,449334, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 15:42:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

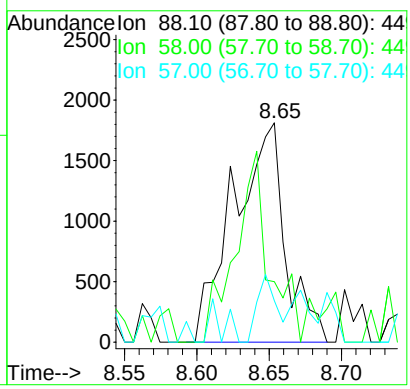




#55
14dioxane
Concen: 114.95 ug/L
RT: 8.65 min Scan# 1130
Delta R.T. 0.01 min
Lab File: 449334.D
Acq: 28 Jul 2020 15:21

Tgt Ion: 88 Resp: 4540

Ion	Ratio	Lower	Upper
88	100		
58	56.7	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447991.D Vial: 9
Acq On : 28 Jul 2020 15:52 Operator: RLD-DGS
Sample : 173473,447991, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:13:04 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1402084	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1202868	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	678821	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	386139	20.028	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	96614	20.103	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.72	98	1416821	20.172	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	591079	20.137	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3347	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.28	76	4174	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	2723	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447991.D Vial: 9
Acq On : 28 Jul 2020 15:52 Operator: RLD-DGS
Sample : 173473,447991, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:13:04 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.18	95	19330	0.9775 ug/L	89
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.64	88	3225	63.6525 ug/L #	18
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	3365	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447991.D Vial: 9
Acq On : 28 Jul 2020 15:52 Operator: RLD-DGS
Sample : 173473,447991, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:13:04 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

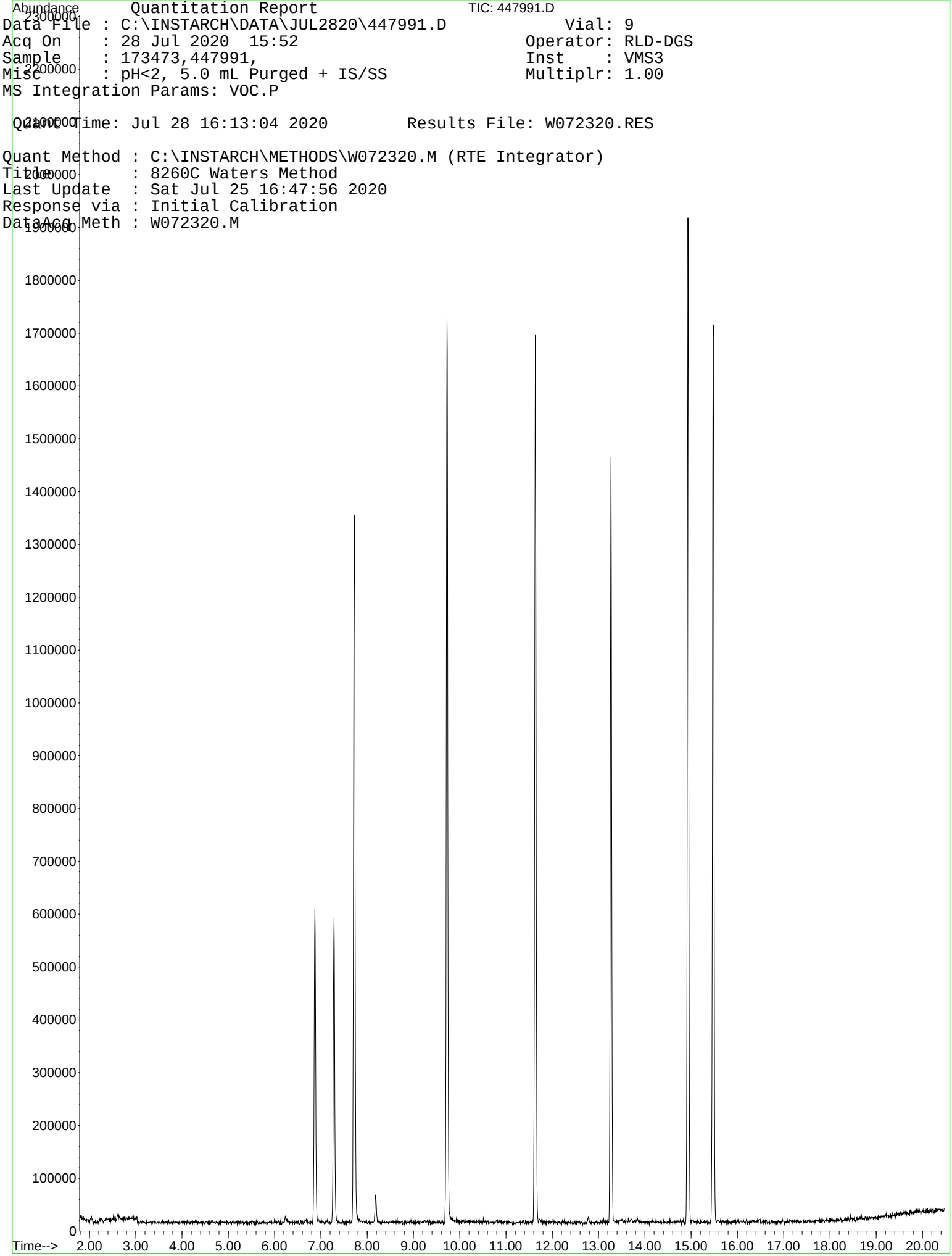
(#) = qualifier out of range (m) = manual integration

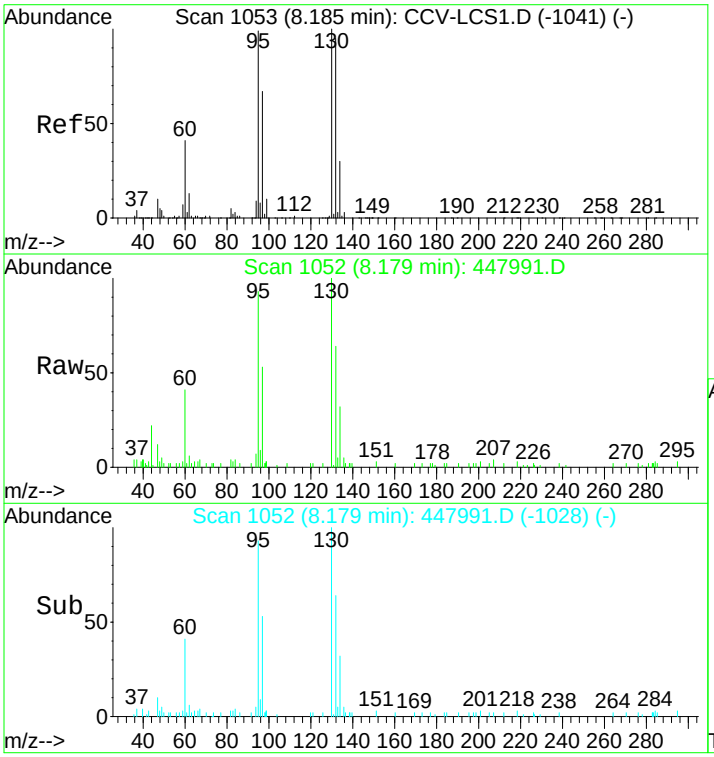
Quantitation Report (TIC: 447991.D)

Data File : C:\INSTARCH\DATA\JUL2820\447991.D Vial: 9
Acq On : 28 Jul 2020 15:52 Operator: RLD-DGS
Sample : 173473,447991, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:13:04 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

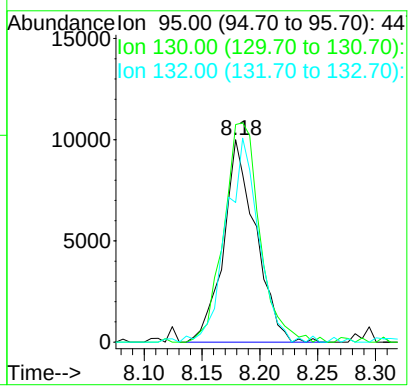


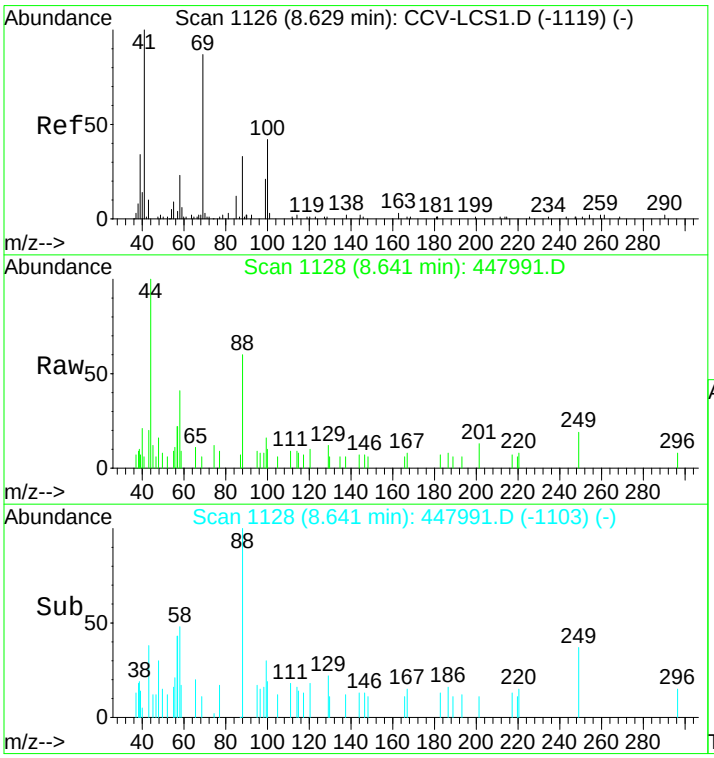


#49
trichloroete
Concen: 0.98 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. -0.01 min
Lab File: 447991.D
Acq: 28 Jul 2020 15:52

Tgt Ion: 95 Resp: 19330

Ion	Ratio	Lower	Upper
95	100		
130	121.4	82.0	122.0
132	102.2	80.0	120.0

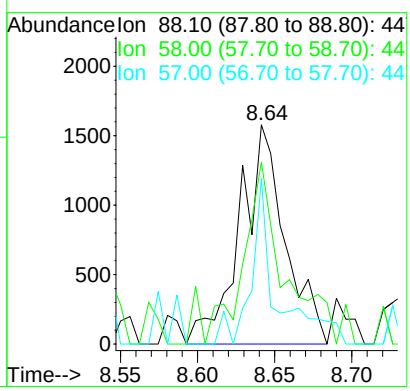




#55
14dioxane
Concen: 63.65 ug/L
RT: 8.64 min Scan# 1128
Delta R.T. 0.00 min
Lab File: 447991.D
Acq: 28 Jul 2020 15:52

Tgt Ion: 88 Resp: 3225

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447992.D Vial: 10
Acq On : 28 Jul 2020 16:23 Operator: RLD-DGS
Sample : 173473,447992, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:43:44 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1391064	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1175799	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	677151	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	384562	20.104	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	97171	20.379	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1420314	20.382	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102	%		
83) SURR4BrFBenz	13.26	95	587301	20.057	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	3.29	101	8771	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3720	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	3937	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	5.54	63	2880	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.66	42	3877	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447992.D Vial: 10
Acq On : 28 Jul 2020 16:23 Operator: RLD-DGS
Sample : 173473,447992, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:43:44 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	6.68	83	19359	0.6063 ug/L	98
40) 111trichlota	0.00	97	0	N.D.	
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	7.14	119	96331	5.3840 ug/L	97
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	8.19	95	23983	1.2224 ug/L	96
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.65	88	2633	52.3798 ug/L #	18
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	0.00	92	0	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	0.00	166	0	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.63	91	3561	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.47	91	2572	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447992.D Vial: 10
Acq On : 28 Jul 2020 16:23 Operator: RLD-DGS
Sample : 173473,447992, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:43:44 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

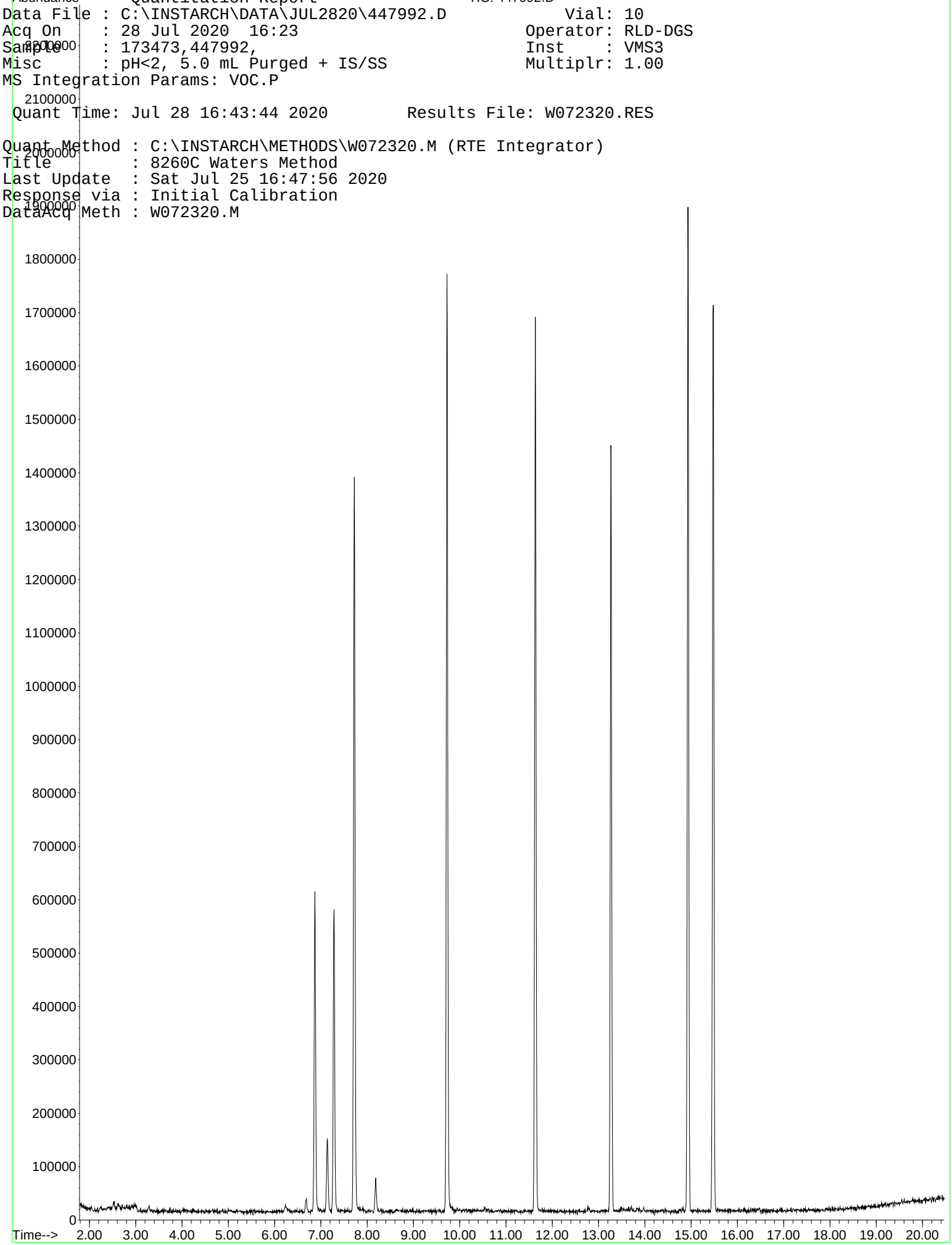
(#) = qualifier out of range (m) = manual integration

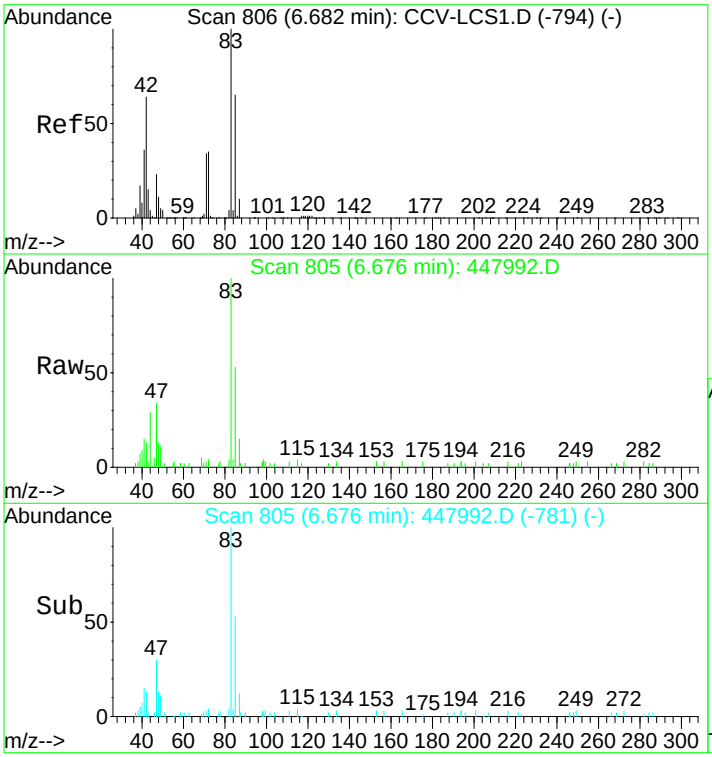
Abundance Quantitation Report TIC: 447992.D

Data File : C:\INSTARCH\DATA\JUL2820\447992.D Vial: 10
Acq On : 28 Jul 2020 16:23 Operator: RLD-DGS
Sample : 173473,447992, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 16:43:44 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

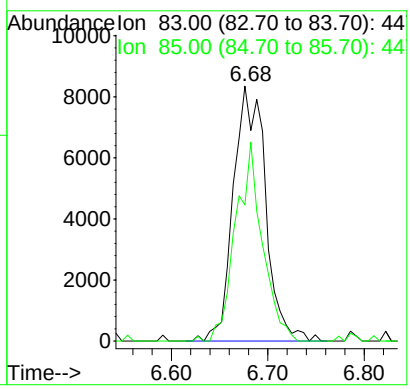


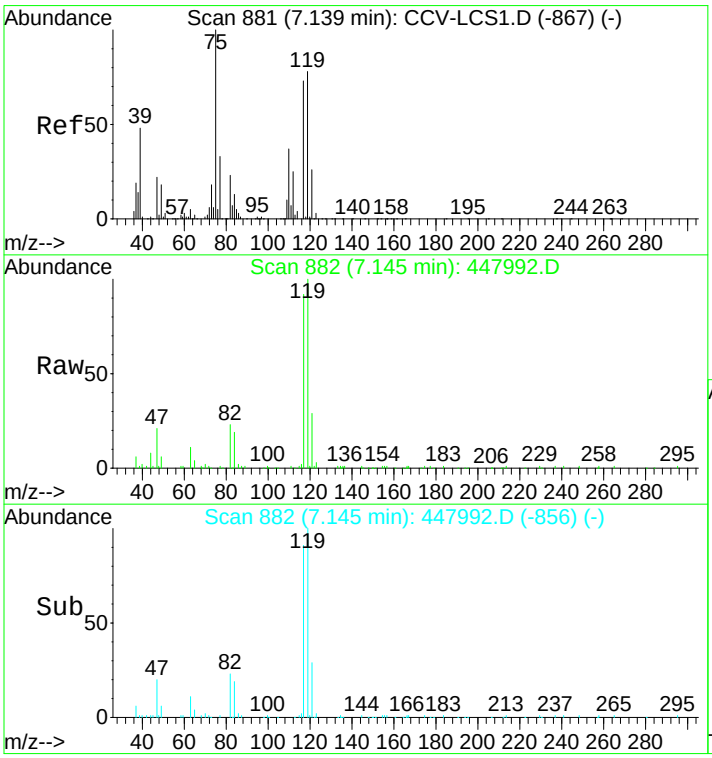


#39
Chloroform
Concen: 0.61 ug/L
RT: 6.68 min Scan# 805
Delta R.T. -0.01 min
Lab File: 447992.D
Acq: 28 Jul 2020 16:23

Tgt Ion: 83 Resp: 19359

Ion	Ratio	Lower	Upper
83	100		
85	64.6	46.3	86.3

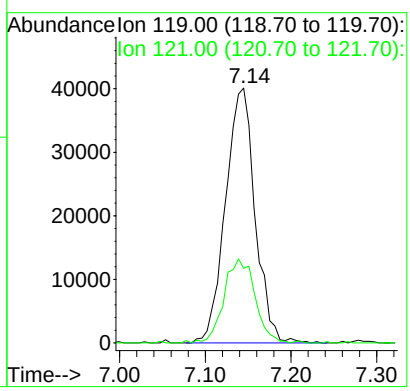


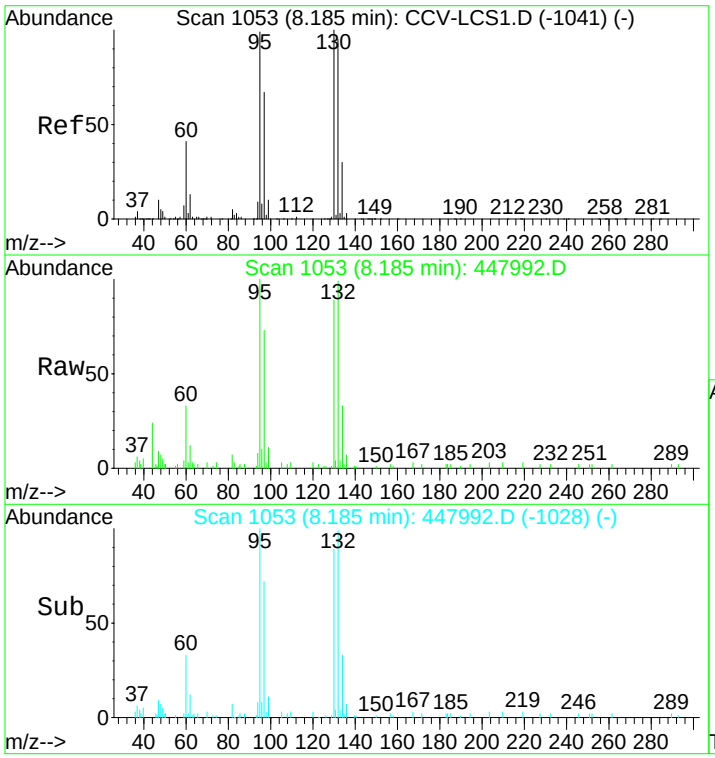


#43
Carbtetraclo
Concen: 5.38 ug/L
RT: 7.14 min Scan# 882
Delta R.T. 0.01 min
Lab File: 447992.D
Acq: 28 Jul 2020 16:23

Tgt Ion:119 Resp: 96331

Ion	Ratio	Lower	Upper
119	100		
121	34.4	12.8	52.8

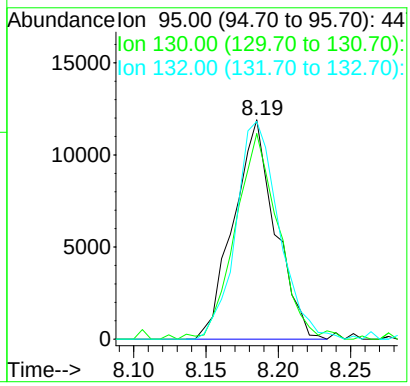


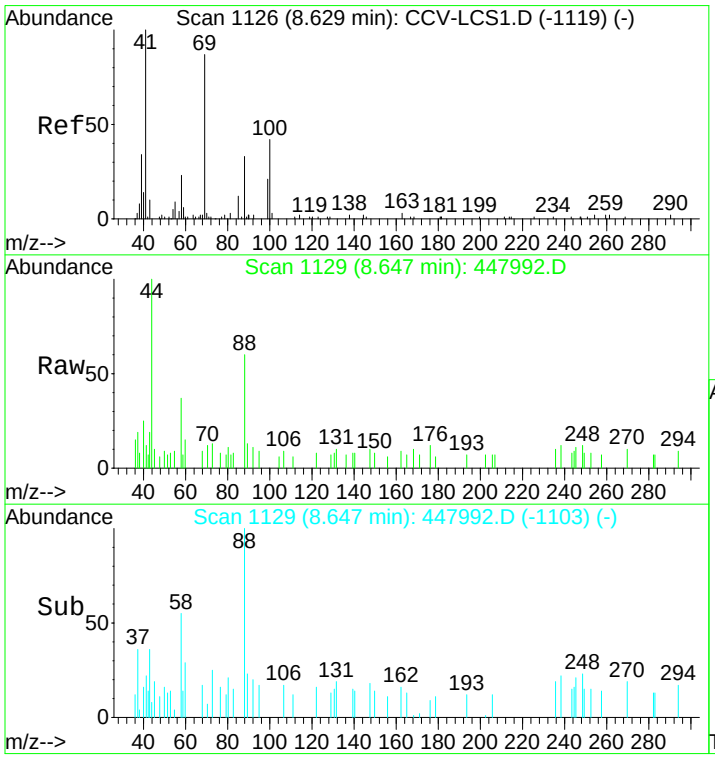


#49
trichloroete
Concen: 1.22 ug/L
RT: 8.19 min Scan# 1053
Delta R.T. -0.00 min
Lab File: 447992.D
Acq: 28 Jul 2020 16:23

Tgt Ion: 95 Resp: 23983

Ion	Ratio	Lower	Upper
95	100		
130	96.9	82.0	122.0
132	102.5	80.0	120.0

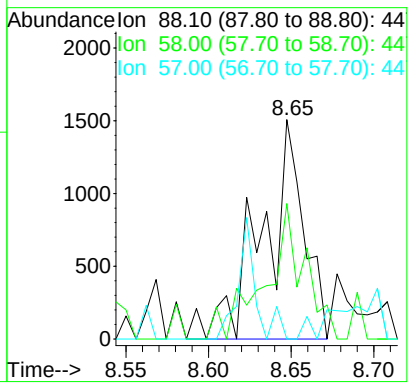




#55
14dioxane
Concen: 52.38 ug/L
RT: 8.65 min Scan# 1129
Delta R.T. 0.01 min
Lab File: 447992.D
Acq: 28 Jul 2020 16:23

Tgt Ion: 88 Resp: 2633

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447993.D Vial: 11
Acq On : 28 Jul 2020 16:53 Operator: RLD-DGS
Sample : 173473,447993, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:14:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1420218	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1191283	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	695047	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	393408	20.144	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	101627	20.876	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104	%		
61) SURRd8Tolule	9.72	98	1425375	20.035	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.27	95	603136	20.068	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	0.00	50	0	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	0.00	94	0	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	3.29	101	8202	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	4.08	43	3508	N.D.
16) Iodomethane	0.00	142	0	N.D.
17) Carbon Dislf	4.28	76	3375	N.D.
18) allylchloride	0.00	41	0	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	0.00	84	0	N.D.
21) tbutylalcohol	0.00	59	0	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	5.56	63	3511	N.D.
27) Vinylacetate	0.00	43	0	N.D.
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	0.00	77	0	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	0.00	42	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447993.D Vial: 11
Acq On : 28 Jul 2020 16:53 Operator: RLD-DGS
Sample : 173473,447993, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:14:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	18599	0.5705	ug/L		91
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.14	119	94697	5.2137	ug/L		97
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.19	95	21728	1.0847	ug/L		89
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.63	88	3302	64.3402	ug/L	#	18
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.63	91	3297	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447993.D Vial: 11
Acq On : 28 Jul 2020 16:53 Operator: RLD-DGS
Sample : 173473,447993, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:14:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

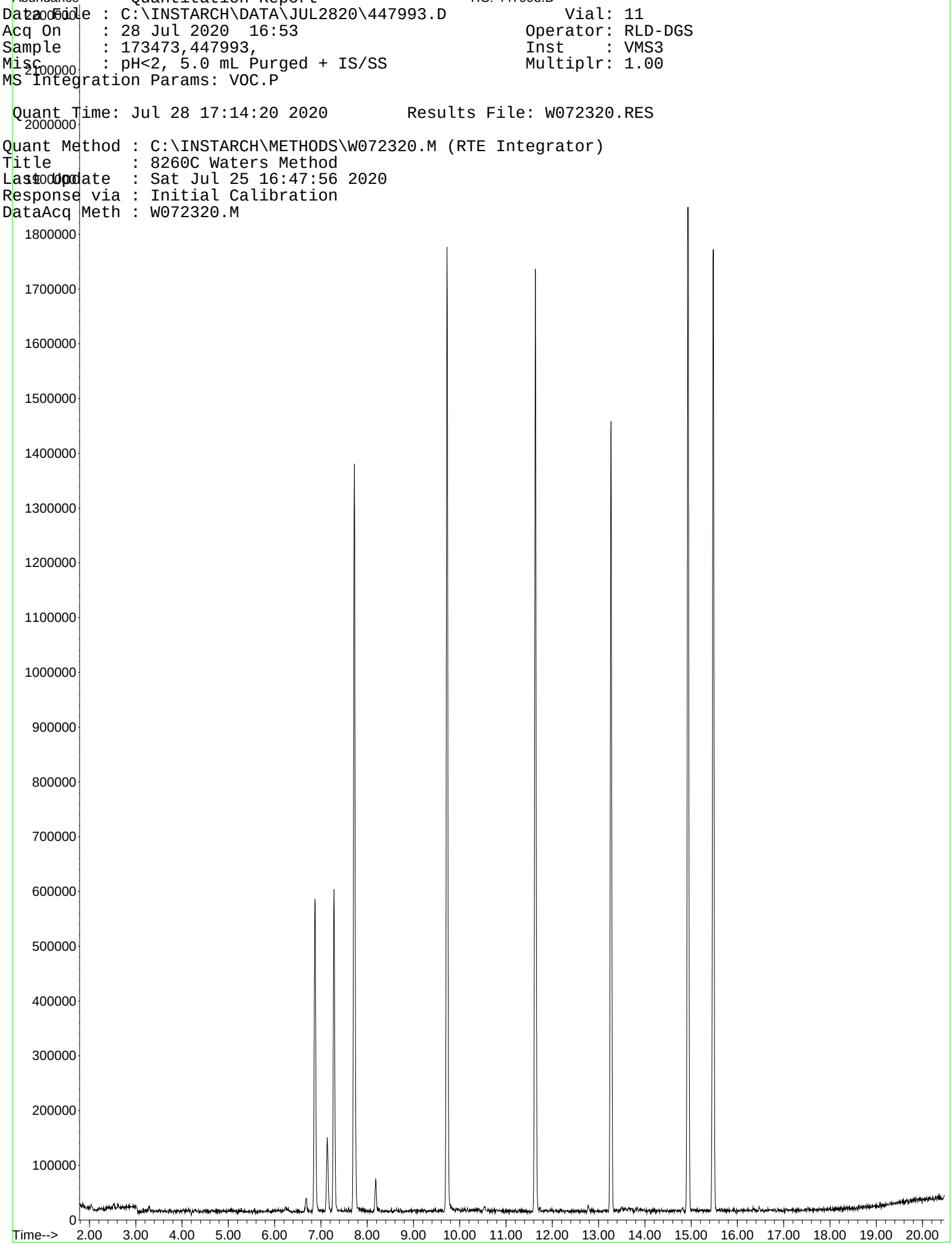
(#) = qualifier out of range (m) = manual integration

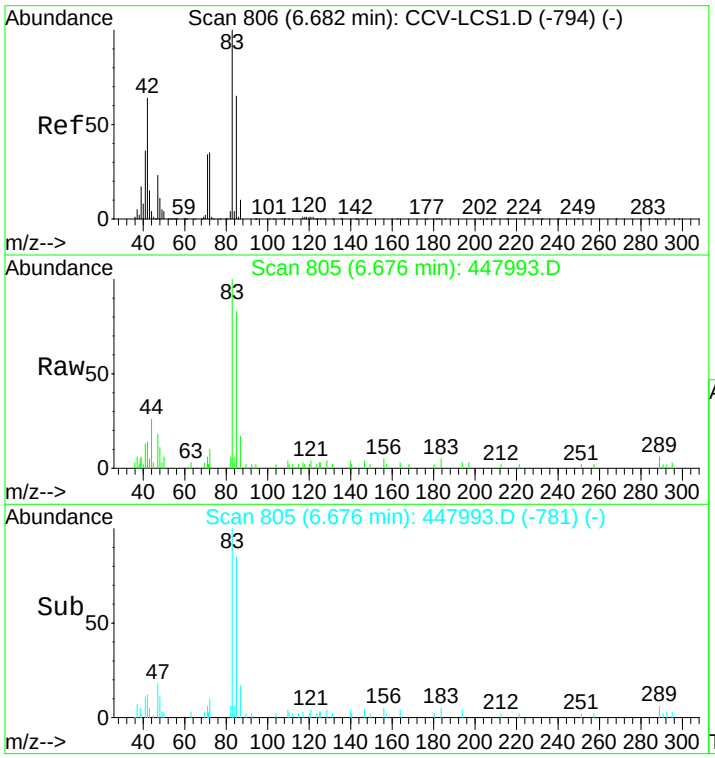
Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447993.D Vial: 11
Acq On : 28 Jul 2020 16:53 Operator: RLD-DGS
Sample : 173473,447993, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:14:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

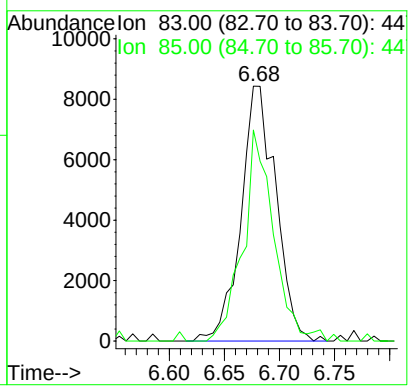


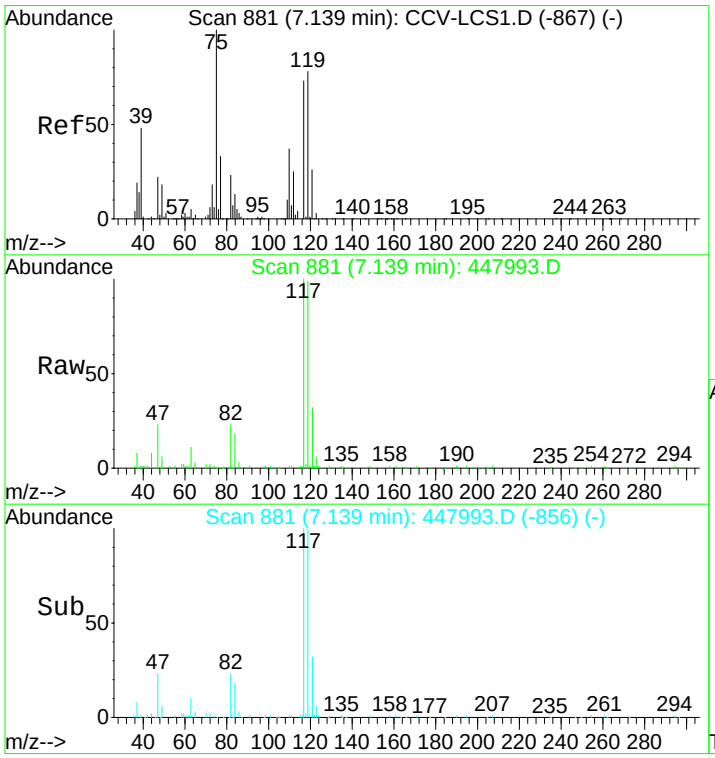


#39
Chloroform
Concen: 0.57 ug/L
RT: 6.68 min Scan# 805
Delta R.T. -0.01 min
Lab File: 447993.D
Acq: 28 Jul 2020 16:53

Tgt Ion: 83 Resp: 18599

Ion	Ratio	Lower	Upper
83	100		
85	73.1	46.3	86.3

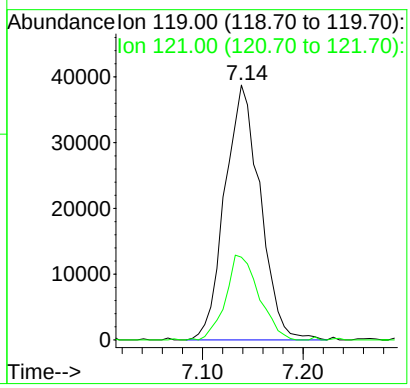


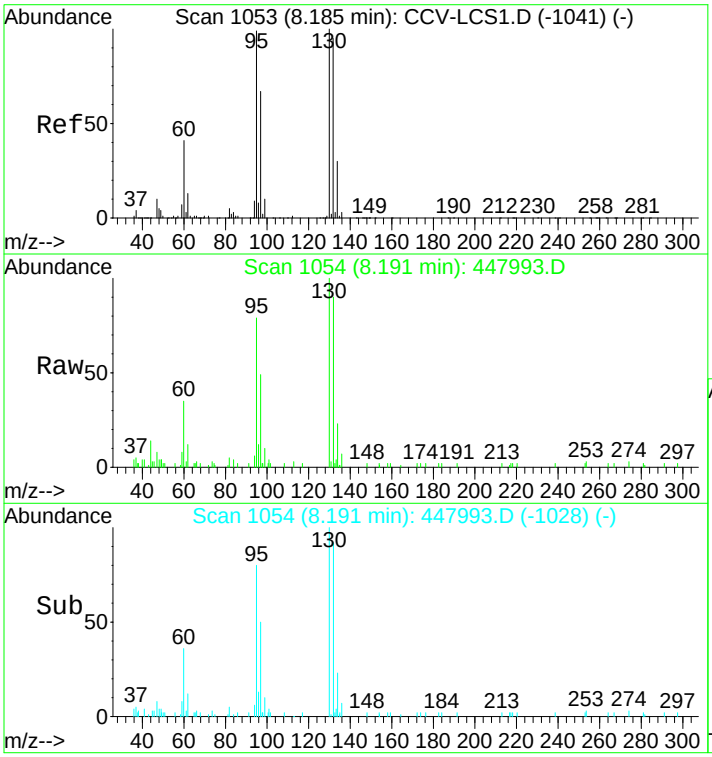


#43
Carbtetraclo
Concen: 5.21 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.00 min
Lab File: 447993.D
Acq: 28 Jul 2020 16:53

Tgt Ion:119 Resp: 94697

Ion	Ratio	Lower	Upper
119	100		
121	31.3	12.8	52.8

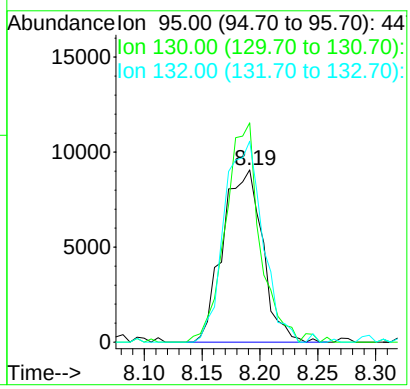


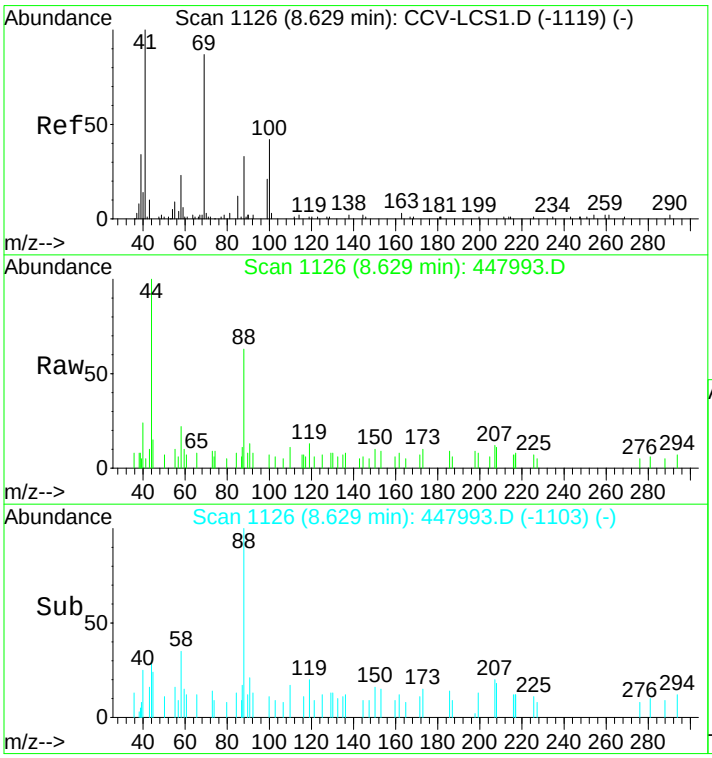


#49
trichloroete
Concen: 1.08 ug/L
RT: 8.19 min Scan# 1054
Delta R.T. 0.01 min
Lab File: 447993.D
Acq: 28 Jul 2020 16:53

Tgt Ion: 95 Resp: 21728

Ion	Ratio	Lower	Upper
95	100		
130	111.2	82.0	122.0
132	112.3	80.0	120.0

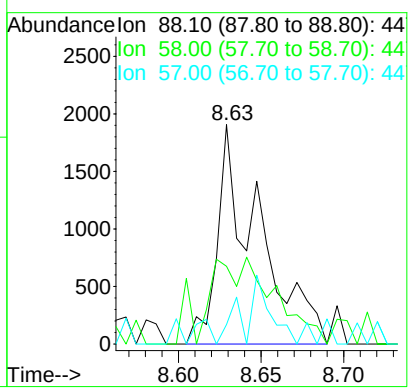




#55
14dioxane
Concen: 64.34 ug/L
RT: 8.63 min Scan# 1126
Delta R.T. -0.01 min
Lab File: 447993.D
Acq: 28 Jul 2020 16:53

Tgt Ion: 88 Resp: 3302

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447994.D Vial: 12
Acq On : 28 Jul 2020 17:24 Operator: RLD-DGS
Sample : 173473,447994, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:44:47 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1402277	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1182819	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	683759	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	394569	20.462	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%		
45) SURR12DCAd4	7.28	102	99121	20.621	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103	%		
61) SURRd8Tolule	9.72	98	1424363	20.277	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	588031	19.888	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3593	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	3439	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	3524	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447994.D Vial: 12
Acq On : 28 Jul 2020 17:24 Operator: RLD-DGS
Sample : 173473,447994, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:44:47 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.13	119	7099	1.1431 ug/L #	42
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	2808	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447994.D Vial: 12
Acq On : 28 Jul 2020 17:24 Operator: RLD-DGS
Sample : 173473,447994, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:44:47 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

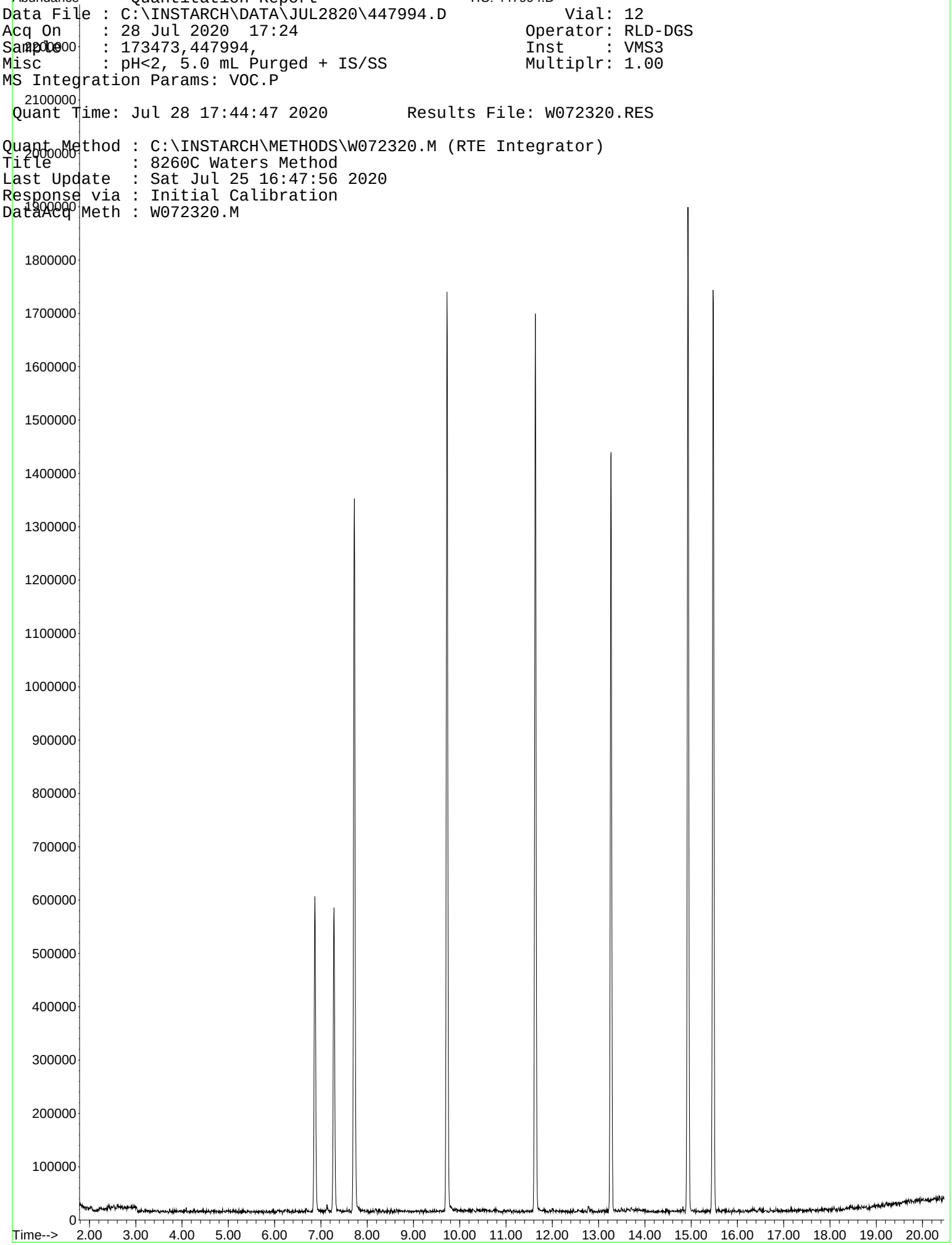
(#) = qualifier out of range (m) = manual integration

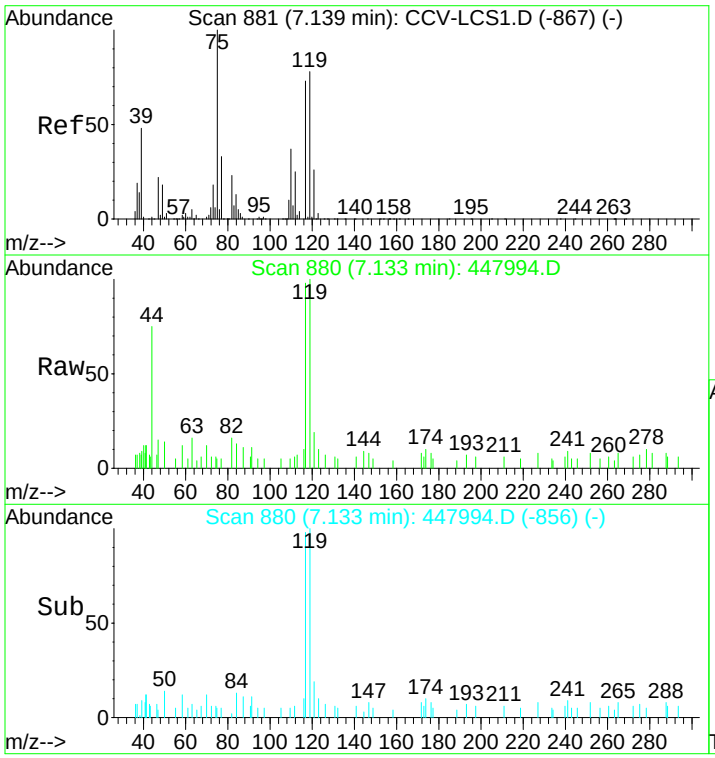
Abundance Quantitation Report TIC: 447994.D

Data File : C:\INSTARCH\DATA\JUL2820\447994.D Vial: 12
Acq On : 28 Jul 2020 17:24 Operator: RLD-DGS
Sample : 173473,447994, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 17:44:47 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

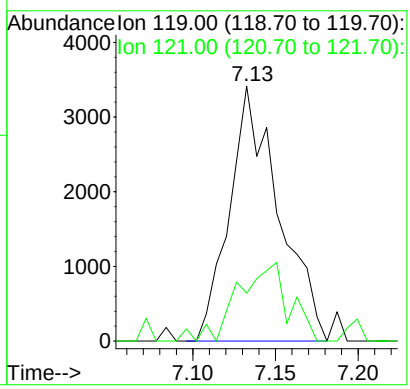




#43
Carbtetraclo
Concen: 1.14 ug/L
RT: 7.13 min Scan# 880
Delta R.T. -0.01 min
Lab File: 447994.D
Acq: 28 Jul 2020 17:24

Tgt Ion:119 Resp: 7099

Ion	Ratio	Lower	Upper
119	100		
121	0.0	12.8	52.8#



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447995.D Vial: 13
Acq On : 28 Jul 2020 17:54 Operator: RLD-DGS
Sample : 173473,447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 18:14:55 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1422507	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1197136	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	694640	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	394731	20.179	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	99183	20.341	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1445976	20.292	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	604222	20.116	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3286	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	3348	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	3138	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447995.D Vial: 13
Acq On : 28 Jul 2020 17:54 Operator: RLD-DGS
Sample : 173473,447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 18:14:55 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.14	119	3202	0.9578	ug/L	#	42
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	0.00	95	0	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.66	88	3952	76.8816	ug/L	#	18
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.63	91	3203	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

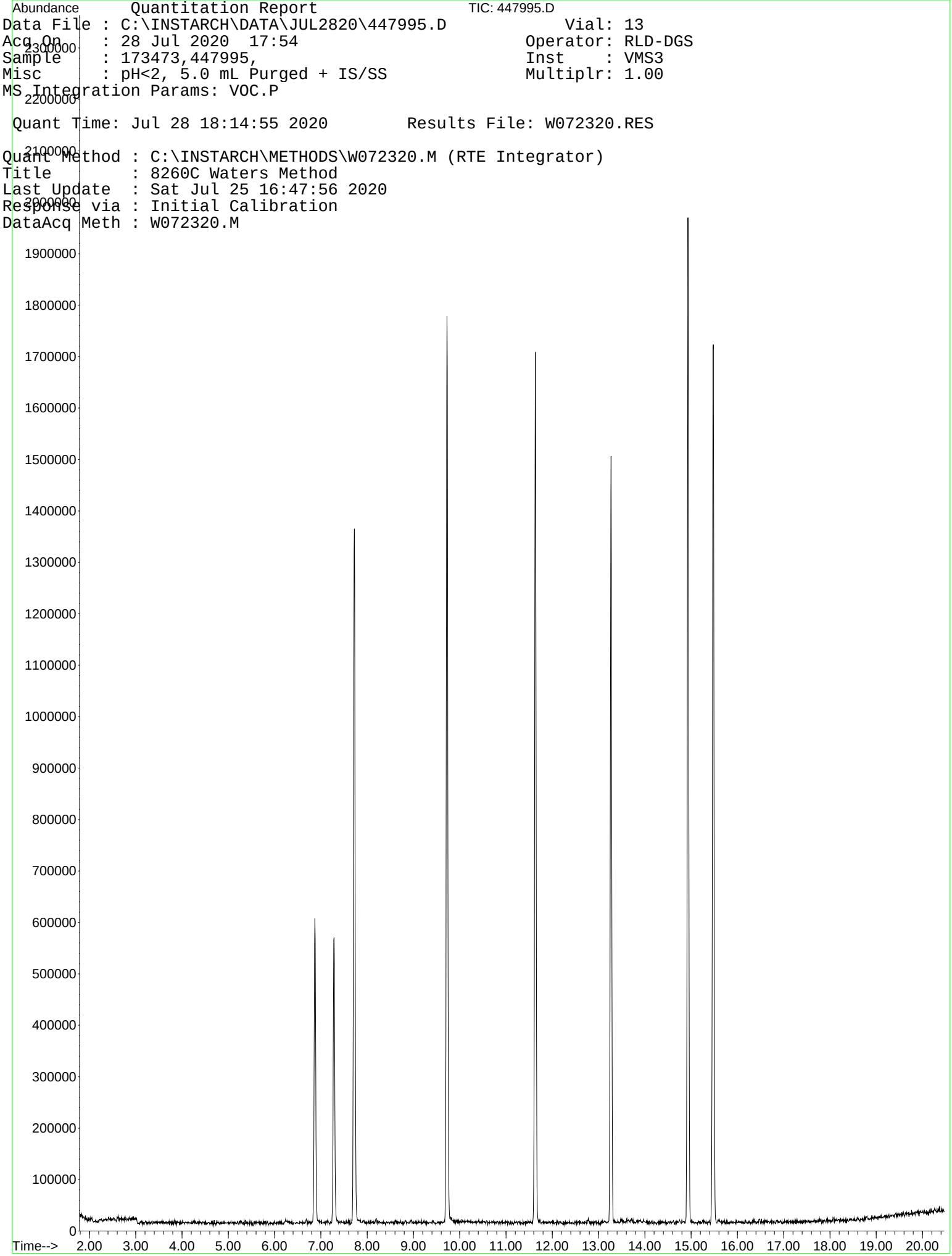
Data File : C:\INSTARCH\DATA\JUL2820\447995.D Vial: 13
Acq On : 28 Jul 2020 17:54 Operator: RLD-DGS
Sample : 173473,447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

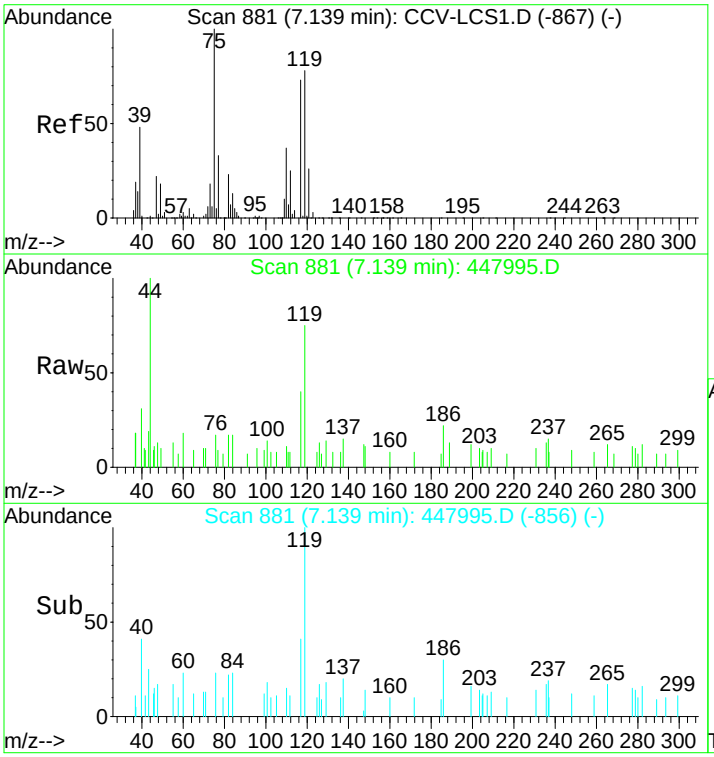
Quant Time: Jul 28 18:14:55 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

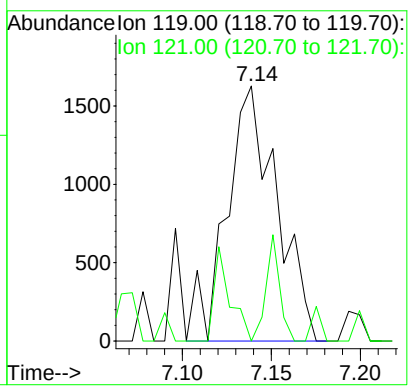

Abundance
Quantitation Report
TIC: 447995.D
Data File : C:\INSTARCH\DATA\JUL2820\447995.D
Vial: 13
Acq On : 28 Jul 2020 17:54
Operator: RLD-DGS
Sample : 173473,447995,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jul 28 18:14:55 2020
Results File: W072320.RES
Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
2300000
2200000
2100000
2000000
1900000
1800000
1700000
1600000
1500000
1400000
1300000
1200000
1100000
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

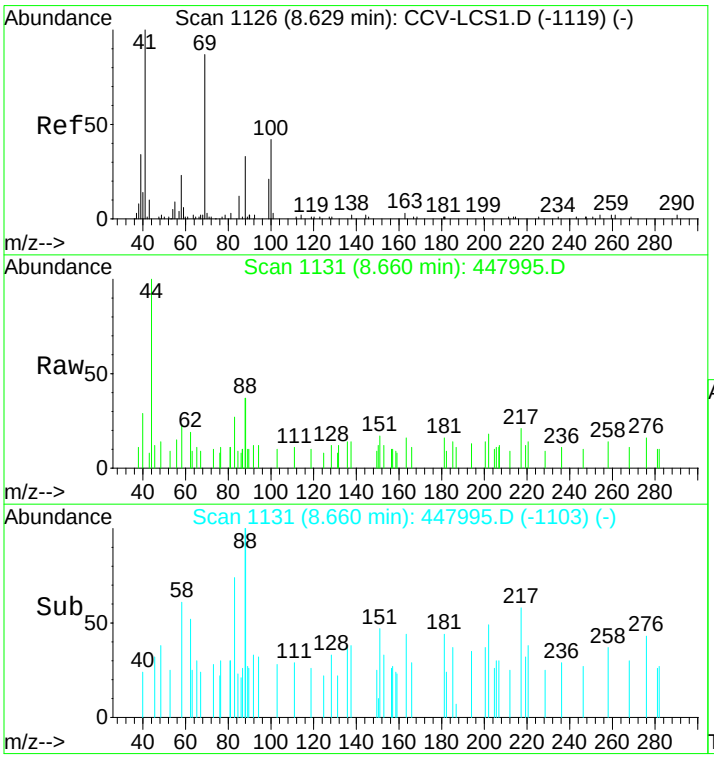


#43
Carbtetraclo
Concen: 0.96 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.00 min
Lab File: 447995.D
Acq: 28 Jul 2020 17:54

Tgt Ion:119 Resp: 3202

Ion	Ratio	Lower	Upper
119	100		
121	0.0	12.8	52.8#

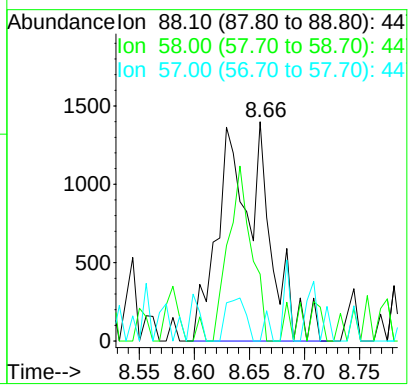




#55
14dioxane
Concen: 76.88 ug/L
RT: 8.66 min Scan# 1131
Delta R.T. 0.02 min
Lab File: 447995.D
Acq: 28 Jul 2020 17:54

Tgt Ion: 88 Resp: 3952

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449329.D Vial: 14
Acq On : 28 Jul 2020 18:24 Operator: RLD-DGS
Sample : 173473,449329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 18:44:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1400434	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1184421	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	673700	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	381798	19.826	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99	%		
45) SURR12DCAd4	7.28	102	99522	20.732	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104	%		
61) SURRd8Tolule	9.72	98	1423760	20.295	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	590640	20.275	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	3.29	101	2562	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.08	43	3054	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	4202	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.54	63	11805	0.4059	ug/L #	88
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.28	96	9676	0.4581	ug/L	94
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	2660	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449329.D Vial: 14
Acq On : 28 Jul 2020 18:24 Operator: RLD-DGS
Sample : 173473,449329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 18:44:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	5724	N.D.		
40)	111trichlota	6.93	97	6010	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.14	119	21992	1.8450	ug/L	98
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	0.00	62	0	N.D.		
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.19	95	34847	1.7642	ug/L	95
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	10.55	166	5248	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.64	91	3157	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	0.00	105	0	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449329.D Vial: 14
Acq On : 28 Jul 2020 18:24 Operator: RLD-DGS
Sample : 173473,449329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 18:44:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	0.00	128	0	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

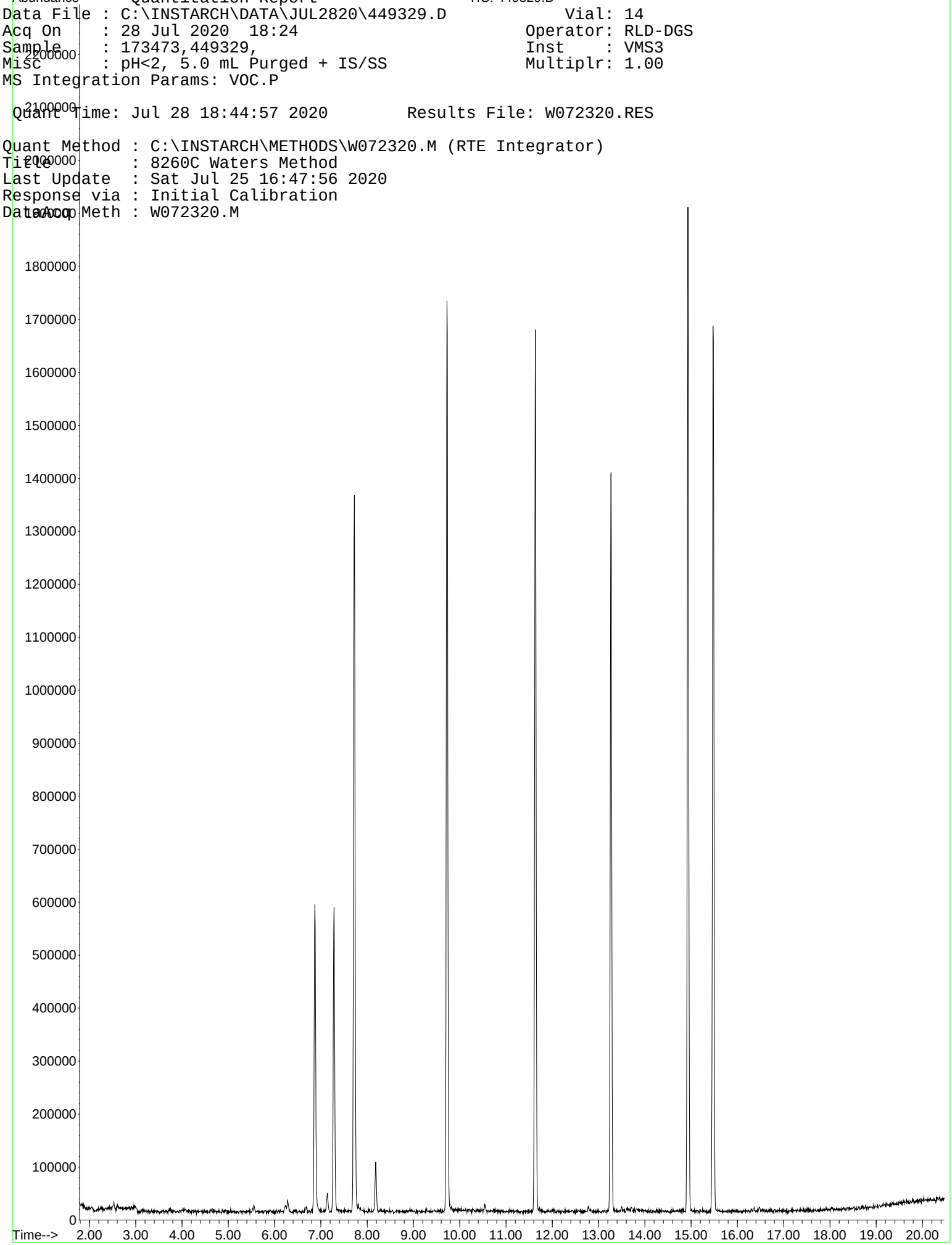
(#) = qualifier out of range (m) = manual integration

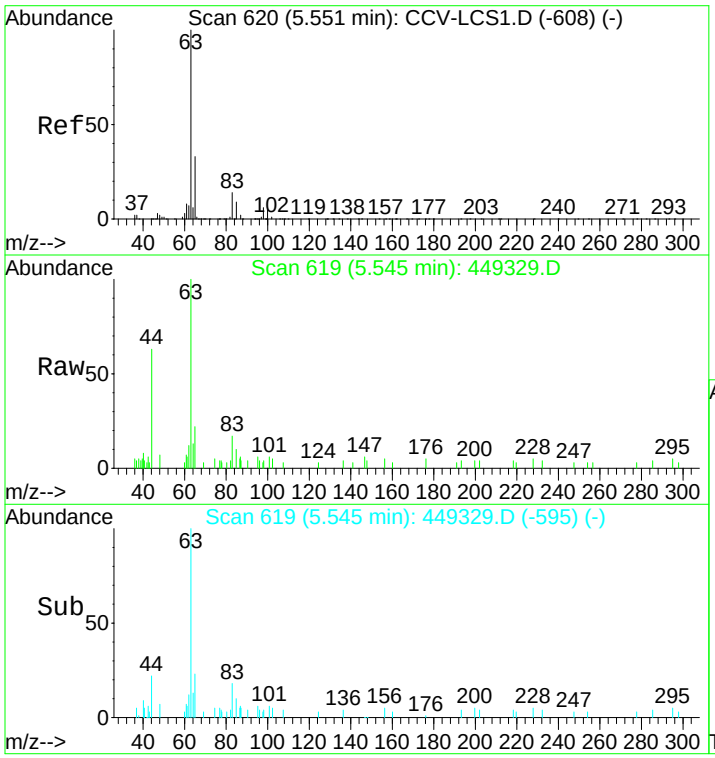
Abundance Quantitation Report TIC: 449329.D

Data File : C:\INSTARCH\DATA\JUL2820\449329.D Vial: 14
Acq On : 28 Jul 2020 18:24 Operator: RLD-DGS
Sample : 173473,449329, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 18:44:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

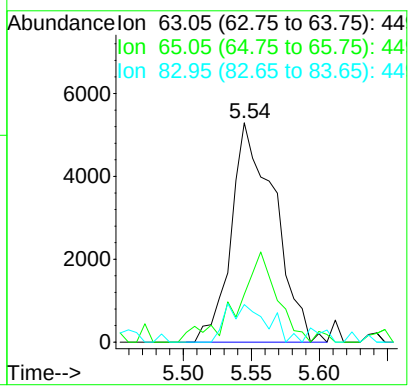


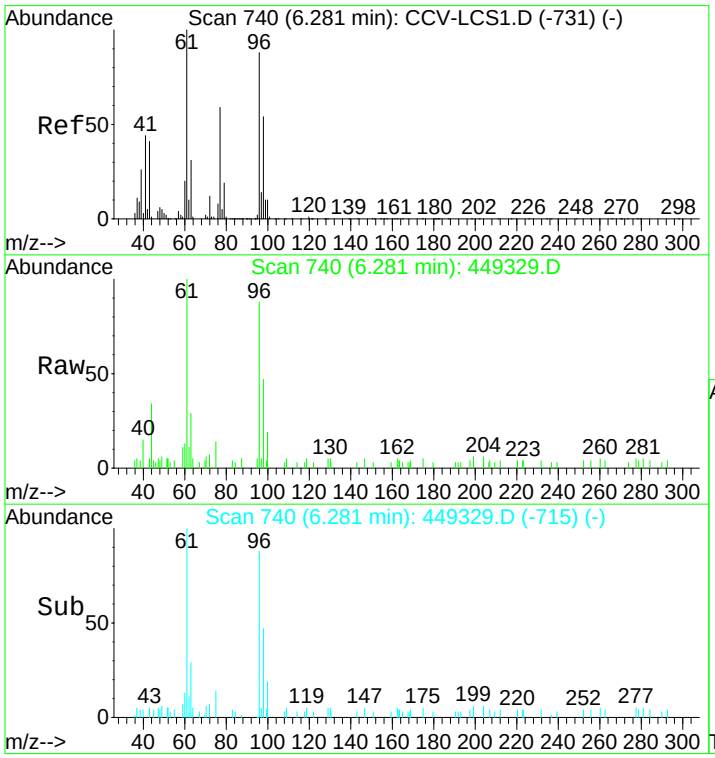


#26
11dichlorota
Concen: 0.41 ug/L
RT: 5.54 min Scan# 619
Delta R.T. -0.01 min
Lab File: 449329.D
Acq: 28 Jul 2020 18:24

Tgt Ion: 63 Resp: 11805

Ion	Ratio	Lower	Upper
63	100		
65	34.2	13.1	53.1
83	0.0	0.0	34.9

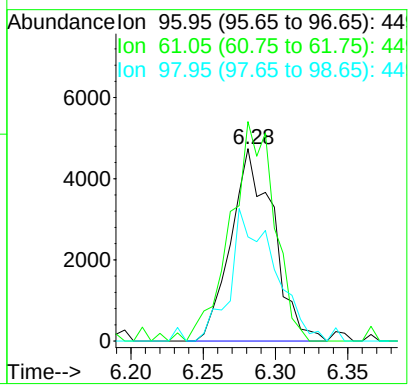


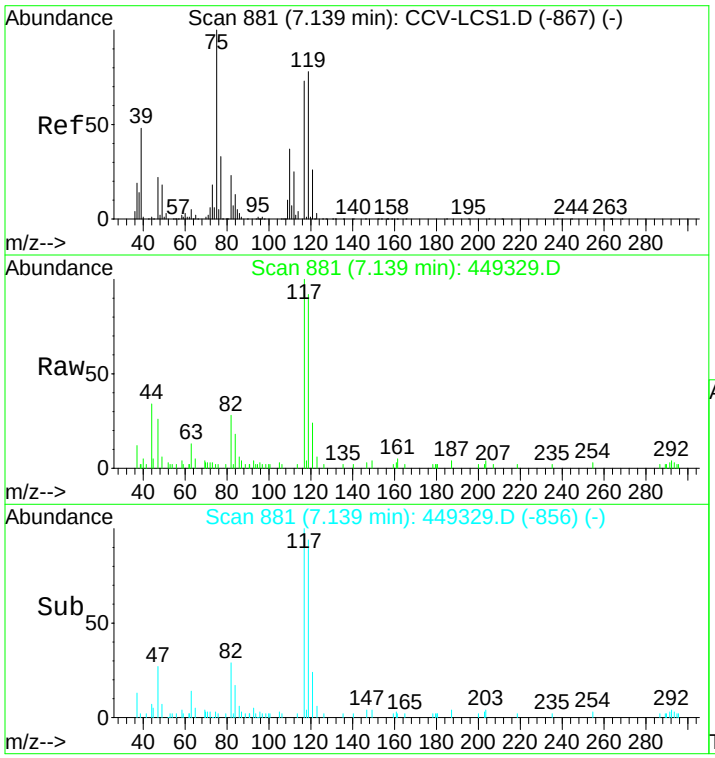


#32
c12dichlorte
Concen: 0.46 ug/L
RT: 6.28 min Scan# 740
Delta R.T. -0.00 min
Lab File: 449329.D
Acq: 28 Jul 2020 18:24

Tgt Ion: 96 Resp: 9676

Ion	Ratio	Lower	Upper
96	100		
61	118.1	104.5	144.5
98	71.1	45.2	85.2

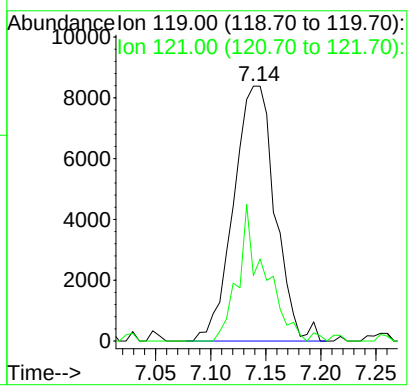


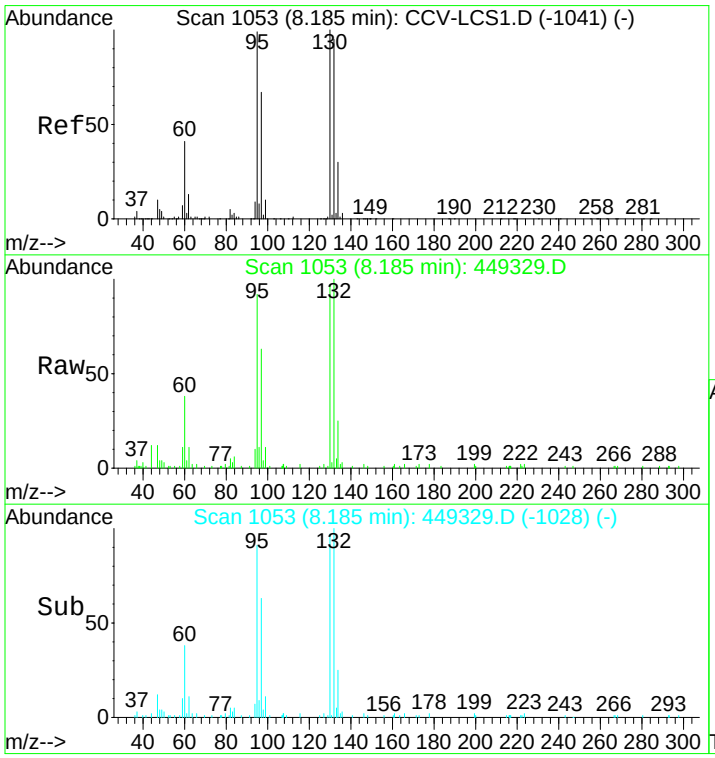


#43
Carbtetraclo
Concen: 1.85 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.00 min
Lab File: 449329.D
Acq: 28 Jul 2020 18:24

Tgt Ion:119 Resp: 21992

Ion	Ratio	Lower	Upper
119	100		
121	34.1	12.8	52.8

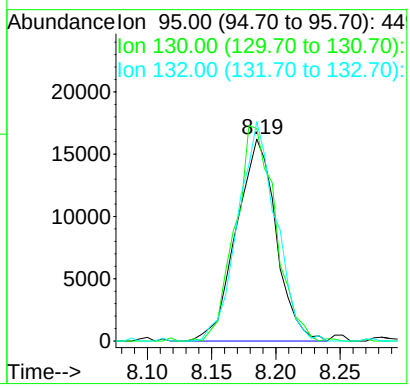




#49
trichloroete
Concen: 1.76 ug/L
RT: 8.19 min Scan# 1053
Delta R.T. -0.00 min
Lab File: 449329.D
Acq: 28 Jul 2020 18:24

Tgt Ion: 95 Resp: 34847

Ion	Ratio	Lower	Upper
95	100		
130	107.8	82.0	122.0
132	104.6	80.0	120.0



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449330.D Vial: 15
Acq On : 28 Jul 2020 18:54 Operator: RLD-DGS
Sample : 173473,449330, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 19:14:52 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1415334	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1195909	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	685005	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	395949	20.344 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102	%	
45) SURR12DCAd4	7.28	102	97699	20.138 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%	
61) SURRd8Tolule	9.72	98	1410085	19.888 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%	
83) SURR4BrFBenz	13.27	95	593715	20.044 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%	

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.10	43	3598	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.28	76	3392	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	0.00	42	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449330.D Vial: 15
Acq On : 28 Jul 2020 18:54 Operator: RLD-DGS
Sample : 173473,449330, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 19:14:52 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	106135	3.2669	ug/L		100
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	7.14	119	489344	23.8469	ug/L		99
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.18	95	55120	2.7612	ug/L		98
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.65	88	2724	53.2609	ug/L	#	18
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	0.00	92	0	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.63	91	3244	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	0.00	91	0	N.D.			
76)	m p-Xylene	0.00	106	0	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	0.00	104	0	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	0.00	105	0	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	15.47	91	2619	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

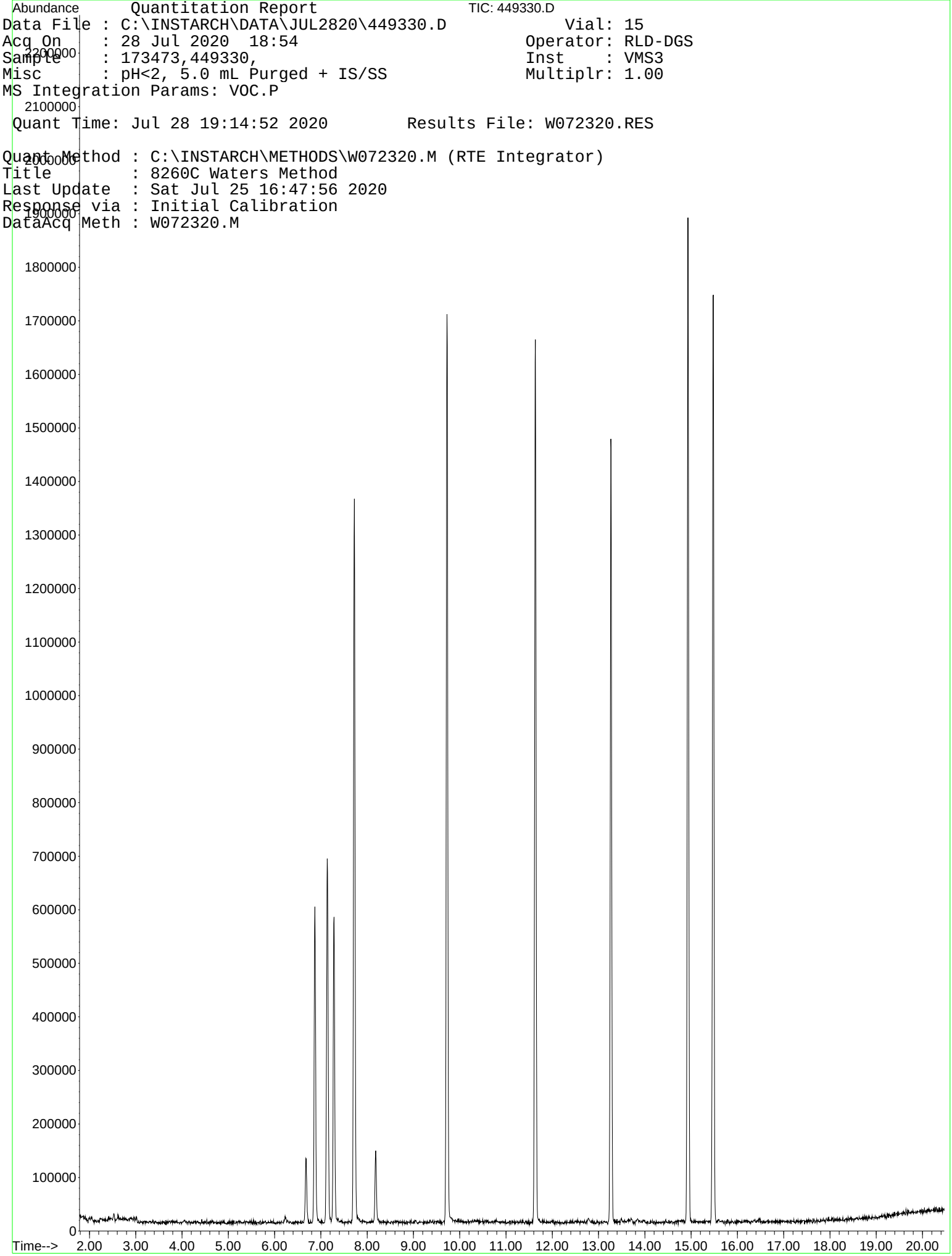
Data File : C:\INSTARCH\DATA\JUL2820\449330.D Vial: 15
Acq On : 28 Jul 2020 18:54 Operator: RLD-DGS
Sample : 173473,449330, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

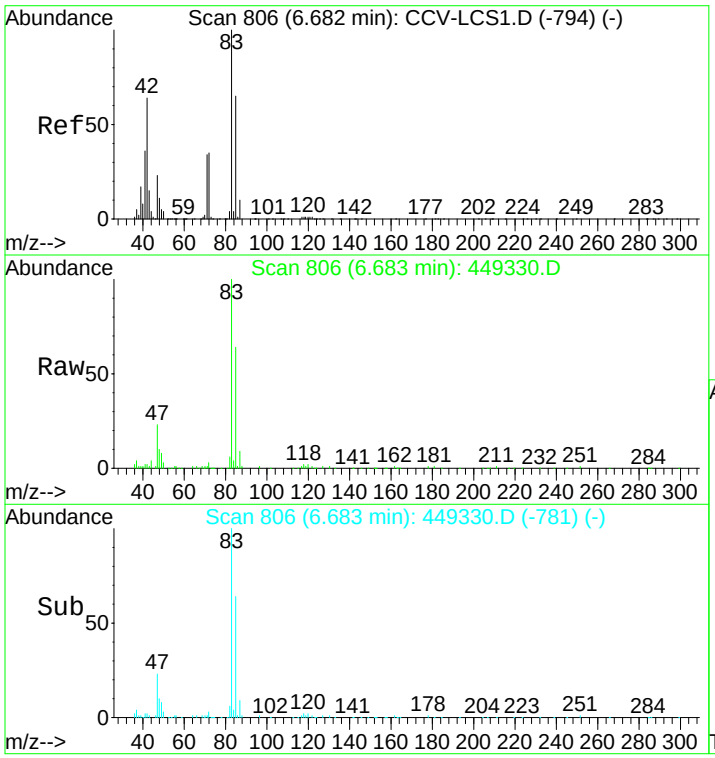
Quant Time: Jul 28 19:14:52 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

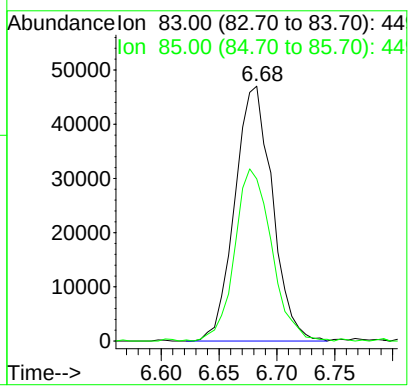

Abundance
Quantitation Report
TIC: 449330.D
Data File : C:\INSTARCH\DATA\JUL2820\449330.D
Vial: 15
Acq On : 28 Jul 2020 18:54
Operator: RLD-DGS
Sample : 173473,449330,
Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS
Multiplr: 1.00
MS Integration Params: VOC.P
Quant Time: Jul 28 19:14:52 2020
Results File: W072320.RES
Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
2200000
2100000
2000000
1900000
1800000
1700000
1600000
1500000
1400000
1300000
1200000
1100000
1000000
900000
800000
700000
600000
500000
400000
300000
200000
100000
0
Time-->
2.00
3.00
4.00
5.00
6.00
7.00
8.00
9.00
10.00
11.00
12.00
13.00
14.00
15.00
16.00
17.00
18.00
19.00
20.00

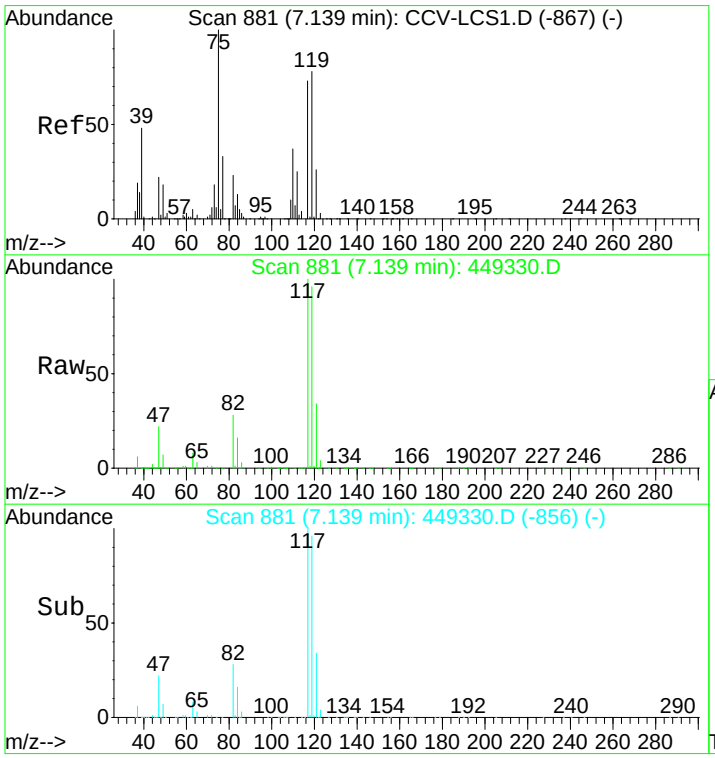


#39
Chloroform
Concen: 3.27 ug/L
RT: 6.68 min Scan# 806
Delta R.T. 0.00 min
Lab File: 449330.D
Acq: 28 Jul 2020 18:54

Tgt Ion: 83 Resp: 106135

Ion	Ratio	Lower	Upper
83	100		
85	66.5	46.3	86.3

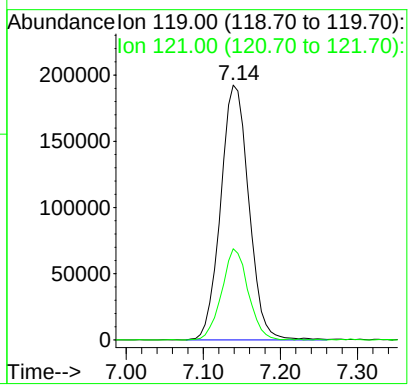


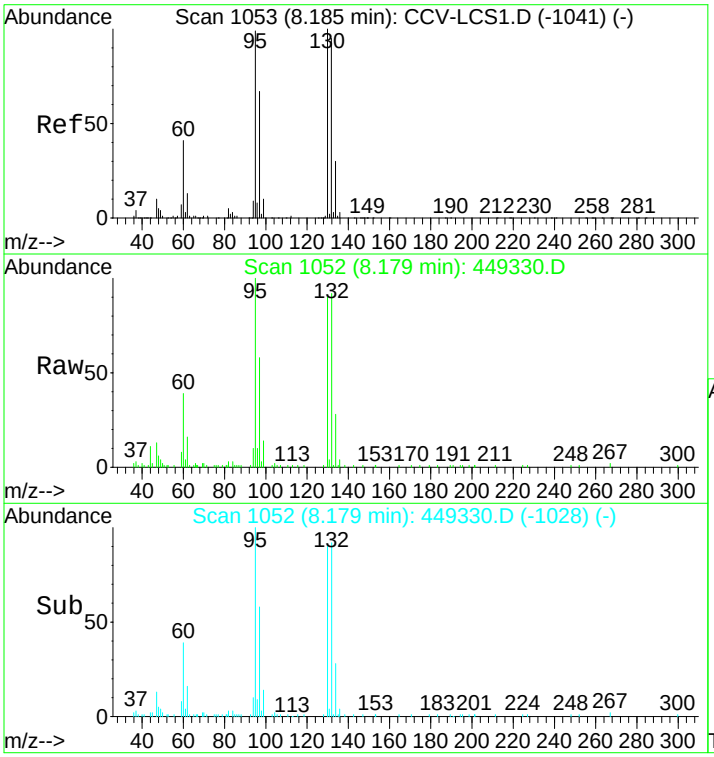


#43
Carbtetraclo
Concen: 23.85 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.00 min
Lab File: 449330.D
Acq: 28 Jul 2020 18:54

Tgt Ion:119 Resp: 489344

Ion	Ratio	Lower	Upper
119	100		
121	33.5	12.8	52.8

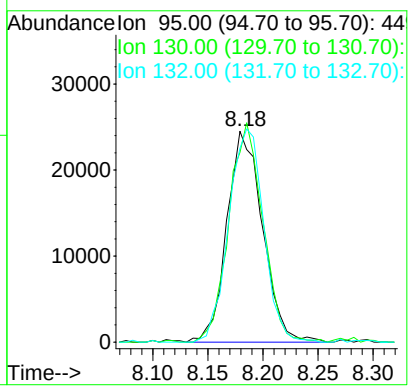


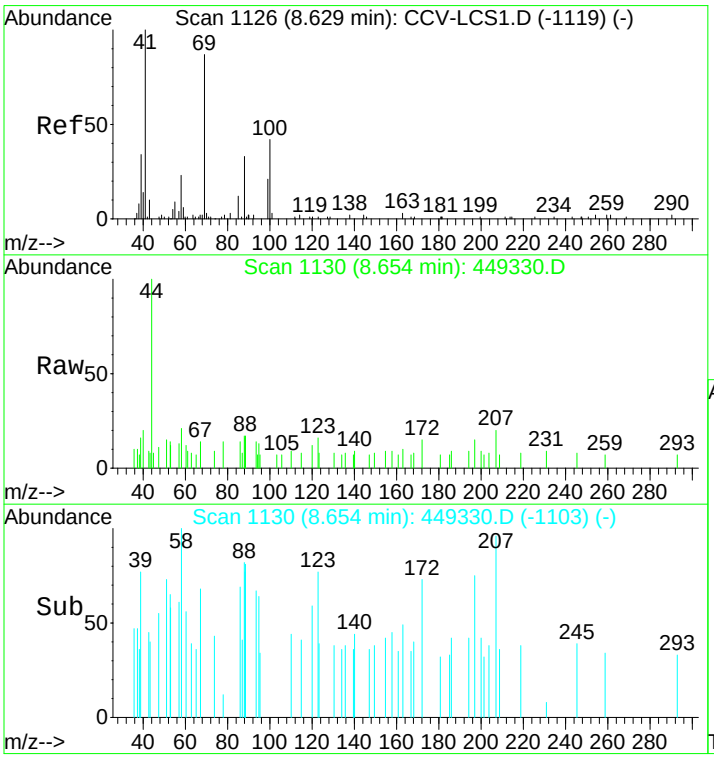


#49
trichloroete
Concen: 2.76 ug/L
RT: 8.18 min Scan# 1052
Delta R.T. -0.01 min
Lab File: 449330.D
Acq: 28 Jul 2020 18:54

Tgt Ion: 95 Resp: 55120

Ion	Ratio	Lower	Upper
95	100		
130	99.6	82.0	122.0
132	99.2	80.0	120.0

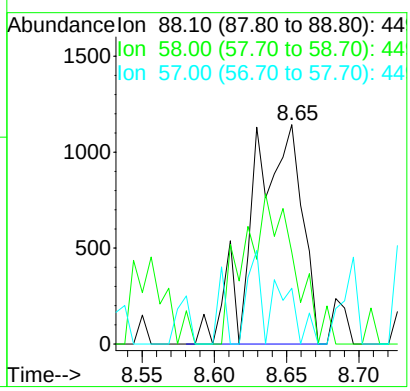




#55
14dioxane
Concen: 53.26 ug/L
RT: 8.65 min Scan# 1130
Delta R.T. 0.01 min
Lab File: 449330.D
Acq: 28 Jul 2020 18:54

Tgt Ion: 88 Resp: 2724

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449331.D Vial: 16
Acq On : 28 Jul 2020 19:24 Operator: RLD-DGS
Sample : 173473,449331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 19:44:39 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1408758	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1191006	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	685910	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	394675	20.373 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %		
45) SURR12DCAd4	7.28	102	101408	21.000 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 105 %		
61) SURRd8Tolule	9.72	98	1426250	20.210 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %		
83) SURR4BrFBenz	13.26	95	592666	19.982 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3396	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	4569	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	6.24	77	2636	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.69	42	3319	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449331.D Vial: 16
Acq On : 28 Jul 2020 19:24 Operator: RLD-DGS
Sample : 173473,449331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 19:44:39 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.68	83	471965	14.5954 ug/L	100
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.14	119	1331734	65.0381 ug/L	97
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	7.38	62	22869	0.8777 ug/L	95
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.19	95	307142	15.4579 ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.64	88	3359	65.9833 ug/L #	18
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.82	92	3328	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	3213	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.45	105	3399	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449331.D Vial: 16
Acq On : 28 Jul 2020 19:24 Operator: RLD-DGS
Sample : 173473,449331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 19:44:39 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

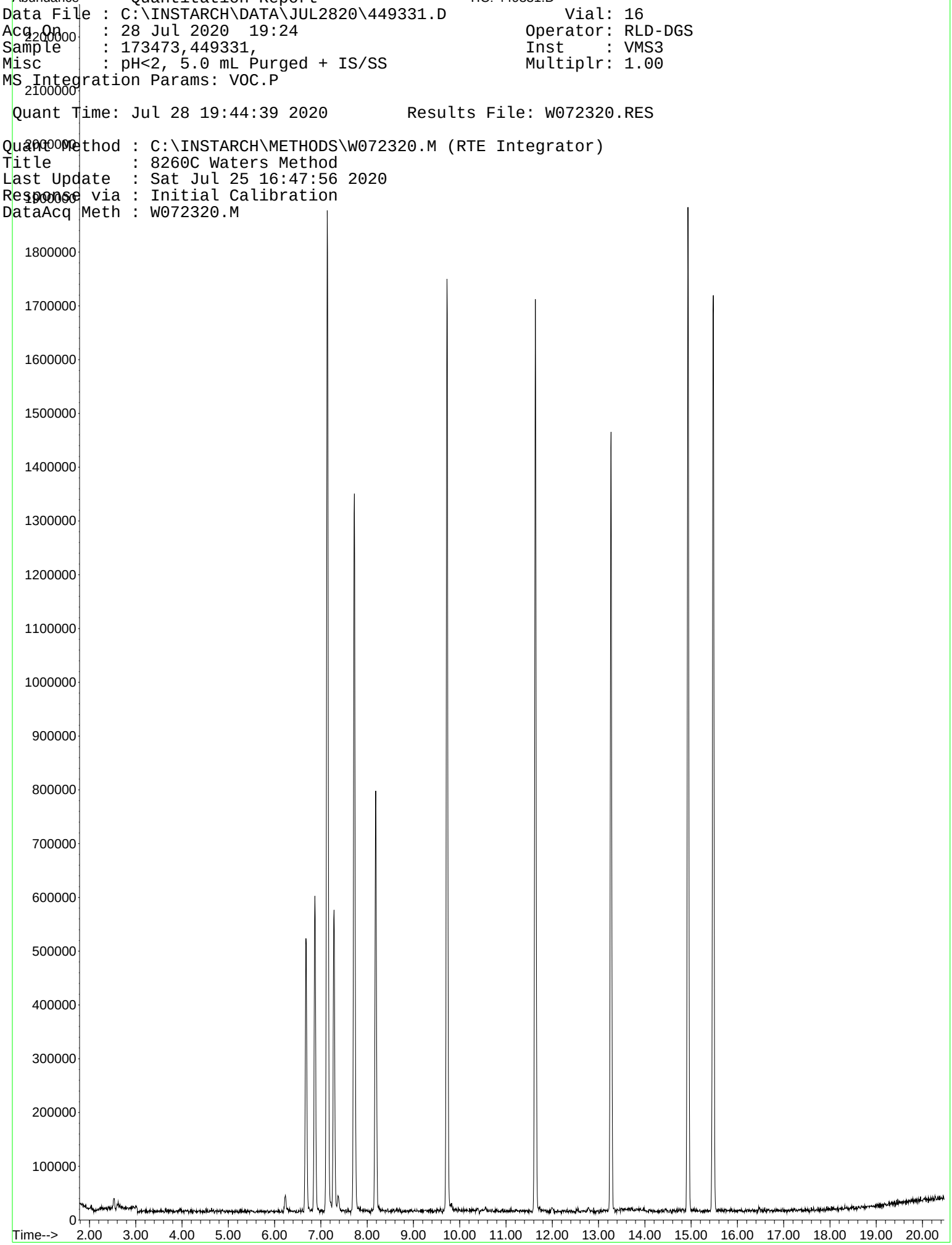
(#) = qualifier out of range (m) = manual integration

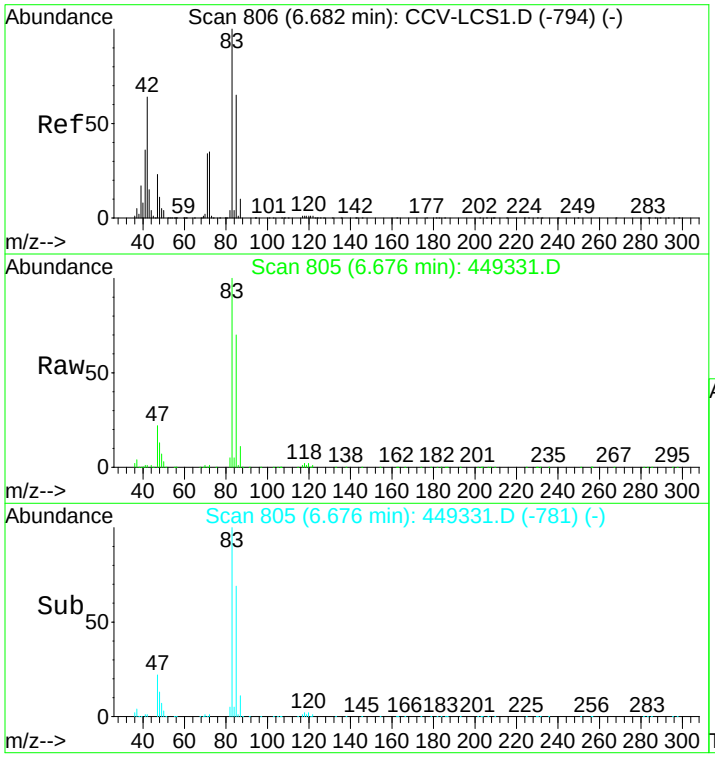
Abundance Quantitation Report TIC: 449331.D

Data File : C:\INSTARCH\DATA\JUL2820\449331.D Vial: 16
Acq On : 28 Jul 2020 19:24 Operator: RLD-DGS
Sample : 173473,449331, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 19:44:39 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

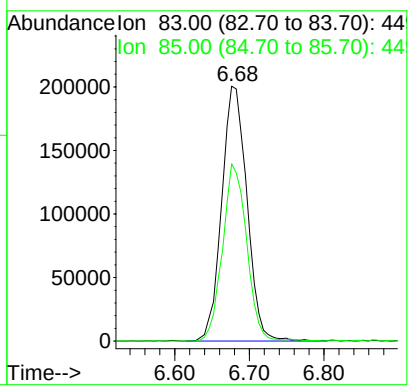


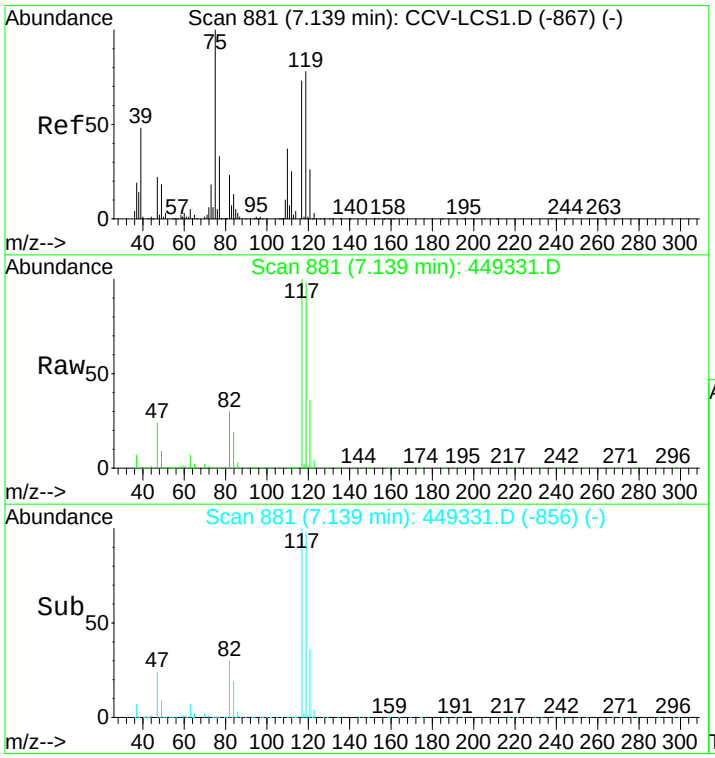


#39
Chloroform
Concen: 14.60 ug/L
RT: 6.68 min Scan# 805
Delta R.T. -0.01 min
Lab File: 449331.D
Acq: 28 Jul 2020 19:24

Tgt Ion: 83 Resp: 471965

Ion	Ratio	Lower	Upper
83	100		
85	66.5	46.3	86.3

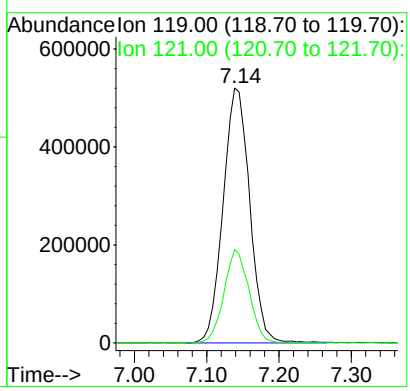


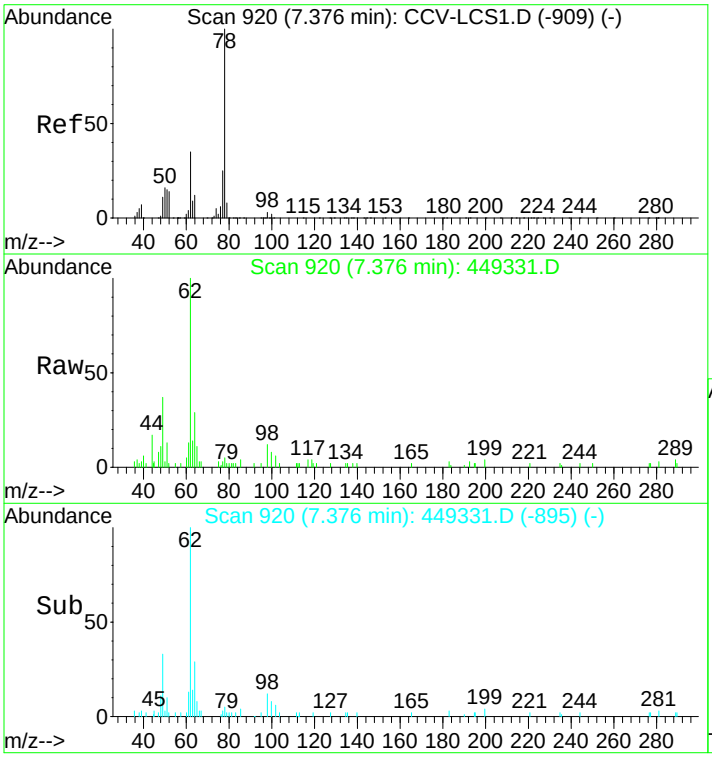


#43
Carbtetraclo
Concen: 65.04 ug/L
RT: 7.14 min Scan# 881
Delta R.T. 0.00 min
Lab File: 449331.D
Acq: 28 Jul 2020 19:24

Tgt Ion:119 Resp: 1331734

Ion	Ratio	Lower	Upper
119	100		
121	34.4	12.8	52.8

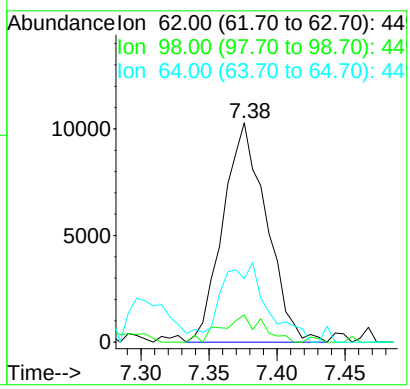


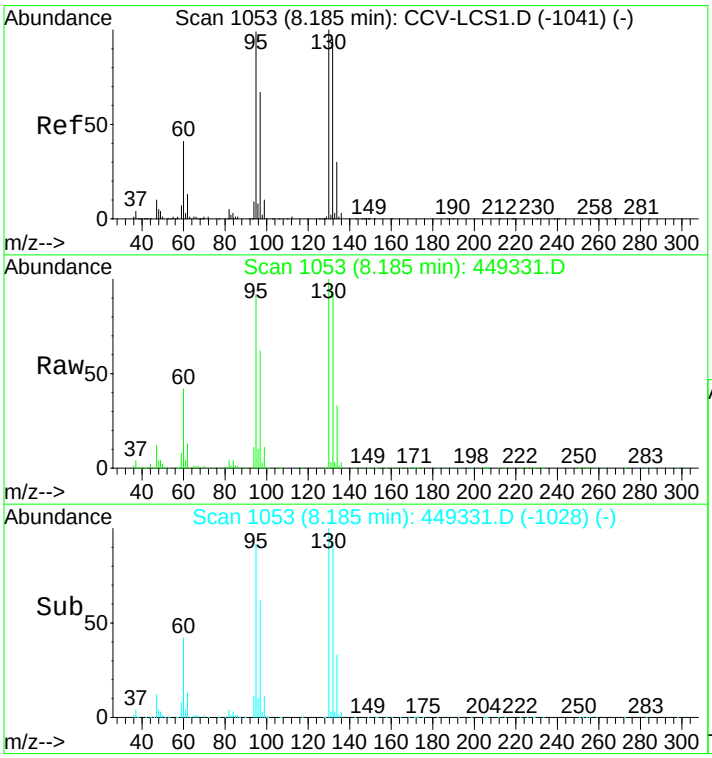


#47
12dichlorota
Concen: 0.88 ug/L
RT: 7.38 min Scan# 920
Delta R.T. 0.00 min
Lab File: 449331.D
Acq: 28 Jul 2020 19:24

Tgt Ion: 62 Resp: 22869

Ion	Ratio	Lower	Upper
62	100		
98	11.7	0.0	30.0
64	36.6	13.6	53.6

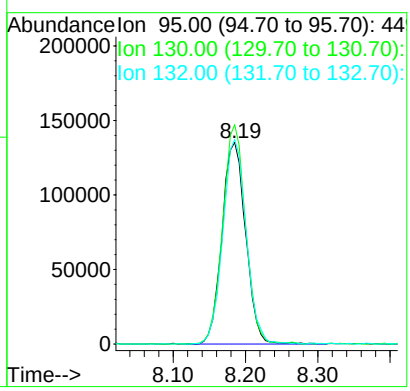


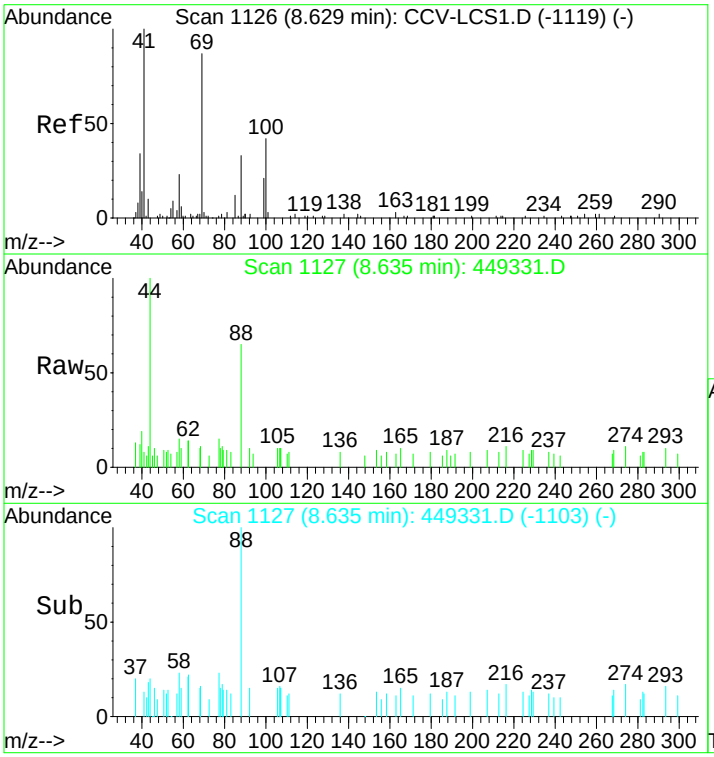


#49
trichloroete
Concen: 15.46 ug/L
RT: 8.19 min Scan# 1053
Delta R.T. -0.00 min
Lab File: 449331.D
Acq: 28 Jul 2020 19:24

Tgt Ion: 95 Resp: 307142

Ion	Ratio	Lower	Upper
95	100		
130	106.0	82.0	122.0
132	100.1	80.0	120.0

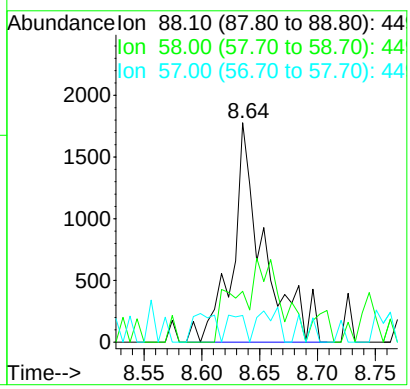




#55
14dioxane
Concen: 65.98 ug/L
RT: 8.64 min Scan# 1127
Delta R.T. -0.01 min
Lab File: 449331.D
Acq: 28 Jul 2020 19:24

Tgt Ion: 88 Resp: 3359

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449332.D Vial: 17
Acq On : 28 Jul 2020 19:53 Operator: RLD-DGS
Sample : 173473,449332, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:14:32 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1446870	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1218640	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	693557	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	402479	20.229	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	100762	20.317	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1457173	20.104	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	602918	20.104	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.10	43	3035	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.26	76	4034	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	0.00	84	0	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.66	42	4204	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449332.D Vial: 17
Acq On : 28 Jul 2020 19:53 Operator: RLD-DGS
Sample : 173473,449332, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:14:32 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	476466	14.3464	ug/L	100
40)	111trichlota	0.00	97	0	N.D.		
42)	Cyclohexane	0.00	56	0	N.D.		
43)	Carbtetraclo	7.14	119	1398560	66.5312	ug/L	96
44)	11dicloprope	0.00	110	0	N.D.		
46)	Benzene	0.00	78	0	N.D.		
47)	12dichlorota	7.38	62	23534	0.8795	ug/L	97
48)	TAME	0.00	73	0	N.D.		
49)	trichloroete	8.19	95	310505	15.2155	ug/L	98
50)	methylcyclohexane	0.00	83	0	N.D.		
51)	12dicloropra	0.00	63	0	N.D.		
52)	23Dicl1propene	0.00	75	0	N.D.		
53)	Dibromometha	0.00	93	0	N.D.		
54)	methylmethacrylate	0.00	69	0	N.D.		
55)	14dioxane	0.00	88	0	N.D.		
56)	Bromodiclrma	0.00	83	0	N.D.		
57)	2Nitropropane	0.00	43	0	N.D.		
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	0.00	75	0	N.D.		
60)	4Meth2Pentan	0.00	43	0	N.D.		
62)	Toluene	0.00	92	0	N.D.		
63)	t13Dicloprop	0.00	75	0	N.D.		
64)	ethylmethacrylate	0.00	69	0	N.D.		
65)	112Triclotha	0.00	83	0	N.D.		
66)	Tetrachlorte	0.00	166	0	N.D.		
67)	13Diclorpropa	0.00	76	0	N.D.		
69)	2Hexanone	0.00	43	0	N.D.		
70)	Clorodibrmta	0.00	129	0	N.D.		
71)	12Dibrometha	0.00	107	0	N.D.		
72)	Chlorobenzen	0.00	112	0	N.D.		
73)	1Clhexane	11.62	91	3142	N.D.		
74)	1112Tetclota	0.00	131	0	N.D.		
75)	Ethylbenzene	0.00	91	0	N.D.		
76)	m p-Xylene	0.00	106	0	N.D.		
77)	o-Xylene	0.00	106	0	N.D.		
78)	Styrene	0.00	104	0	N.D.		
79)	Bromoform	0.00	173	0	N.D.		
80)	Isopropylben	0.00	105	0	N.D.		
81)	cyclohexanone	0.00	55	0	N.D.		
84)	Bromobenzene	0.00	156	0	N.D.		
85)	1122Tetrclta	0.00	83	0	N.D.		
86)	123Triclproa	0.00	75	0	N.D.		
87)	14dichloro2butene	0.00	53	0	N.D.		
88)	n-Propylbenz	0.00	91	0	N.D.		
89)	2chlorotolue	0.00	91	0	N.D.		
90)	4chlorotolue	0.00	91	0	N.D.		
91)	135Trimebenz	0.00	105	0	N.D.		
92)	tbutylbenzen	0.00	119	0	N.D.		
93)	124Trimetben	14.44	105	2774	N.D.		
94)	sbutylbenzen	0.00	105	0	N.D.		
95)	13Diclorbenz	0.00	146	0	N.D.		
96)	pIsopropylto	0.00	119	0	N.D.		
97)	14dichlorobe	0.00	146	0	N.D.		
98)	12dichlorobe	0.00	146	0	N.D.		
99)	nButylbenzen	0.00	91	0	N.D.		
100)	12dibromo3cl	0.00	157	0	N.D.		
101)	135Trichlorobenzene	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449332.D Vial: 17
Acq On : 28 Jul 2020 19:53 Operator: RLD-DGS
Sample : 173473,449332, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:14:32 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

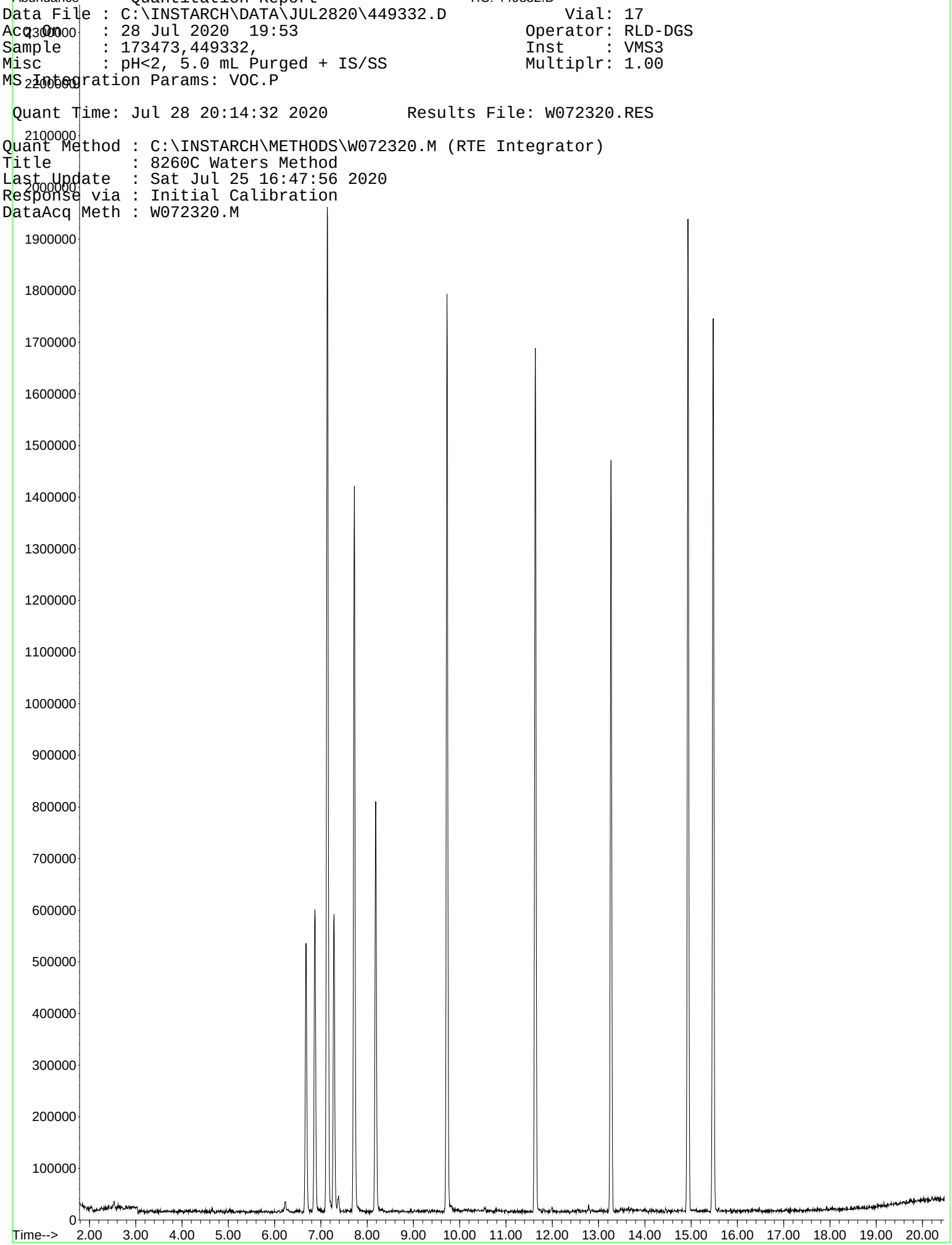
(#) = qualifier out of range (m) = manual integration

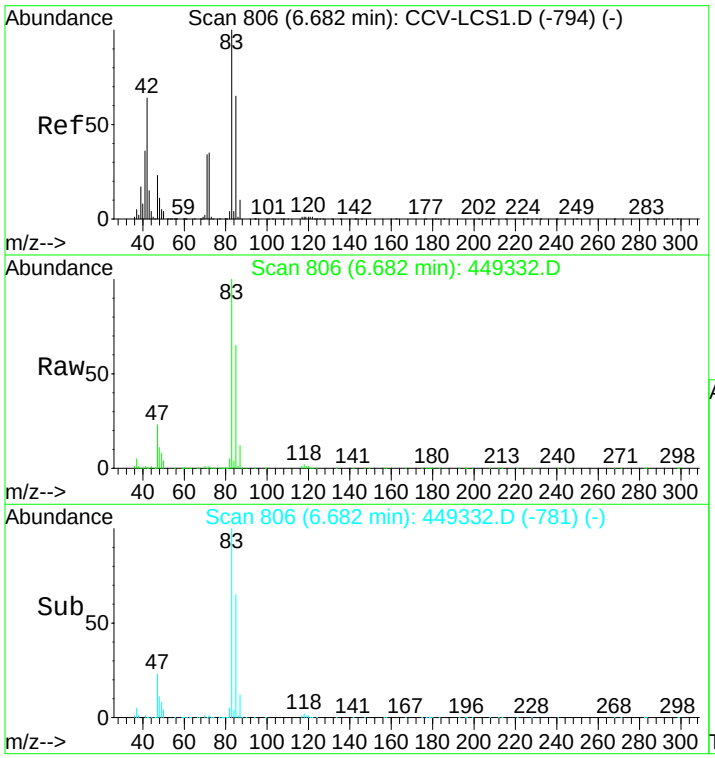
Abundance Quantitation Report TIC: 449332.D

Data File : C:\INSTARCH\DATA\JUL2820\449332.D Vial: 17
Acq On : 28 Jul 2020 19:53 Operator: RLD-DGS
Sample : 173473,449332, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:14:32 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

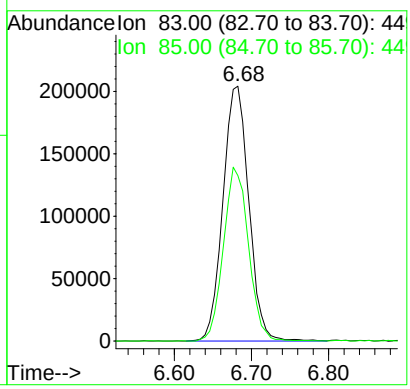


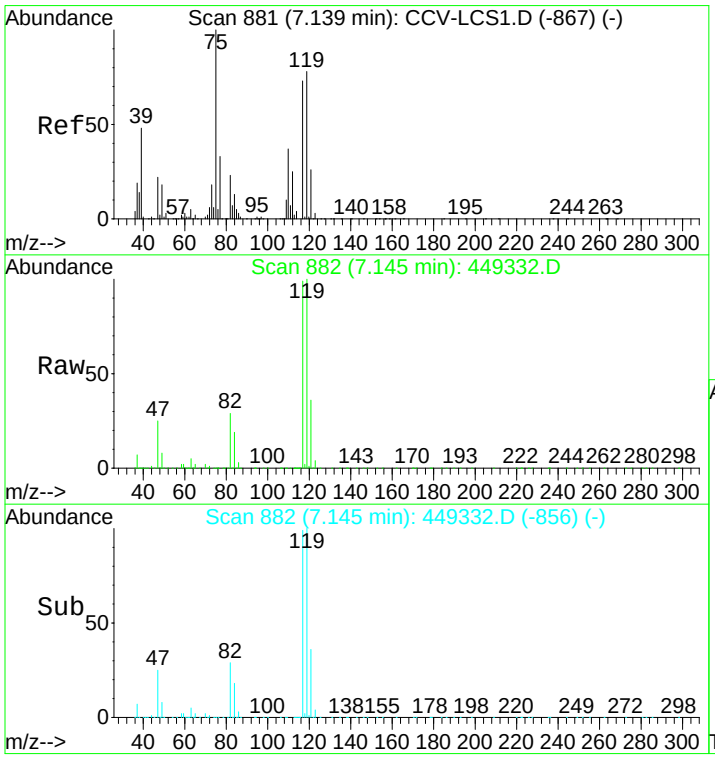


#39
Chloroform
Concen: 14.35 ug/L
RT: 6.68 min Scan# 806
Delta R.T. -0.00 min
Lab File: 449332.D
Acq: 28 Jul 2020 19:53

Tgt Ion: 83 Resp: 476466

Ion	Ratio	Lower	Upper
83	100		
85	66.1	46.3	86.3

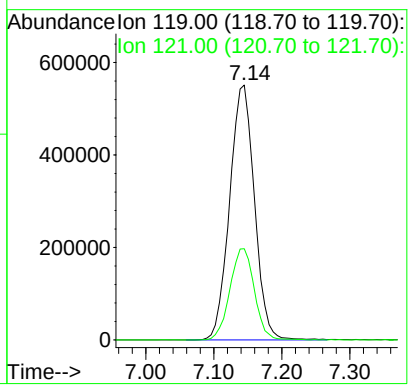


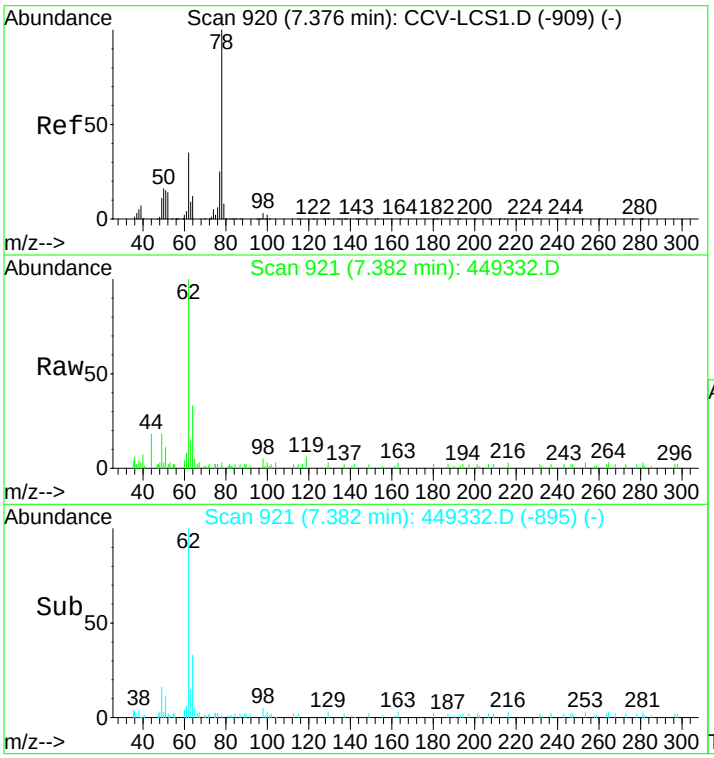


#43
Carbtetraclo
Concen: 66.53 ug/L
RT: 7.14 min Scan# 882
Delta R.T. 0.01 min
Lab File: 449332.D
Acq: 28 Jul 2020 19:53

Tgt Ion:119 Resp: 1398560

Ion	Ratio	Lower	Upper
119	100		
121	35.2	12.8	52.8

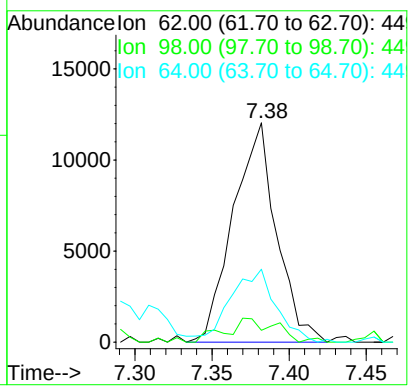


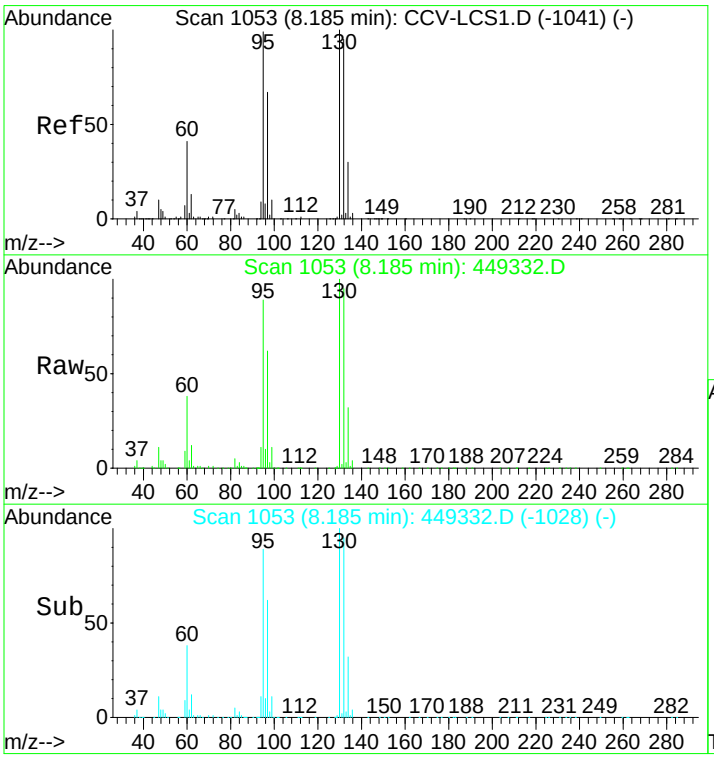


#47
12dichlorota
Concen: 0.88 ug/L
RT: 7.38 min Scan# 921
Delta R.T. 0.01 min
Lab File: 449332.D
Acq: 28 Jul 2020 19:53

Tgt Ion: 62 Resp: 23534

Ion	Ratio	Lower	Upper
62	100		
98	12.6	0.0	30.0
64	34.7	13.6	53.6

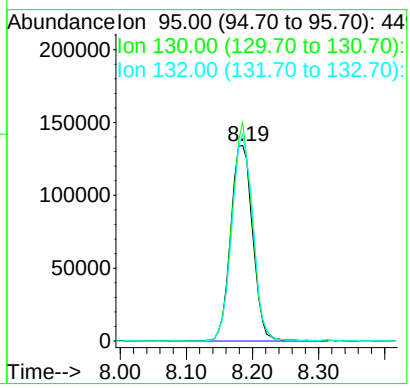




#49
trichloroete
Concen: 15.22 ug/L
RT: 8.19 min Scan# 1053
Delta R.T. -0.00 min
Lab File: 449332.D
Acq: 28 Jul 2020 19:53

Tgt Ion: 95 Resp: 310505

Ion	Ratio	Lower	Upper
95	100		
130	103.5	82.0	122.0
132	101.9	80.0	120.0



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449333.D Vial: 18
Acq On : 28 Jul 2020 20:23 Operator: RLD-DGS
Sample : 173473,449333, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:44:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1373838	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1159039	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	665490	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	376930	19.952	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	97831	20.774	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 104	%		
61) SURRd8Tolule	9.72	98	1386316	20.144	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.27	95	589478	20.485	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	0.00	67	0	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.09	43	2617	Below	Cal #	42
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.28	76	3107	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	3285	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449333.D Vial: 18
Acq On : 28 Jul 2020 20:23 Operator: RLD-DGS
Sample : 173473,449333, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:44:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	0.00	83	0	N.D.			
40)	111trichlota	0.00	97	0	N.D.			
42)	Cyclohexane	0.00	56	0	N.D.			
43)	Carbtetraclo	0.00	119	0	N.D.			
44)	11dicloprope	0.00	110	0	N.D.			
46)	Benzene	0.00	78	0	N.D.			
47)	12dichlorota	0.00	62	0	N.D.			
48)	TAME	0.00	73	0	N.D.			
49)	trichloroete	8.19	95	2925	N.D.			
50)	methylcyclohexane	0.00	83	0	N.D.			
51)	12dicloropra	0.00	63	0	N.D.			
52)	23Dicl1propene	0.00	75	0	N.D.			
53)	Dibromometha	0.00	93	0	N.D.			
54)	methylmethacrylate	0.00	69	0	N.D.			
55)	14dioxane	8.64	88	3672	73.9652	ug/L	#	18
56)	Bromodiclrma	0.00	83	0	N.D.			
57)	2Nitropropane	0.00	43	0	N.D.			
58)	2CLEVE	0.00	63	0	N.D.			
59)	c13dicloproe	0.00	75	0	N.D.			
60)	4Meth2Pentan	0.00	43	0	N.D.			
62)	Toluene	9.81	92	4319	N.D.			
63)	t13Dicloprop	0.00	75	0	N.D.			
64)	ethylmethacrylate	0.00	69	0	N.D.			
65)	112Triclotha	0.00	83	0	N.D.			
66)	Tetrachlorte	0.00	166	0	N.D.			
67)	13Diclorpropa	0.00	76	0	N.D.			
69)	2Hexanone	0.00	43	0	N.D.			
70)	Clorodibrmta	0.00	129	0	N.D.			
71)	12Dibrometha	0.00	107	0	N.D.			
72)	Chlorobenzen	0.00	112	0	N.D.			
73)	1Clhexane	11.63	91	3265	N.D.			
74)	1112Tetclota	0.00	131	0	N.D.			
75)	Ethylbenzene	11.83	91	2791	N.D.			
76)	m p-Xylene	11.99	106	4039	N.D.			
77)	o-Xylene	0.00	106	0	N.D.			
78)	Styrene	12.56	104	2907	N.D.			
79)	Bromoform	0.00	173	0	N.D.			
80)	Isopropylben	0.00	105	0	N.D.			
81)	cyclohexanone	0.00	55	0	N.D.			
84)	Bromobenzene	0.00	156	0	N.D.			
85)	1122Tetrclta	0.00	83	0	N.D.			
86)	123Triclproa	0.00	75	0	N.D.			
87)	14dichloro2butene	0.00	53	0	N.D.			
88)	n-Propylbenz	0.00	91	0	N.D.			
89)	2chlorotolue	0.00	91	0	N.D.			
90)	4chlorotolue	0.00	91	0	N.D.			
91)	135Trimebenz	0.00	105	0	N.D.			
92)	tbutylbenzen	0.00	119	0	N.D.			
93)	124Trimetben	14.45	105	3177	N.D.			
94)	sbutylbenzen	0.00	105	0	N.D.			
95)	13Diclorbenz	0.00	146	0	N.D.			
96)	pIsopropylto	0.00	119	0	N.D.			
97)	14dichlorobe	0.00	146	0	N.D.			
98)	12dichlorobe	0.00	146	0	N.D.			
99)	nButylbenzen	0.00	91	0	N.D.			
100)	12dibromo3cl	0.00	157	0	N.D.			
101)	135Trichlorobenzene	0.00	180	0	N.D.			

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449333.D Vial: 18
Acq On : 28 Jul 2020 20:23 Operator: RLD-DGS
Sample : 173473,449333, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:44:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

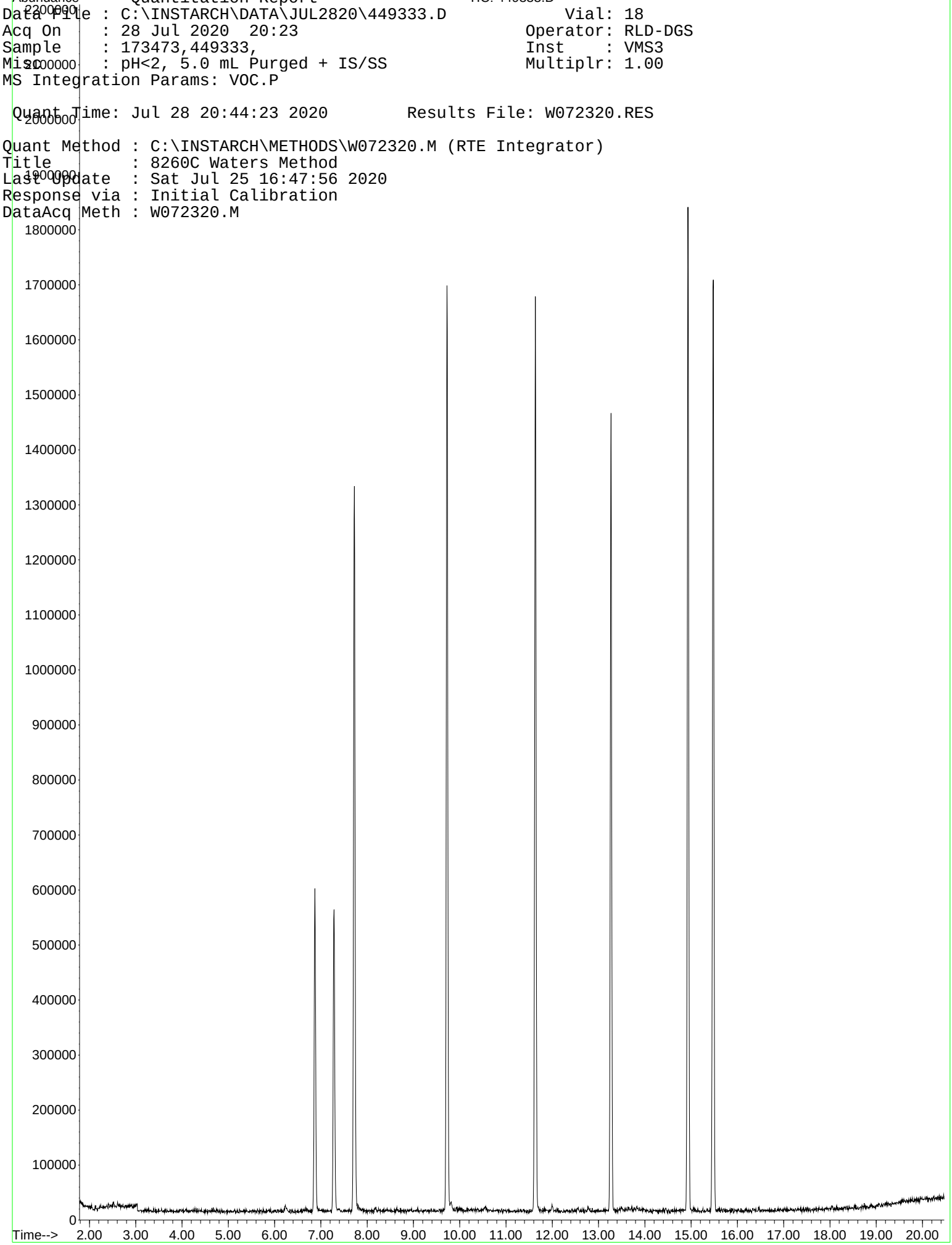
(#) = qualifier out of range (m) = manual integration

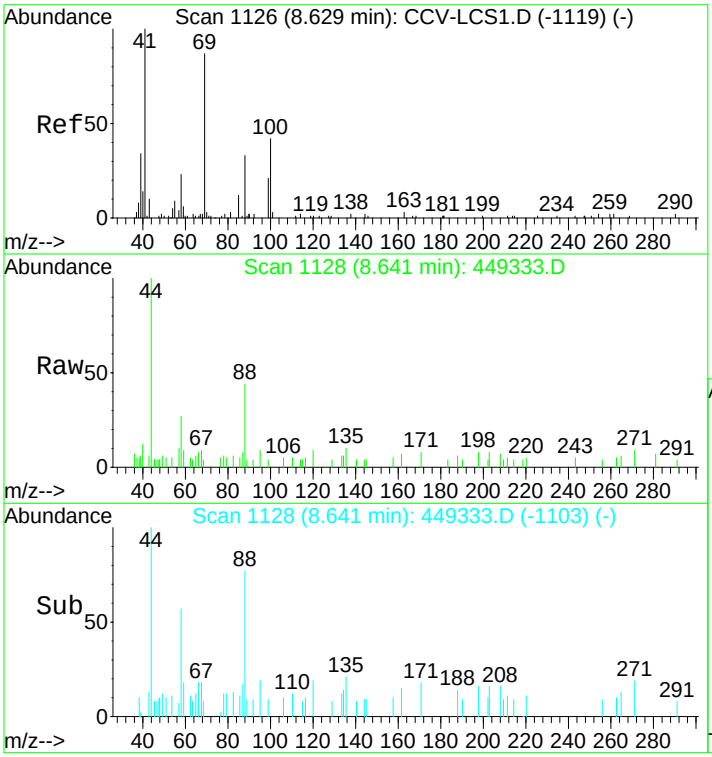
Quantitation Report (TIC: 449333.D)

Data File : C:\INSTARCH\DATA\JUL2820\449333.D Vial: 18
Acq On : 28 Jul 2020 20:23 Operator: RLD-DGS
Sample : 173473,449333, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 20:44:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

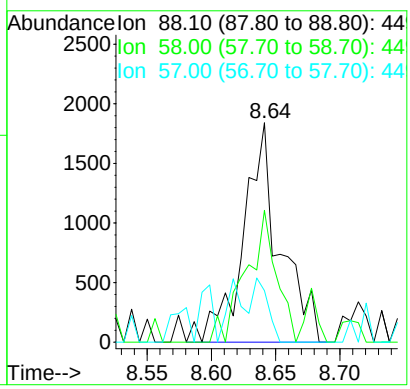




#55
14dioxane
Concen: 73.97 ug/L
RT: 8.64 min Scan# 1128
Delta R.T. 0.00 min
Lab File: 449333.D
Acq: 28 Jul 2020 20:23

Tgt Ion: 88 Resp: 3672

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

[redacted]

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449340.D Vial: 19
Acq On : 28 Jul 2020 20:53 Operator: RLD-DGS
Sample : 173473,450340, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:14:17 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1408670	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1203047	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	680782	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	398181	20.556	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
45) SURR12DCAd4	7.28	102	98704	20.441	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1423586	20.174	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.27	95	601452	20.431	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 102	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.73	67	6846	0.4067	ug/L #	66
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	4.01	96	5068	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.07	43	2841	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.26	76	3634	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.56	63	127282	4.3504	ug/L	98
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.28	96	178161	8.3847	ug/L	95
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.69	42	2850	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449340.D Vial: 19
Acq On : 28 Jul 2020 20:53 Operator: RLD-DGS
Sample : 173473,450340, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:14:17 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	6.93	97	19284	0.7917 ug/L	96
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	7.38	78	127508	1.7294 ug/L	94
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	8.18	95	112129	5.6436 ug/L	96
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.64	88	2778	54.5737 ug/L #	18
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	9.82	92	2755	N.D.	
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	10.55	166	18879	0.8225 ug/L	98
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	0.00	91	0	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	0.00	91	0	N.D.	
76) m p-Xylene	0.00	106	0	N.D.	
77) o-Xylene	0.00	106	0	N.D.	
78) Styrene	0.00	104	0	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	0.00	55	0	N.D.	
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	0.00	105	0	N.D.	
94) sbutylbenzen	14.71	105	16577	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	0.00	91	0	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449340.D Vial: 19
Acq On : 28 Jul 2020 20:53 Operator: RLD-DGS
Sample : 173473,450340, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:14:17 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

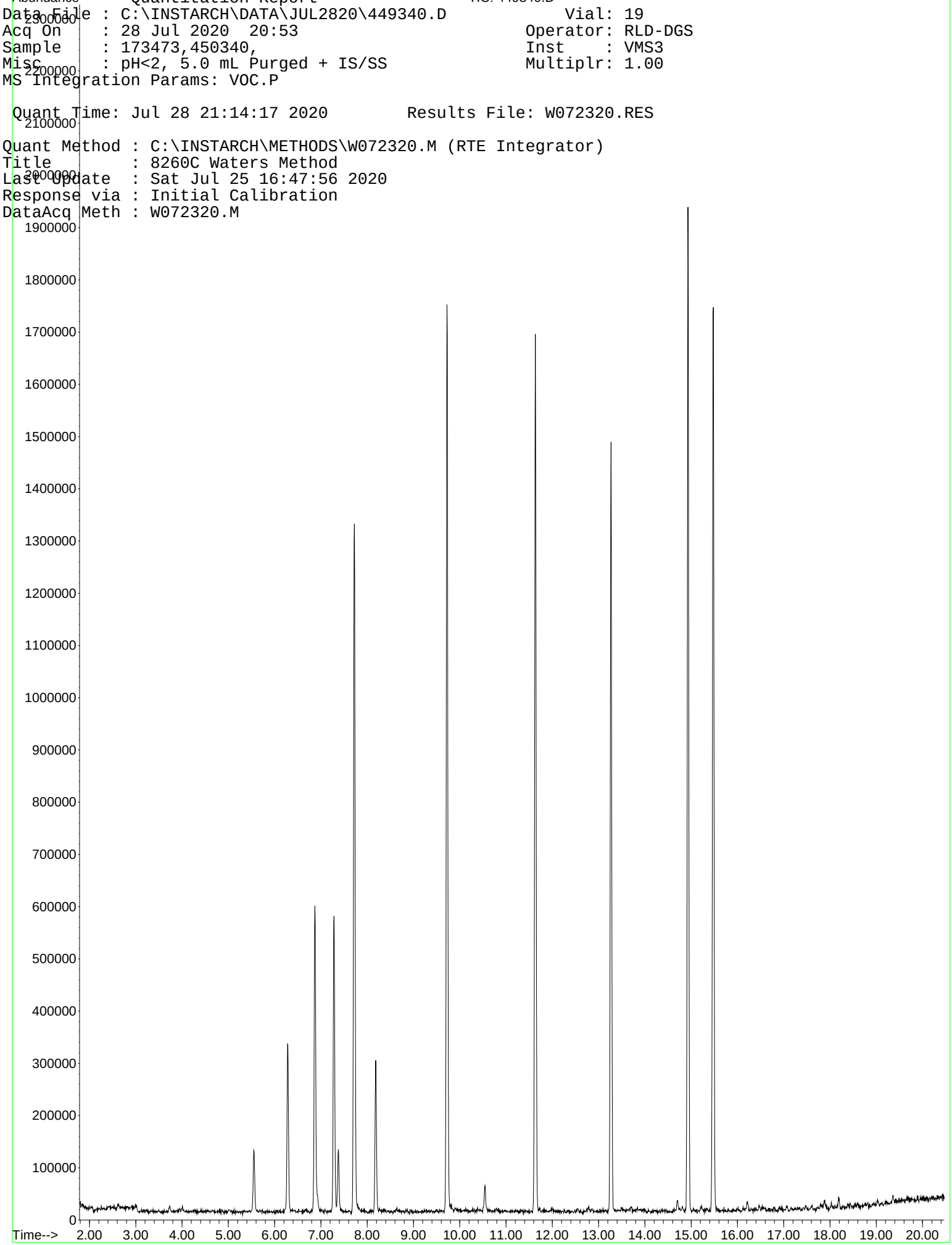
(#) = qualifier out of range (m) = manual integration

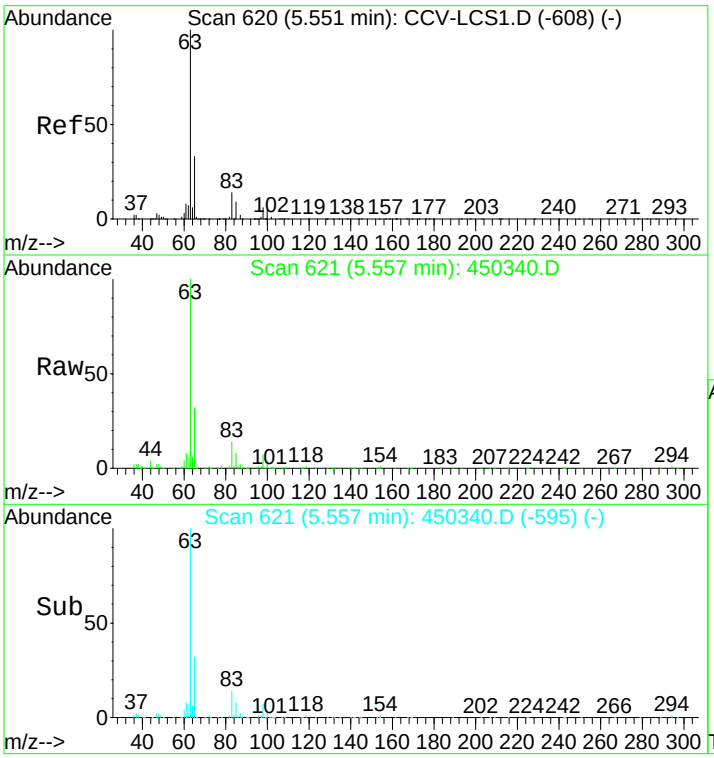
Abundance Quantitation Report TIC: 449340.D

Data File : C:\INSTARCH\DATA\JUL2820\449340.D Vial: 19
Acq On : 28 Jul 2020 20:53 Operator: RLD-DGS
Sample : 173473,450340, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:14:17 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

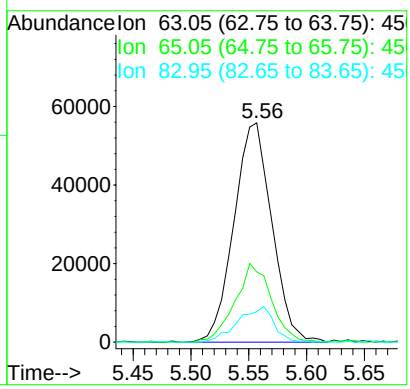


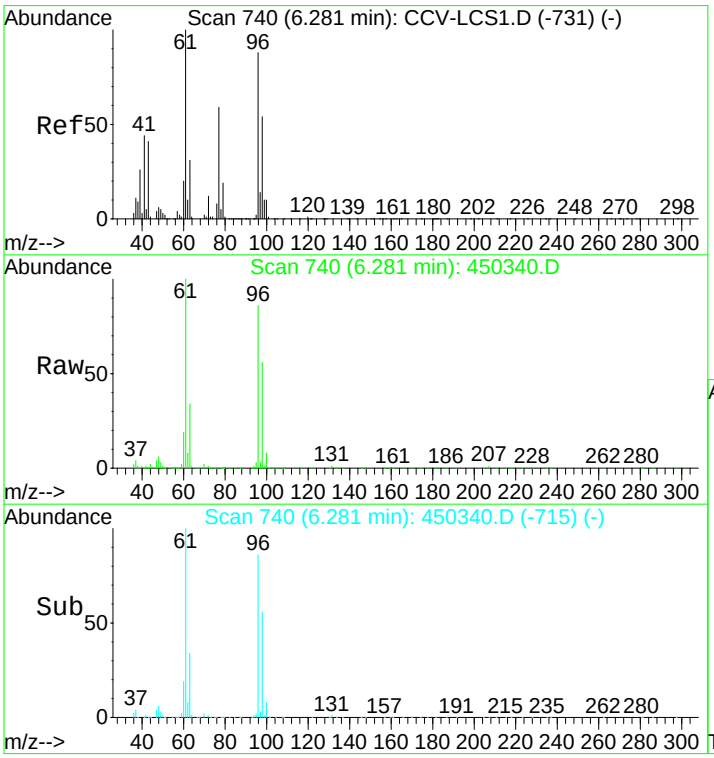


#26
11dichlorota
Concen: 4.35 ug/L
RT: 5.56 min Scan# 621
Delta R.T. 0.01 min
Lab File: 450340.D
Acq: 28 Jul 2020 20:53

Tgt Ion: 63 Resp: 127282

Ion	Ratio	Lower	Upper
63	100		
65	34.3	13.1	53.1
83	15.5	0.0	34.9

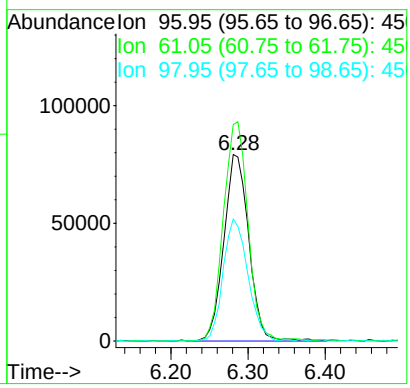


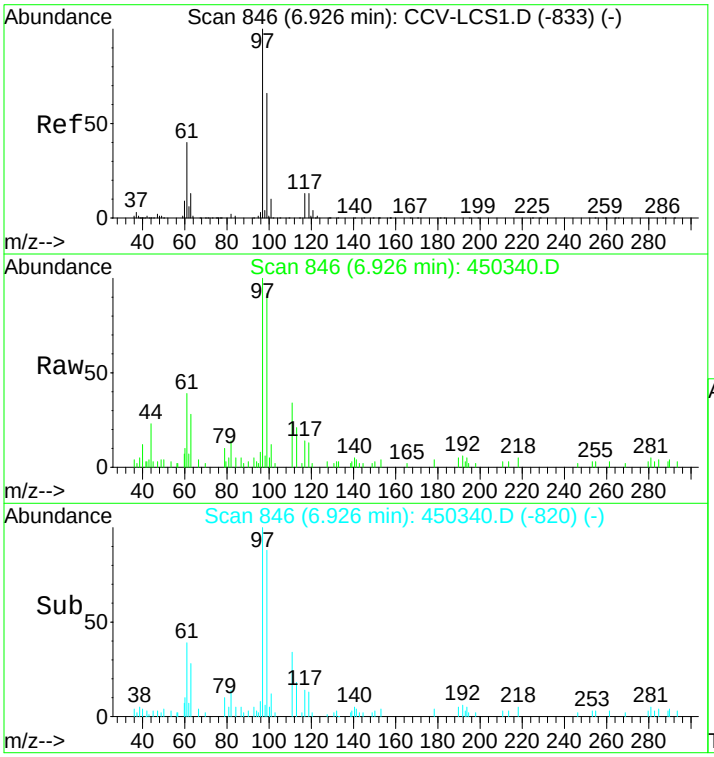


#32
c12dichlorte
Concen: 8.38 ug/L
RT: 6.28 min Scan# 740
Delta R.T. -0.00 min
Lab File: 450340.D
Acq: 28 Jul 2020 20:53

Tgt Ion: 96 Resp: 178161

Ion	Ratio	Lower	Upper
96	100		
61	116.7	104.5	144.5
98	65.0	45.2	85.2

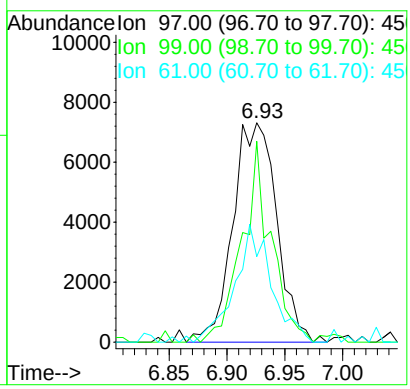


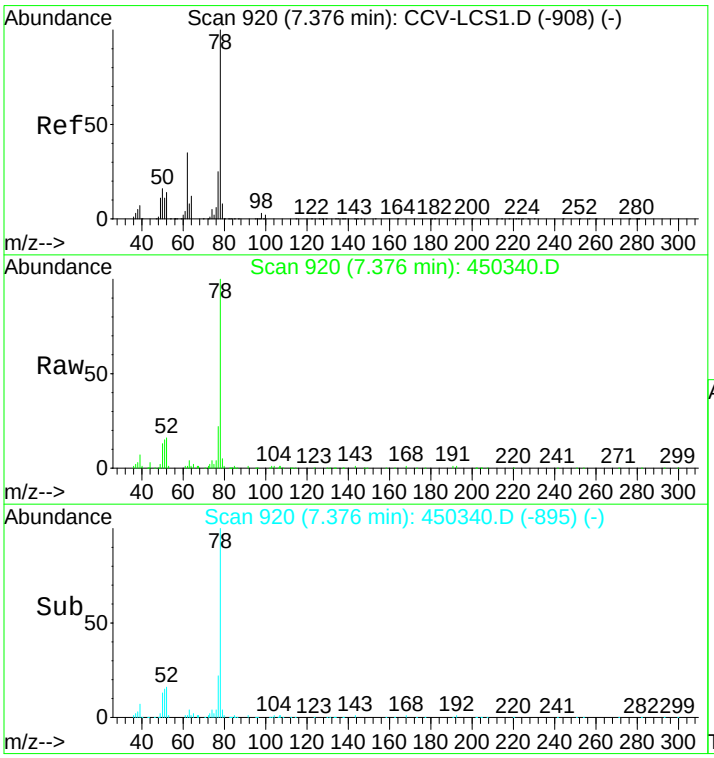


#40
111trichlota
Concen: 0.79 ug/L
RT: 6.93 min Scan# 846
Delta R.T. 0.01 min
Lab File: 450340.D
Acq: 28 Jul 2020 20:53

Tgt Ion: 97 Resp: 19284

Ion	Ratio	Lower	Upper
97	100		
99	61.1	43.3	83.3
61	45.0	22.0	62.0

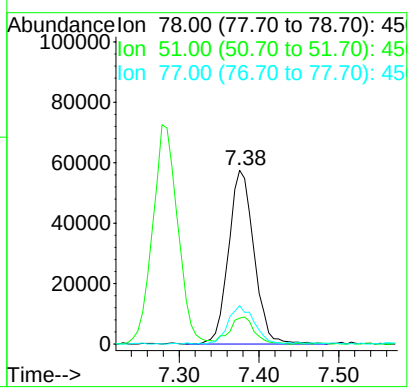


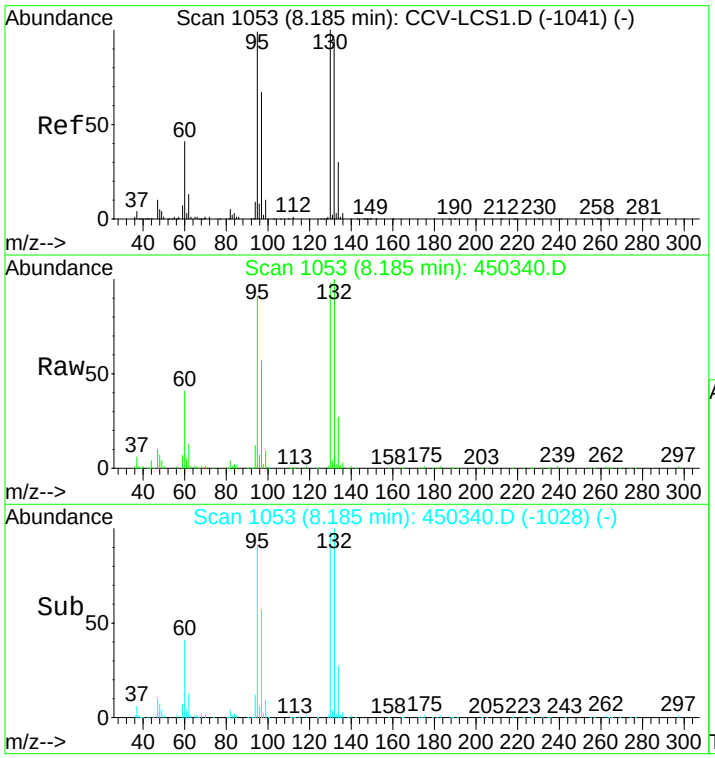


#46
Benzene
Concen: 1.73 ug/L
RT: 7.38 min Scan# 920
Delta R.T. 0.00 min
Lab File: 450340.D
Acq: 28 Jul 2020 20:53

Tgt Ion: 78 Resp: 127508

Ion	Ratio	Lower	Upper
78	100		
51	15.0	0.0	37.8
77	22.6	5.4	45.4

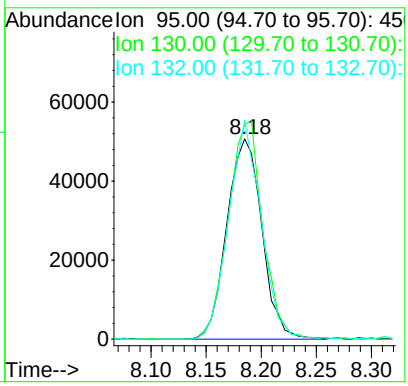


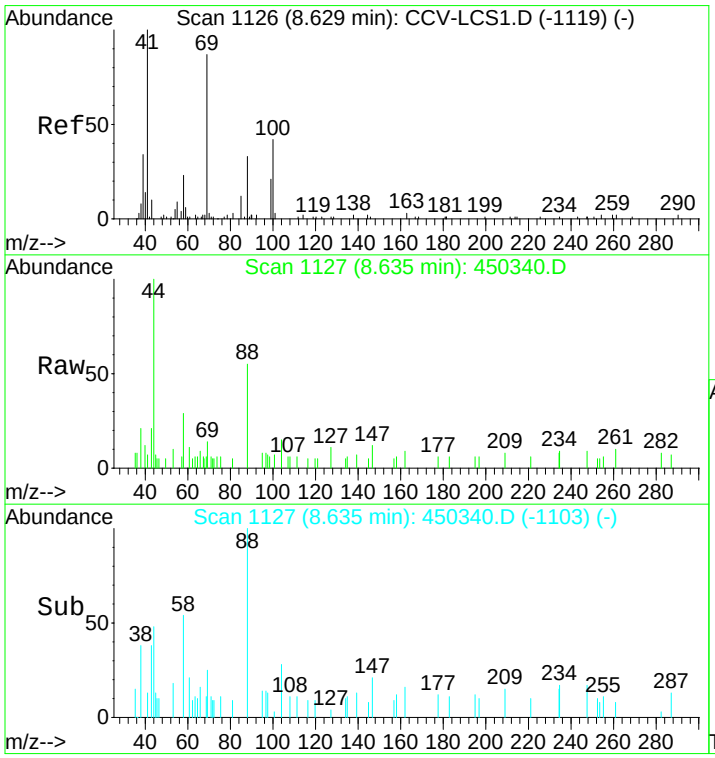


#49
trichloroete
Concen: 5.64 ug/L
RT: 8.18 min Scan# 1053
Delta R.T. -0.00 min
Lab File: 450340.D
Acq: 28 Jul 2020 20:53

Tgt Ion: 95 Resp: 112129

Ion	Ratio	Lower	Upper
95	100		
130	107.3	82.0	122.0
132	102.3	80.0	120.0

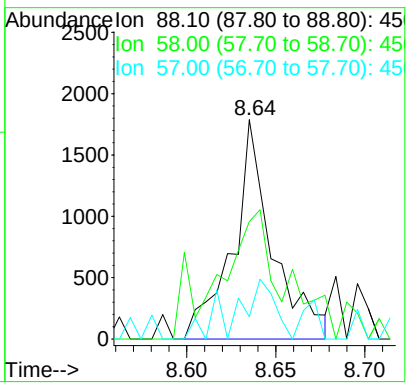




#55
14dioxane
Concen: 54.57 ug/L
RT: 8.64 min Scan# 1127
Delta R.T. -0.01 min
Lab File: 450340.D
Acq: 28 Jul 2020 20:53

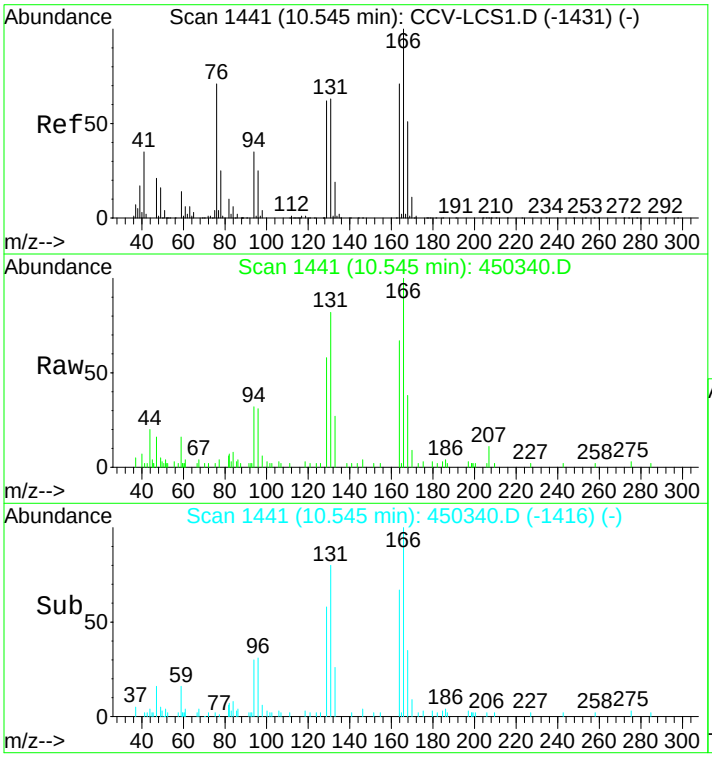
Tgt Ion: 88 Resp: 2778

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

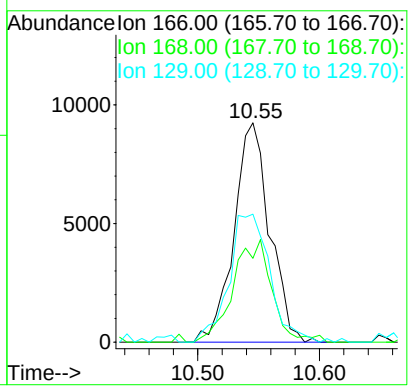
[redacted]



#66
Tetrachlorte
Concen: 0.82 ug/L
RT: 10.55 min Scan# 1441
Delta R.T. -0.00 min
Lab File: 450340.D
Acq: 28 Jul 2020 20:53

Tgt Ion:166 Resp: 18879

Ion	Ratio	Lower	Upper
166	100		
168	50.7	29.2	69.2
129	66.8	48.4	88.4



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449341.D Vial: 20
Acq On : 28 Jul 2020 21:23 Operator: RLD-DGS
Sample : 173473,450341, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:44:11 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1404955	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1182784	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	682228	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	396489	20.522	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
45) SURR12DCAd4	7.28	102	102014	21.183	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 106	%		
61) SURRd8Tolule	9.72	98	1417983	20.147	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.27	95	592664	20.090	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.74	67	2788	N.D.		
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	4.01	96	2959	N.D.		
14) Trichlorotfluoroeth	0.00	101	0	N.D.		
15) Acetone	4.09	43	4635	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3735	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	5.55	63	24742	0.8479	ug/L	96
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	6.29	96	19675	0.9284	ug/L	92
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	3507	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449341.D Vial: 20
Acq On : 28 Jul 2020 21:23 Operator: RLD-DGS
Sample : 173473,450341, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:44:11 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39) Chloroform	0.00	83	0	N.D.	
40) 111trichlota	6.93	97	8098	0.3333 ug/L	82
42) Cyclohexane	0.00	56	0	N.D.	
43) Carbtetraclo	0.00	119	0	N.D.	
44) 11dicloprope	0.00	110	0	N.D.	
46) Benzene	0.00	78	0	N.D.	
47) 12dichlorota	0.00	62	0	N.D.	
48) TAME	0.00	73	0	N.D.	
49) trichloroete	8.19	95	31897	1.6097 ug/L	95
50) methylcyclohexane	0.00	83	0	N.D.	
51) 12dicloropra	0.00	63	0	N.D.	
52) 23Dicl1propene	0.00	75	0	N.D.	
53) Dibromometha	0.00	93	0	N.D.	
54) methylmethacrylate	0.00	69	0	N.D.	
55) 14dioxane	8.64	88	2959	58.2831 ug/L #	18
56) Bromodiclrma	0.00	83	0	N.D.	
57) 2Nitropropane	0.00	43	0	N.D.	
58) 2CLEVE	0.00	63	0	N.D.	
59) c13dicloproe	0.00	75	0	N.D.	
60) 4Meth2Pentan	0.00	43	0	N.D.	
62) Toluene	9.80	92	13748	0.2920 ug/L	98
63) t13Dicloprop	0.00	75	0	N.D.	
64) ethylmethacrylate	0.00	69	0	N.D.	
65) 112Triclotha	0.00	83	0	N.D.	
66) Tetrachlorte	10.53	166	4984	N.D.	
67) 13Diclorpropa	0.00	76	0	N.D.	
69) 2Hexanone	0.00	43	0	N.D.	
70) Clorodibrmta	0.00	129	0	N.D.	
71) 12Dibrometha	0.00	107	0	N.D.	
72) Chlorobenzen	0.00	112	0	N.D.	
73) 1Clhexane	11.63	91	3068	N.D.	
74) 1112Tetclota	0.00	131	0	N.D.	
75) Ethylbenzene	11.83	91	6017	N.D.	
76) m p-Xylene	11.99	106	5998	N.D.	
77) o-Xylene	12.56	106	2534	N.D.	
78) Styrene	12.55	104	5759	N.D.	
79) Bromoform	0.00	173	0	N.D.	
80) Isopropylben	0.00	105	0	N.D.	
81) cyclohexanone	13.16	55	4342	25.7384 ug/L #	30
84) Bromobenzene	0.00	156	0	N.D.	
85) 1122Tetrclta	0.00	83	0	N.D.	
86) 123Triclproa	0.00	75	0	N.D.	
87) 14dichloro2butene	0.00	53	0	N.D.	
88) n-Propylbenz	0.00	91	0	N.D.	
89) 2chlorotolue	0.00	91	0	N.D.	
90) 4chlorotolue	0.00	91	0	N.D.	
91) 135Trimebenz	0.00	105	0	N.D.	
92) tbutylbenzen	0.00	119	0	N.D.	
93) 124Trimetben	14.45	105	2554	N.D.	
94) sbutylbenzen	0.00	105	0	N.D.	
95) 13Diclorbenz	0.00	146	0	N.D.	
96) pIsopropylto	0.00	119	0	N.D.	
97) 14dichlorobe	0.00	146	0	N.D.	
98) 12dichlorobe	0.00	146	0	N.D.	
99) nButylbenzen	15.47	91	2630	N.D.	
100) 12dibromo3cl	0.00	157	0	N.D.	
101) 135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449341.D Vial: 20
Acq On : 28 Jul 2020 21:23 Operator: RLD-DGS
Sample : 173473,450341, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:44:11 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

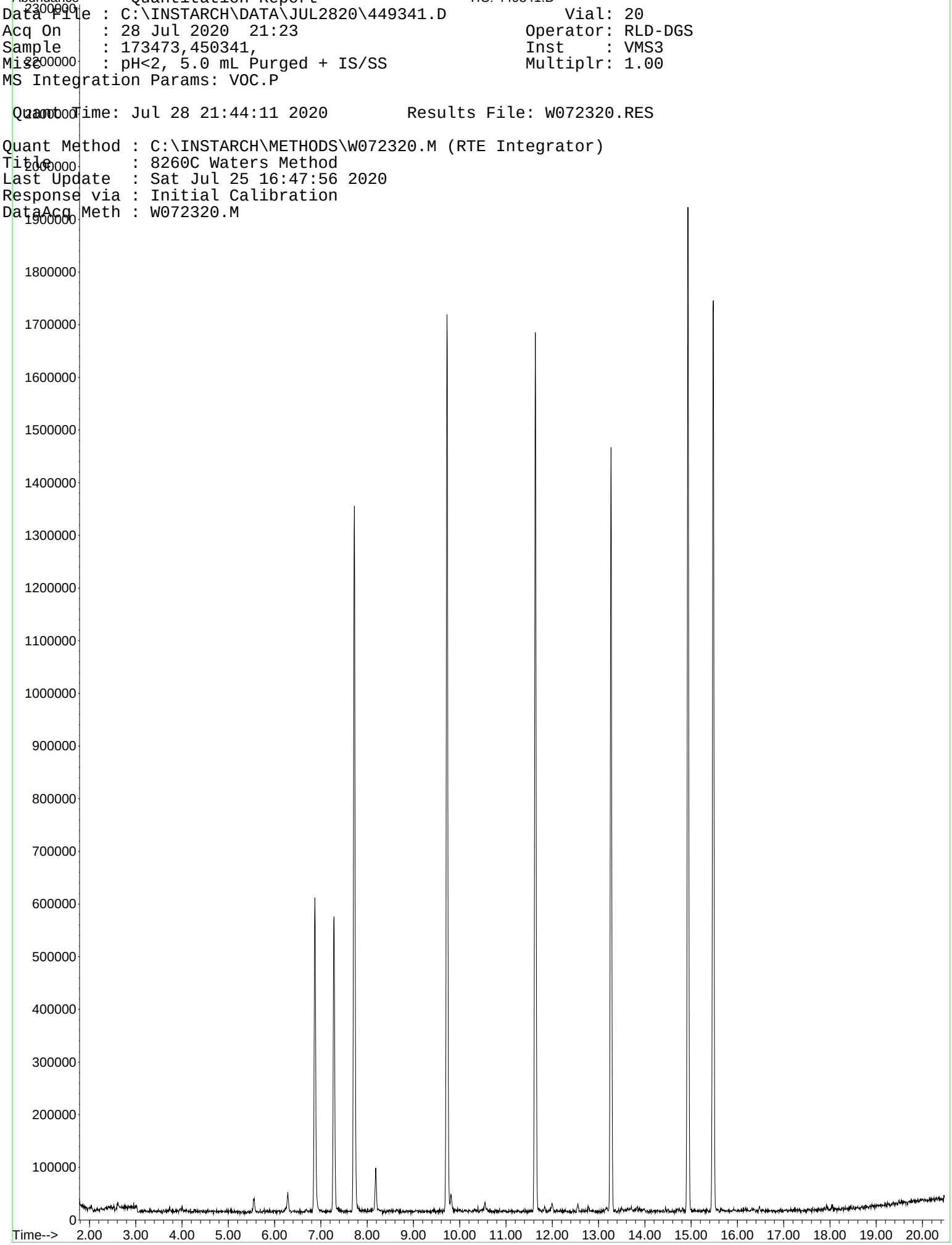
(#) = qualifier out of range (m) = manual integration

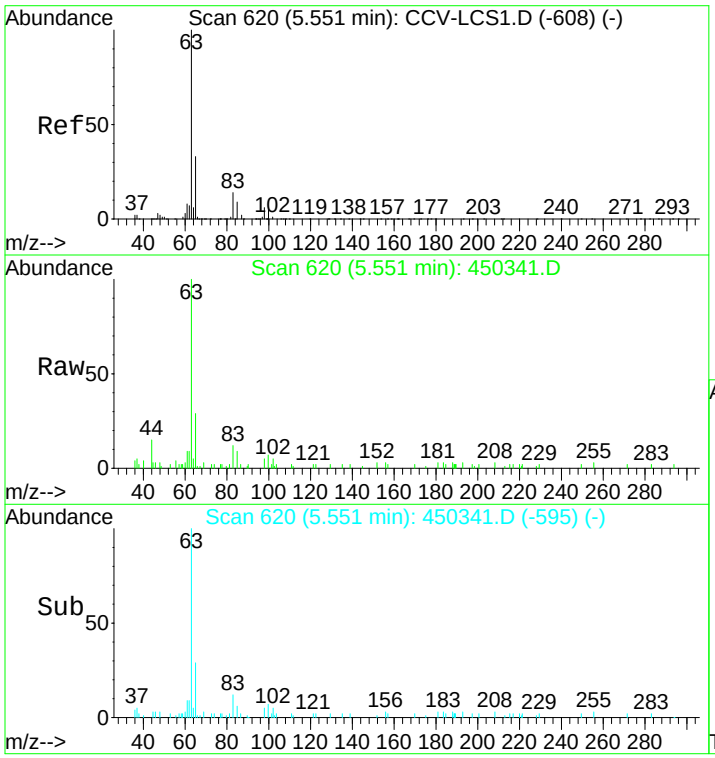
Abundance Quantitation Report TIC: 449341.D

Data File : C:\INSTARCH\DATA\JUL2820\449341.D Vial: 20
Acq On : 28 Jul 2020 21:23 Operator: RLD-DGS
Sample : 173473,450341, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 21:44:11 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

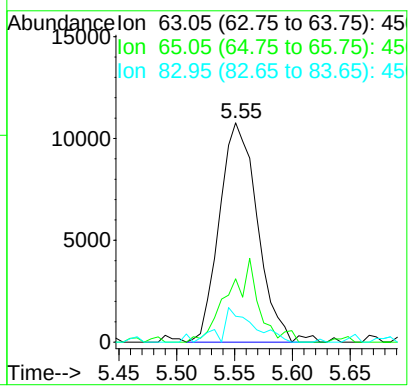


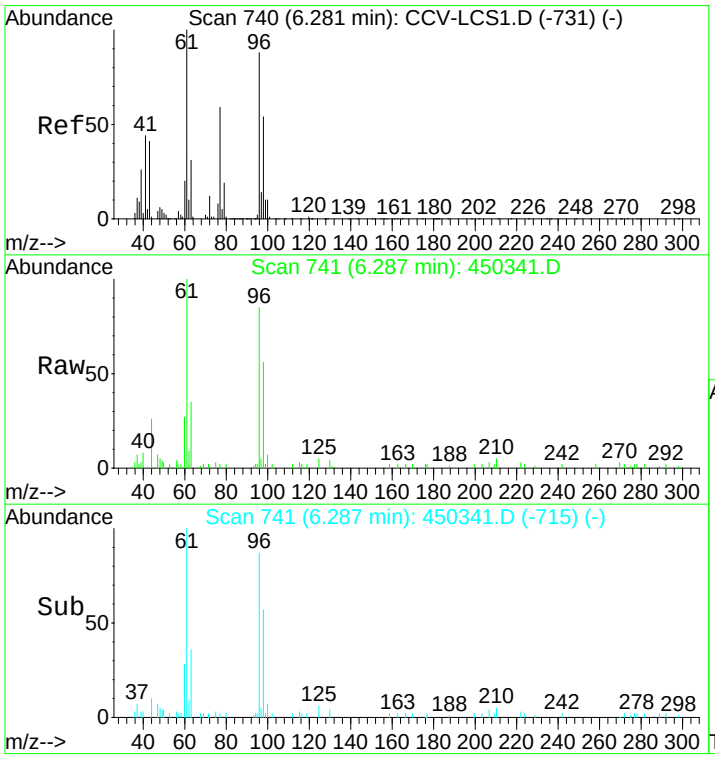


#26
11dichlorota
Concen: 0.85 ug/L
RT: 5.55 min Scan# 620
Delta R.T. -0.00 min
Lab File: 450341.D
Acq: 28 Jul 2020 21:23

Tgt Ion: 63 Resp: 24742

Ion	Ratio	Lower	Upper
63	100		
65	31.1	13.1	53.1
83	12.9	0.0	34.9

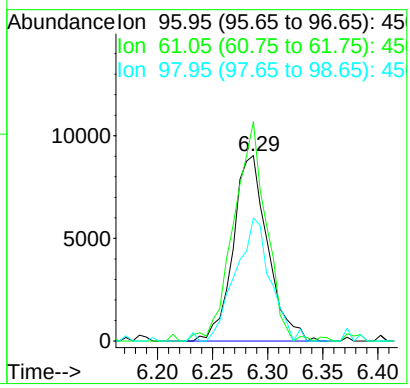


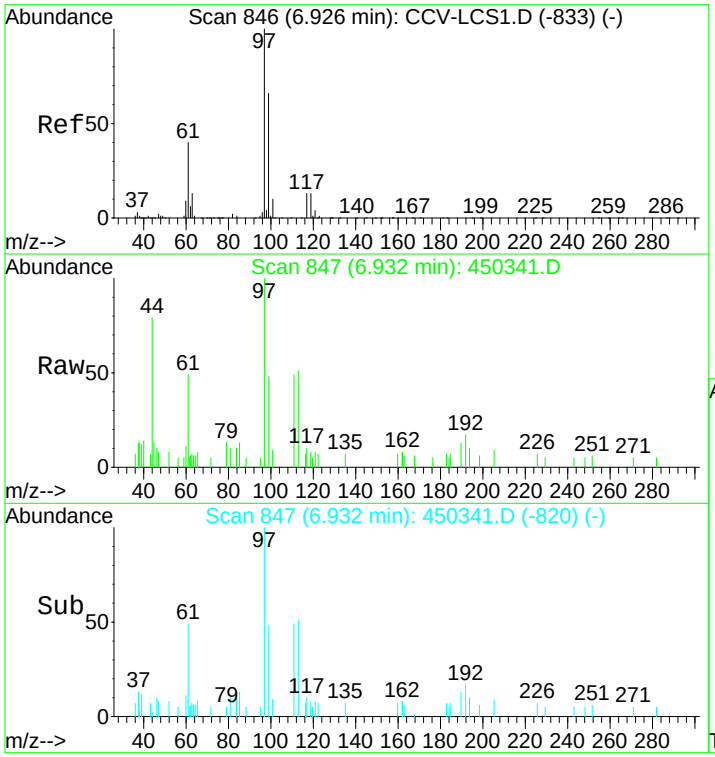


#32
c12dichlorte
Concen: 0.93 ug/L
RT: 6.29 min Scan# 741
Delta R.T. 0.01 min
Lab File: 450341.D
Acq: 28 Jul 2020 21:23

Tgt Ion: 96 Resp: 19675

Ion	Ratio	Lower	Upper
96	100		
61	111.2	104.5	144.5
98	66.5	45.2	85.2

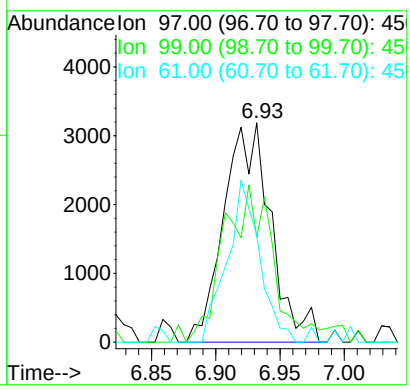


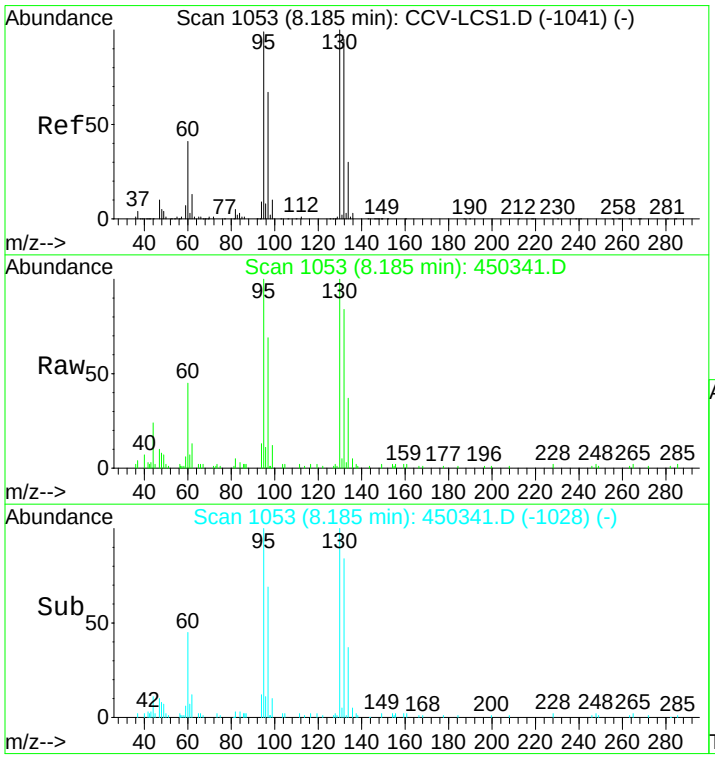


#40
111trichlota
Concen: 0.33 ug/L
RT: 6.93 min Scan# 847
Delta R.T. 0.01 min
Lab File: 450341.D
Acq: 28 Jul 2020 21:23

Tgt Ion: 97 Resp: 8098

Ion	Ratio	Lower	Upper
97	100		
99	78.8	43.3	83.3
61	51.2	22.0	62.0

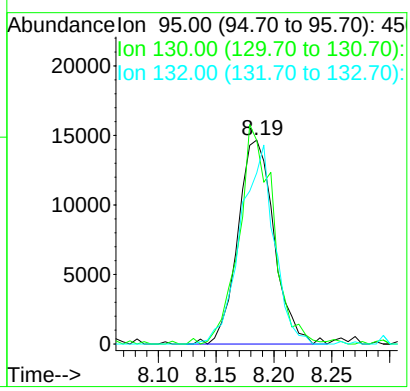


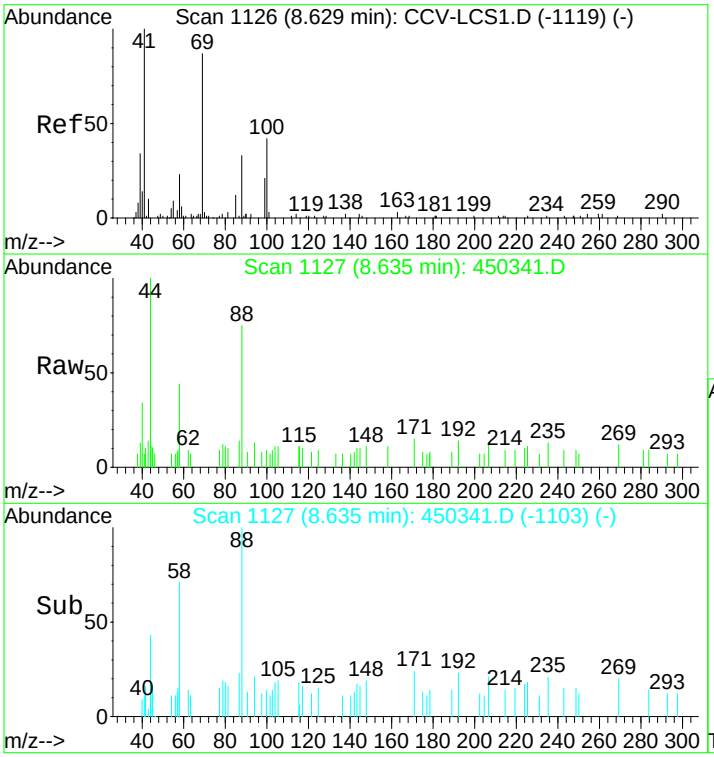


#49
trichloroete
Concen: 1.61 ug/L
RT: 8.19 min Scan# 1053
Delta R.T. -0.00 min
Lab File: 450341.D
Acq: 28 Jul 2020 21:23

Tgt Ion: 95 Resp: 31897

Ion	Ratio	Lower	Upper
95	100		
130	102.7	82.0	122.0
132	91.1	80.0	120.0

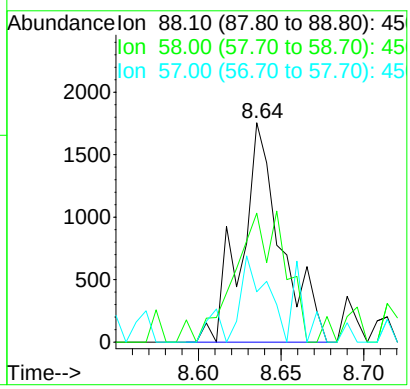




#55
14dioxane
Concen: 58.28 ug/L
RT: 8.64 min Scan# 1127
Delta R.T. -0.01 min
Lab File: 450341.D
Acq: 28 Jul 2020 21:23

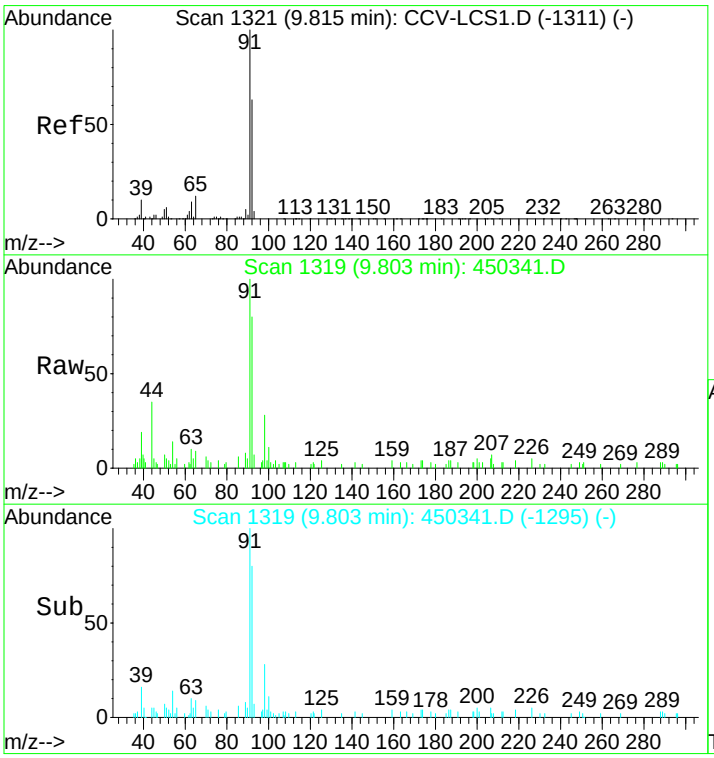
Tgt Ion: 88 Resp: 2959

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



Negative Library Identification

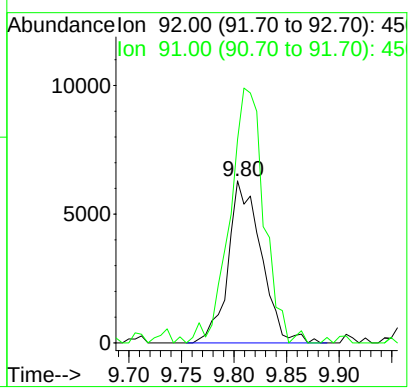
[redacted]



#62
Toluene
Concen: 0.29 ug/L
RT: 9.80 min Scan# 1319
Delta R.T. -0.01 min
Lab File: 450341.D
Acq: 28 Jul 2020 21:23

Tgt Ion: 92 Resp: 13748

Ion	Ratio	Lower	Upper
92	100		
91	162.7	145.1	185.1



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449342.D Vial: 21
Acq On : 28 Jul 2020 21:53 Operator: RLD-DGS
Sample : 173473,450342, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:14:14 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1421880	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1192157	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	688946	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	394118	20.157	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	99396	20.394	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1414128	19.853	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.27	95	594125	19.943	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	0.00	85	0	N.D.		
3) Chloromethan	0.00	50	0	N.D.		
4) VinylChlorid	0.00	62	0	N.D.		
5) Bromomethane	0.00	94	0	N.D.		
6) Chloroethane	0.00	64	0	N.D.		
7) Dichloroflmethane	0.00	67	0	N.D.		
8) Trichlorofma	0.00	101	0	N.D.		
9) Ethylether	0.00	59	0	N.D.		
10) dichlorotfluoroethan	3.74	67	17797	1.0473	ug/L	95
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	0.00	56	0	N.D.		
13) 11dichlorthe	0.00	96	0	N.D.		
14) Trichlorotfluoroeth	4.05	101	12219	1.5598	ug/L	94
15) Acetone	4.08	43	3615	N.D.		
16) Iodomethane	0.00	142	0	N.D.		
17) Carbon Dislf	4.27	76	3742	N.D.		
18) allylchloride	0.00	41	0	N.D.		
19) methylacetate	0.00	74	0	N.D.		
20) Methylchlorid	0.00	84	0	N.D.		
21) tbutylalcohol	0.00	59	0	N.D.		
22) Acrylonitrile	0.00	53	0	N.D.		
23) t12dichlorte	0.00	96	0	N.D.		
24) MtBE	0.00	73	0	N.D.		
25) Hexane	0.00	57	0	N.D.		
26) 11dichlorota	0.00	63	0	N.D.		
27) Vinylacetate	0.00	43	0	N.D.		
28) chloroprene	0.00	53	0	N.D.		
29) Diisopether	0.00	45	0	N.D.		
30) ETBE	0.00	59	0	N.D.		
31) 22dichloropr	0.00	77	0	N.D.		
32) c12dichlorte	0.00	96	0	N.D.		
33) 2Butanone	0.00	72	0	N.D.		
34) propionitrile	0.00	54	0	N.D.		
35) Ethylacetate	0.00	88	0	N.D.		
36) methacrylonitrile	0.00	67	0	N.D.		
37) Bromochlorma	0.00	128	0	N.D.		
38) Tetrahydofur	6.68	42	3026	N.D.		

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449342.D Vial: 21
Acq On : 28 Jul 2020 21:53 Operator: RLD-DGS
Sample : 173473,450342, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:14:14 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.68	83	13782	0.4223 ug/L	96
40)	111trichlota	6.93	97	3489	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	7.13	119	43302	2.8188 ug/L	91
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	8.64	88	3445	67.0481 ug/L #	18
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	9.80	92	2630	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.63	91	3032	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	14.44	105	3350	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	0.00	91	0	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\449342.D Vial: 21
Acq On : 28 Jul 2020 21:53 Operator: RLD-DGS
Sample : 173473,450342, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:14:14 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.	
103) Hexachlorobu	0.00	225	0	N.D.	
104) Naphthalene	18.03	128	2618	N.D.	
105) 123Trichlben	0.00	180	0	N.D.	

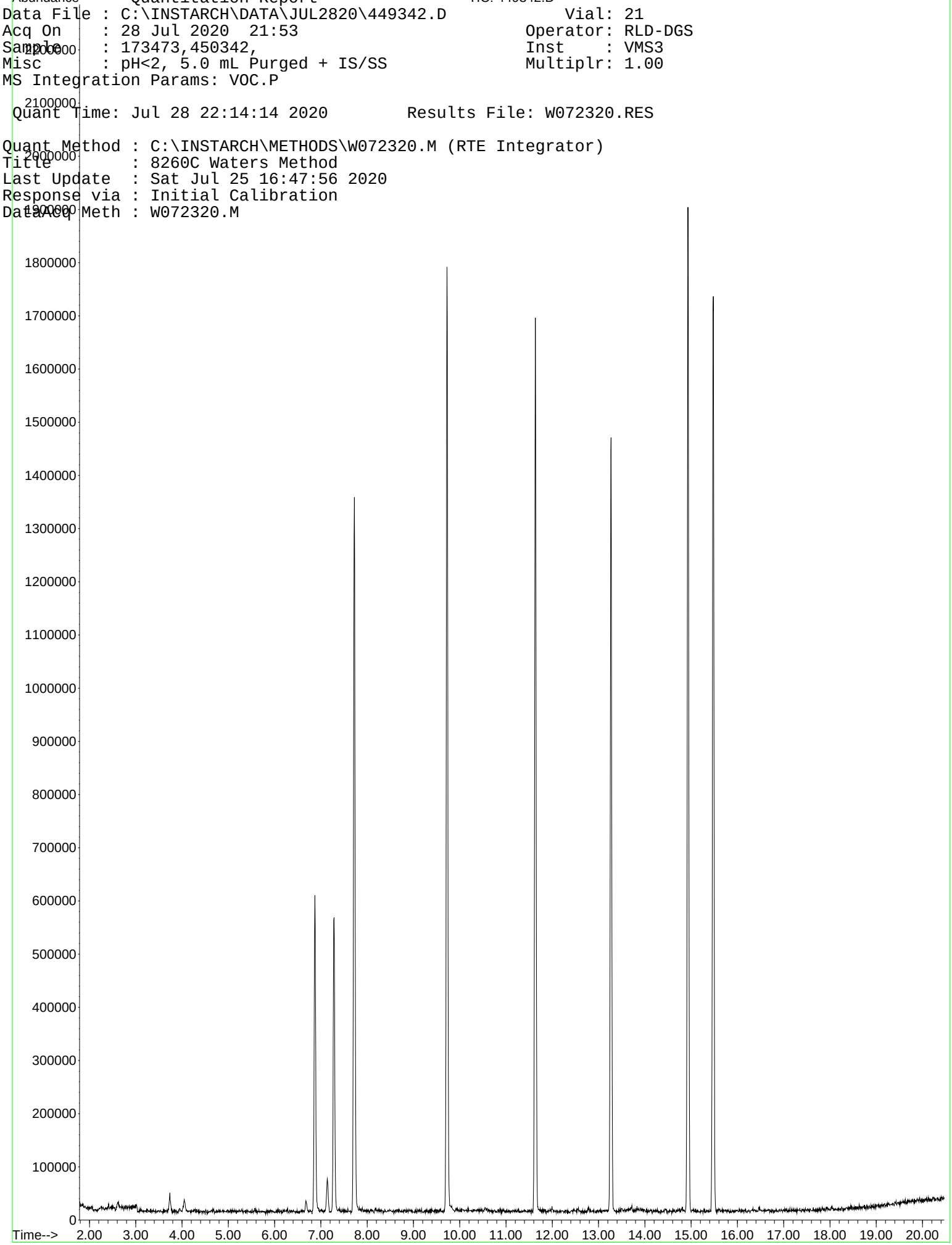
(#) = qualifier out of range (m) = manual integration

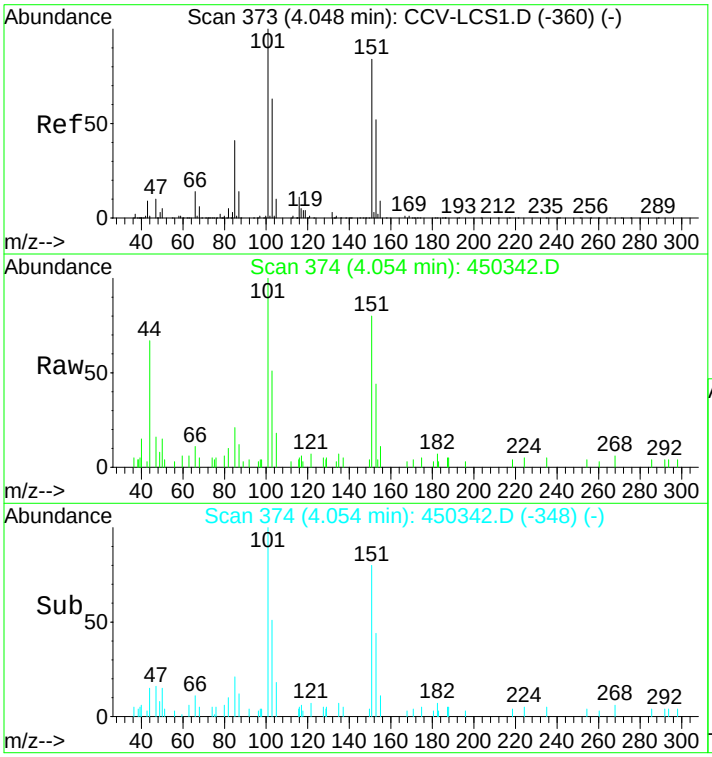
Abundance Quantitation Report TIC: 449342.D

Data File : C:\INSTARCH\DATA\JUL2820\449342.D Vial: 21
Acq On : 28 Jul 2020 21:53 Operator: RLD-DGS
Sample : 173473,450342, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:14:14 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

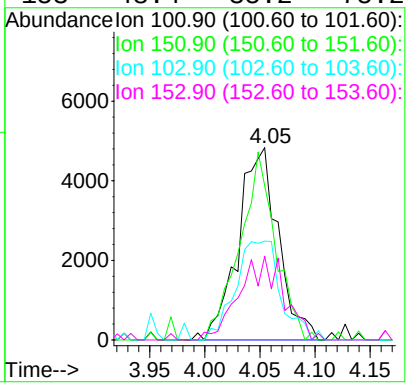


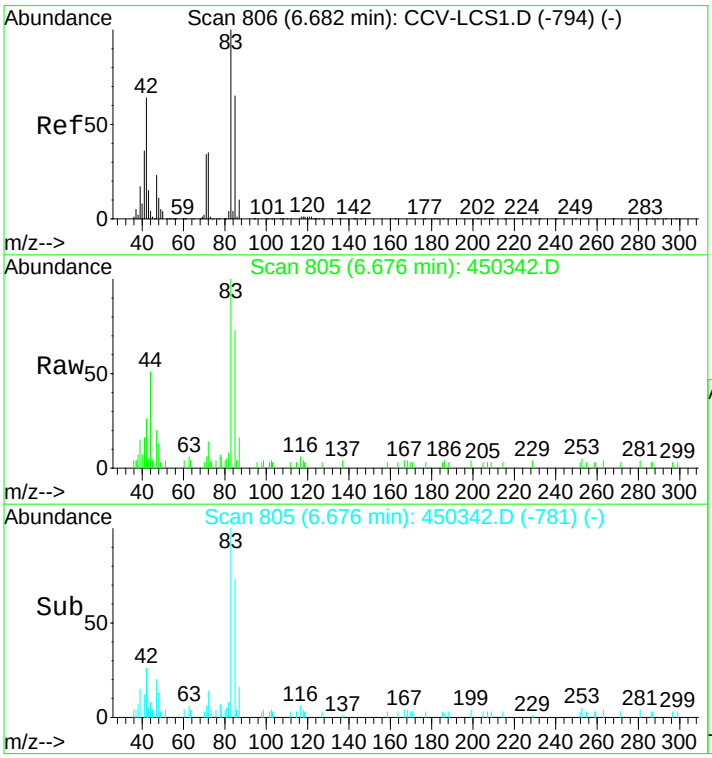


#14
Trichlorotfluoroeth
Concen: 1.56 ug/L
RT: 4.05 min Scan# 374
Delta R.T. 0.01 min
Lab File: 450342.D
Acq: 28 Jul 2020 21:53

Tgt Ion:101 Resp: 12219

Ion	Ratio	Lower	Upper
101	100		
151	87.4	65.3	105.3
103	58.4	44.3	84.3
153	48.4	35.2	75.2

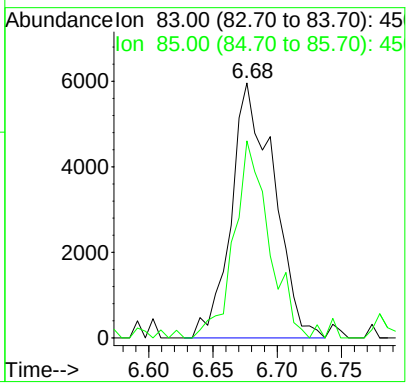


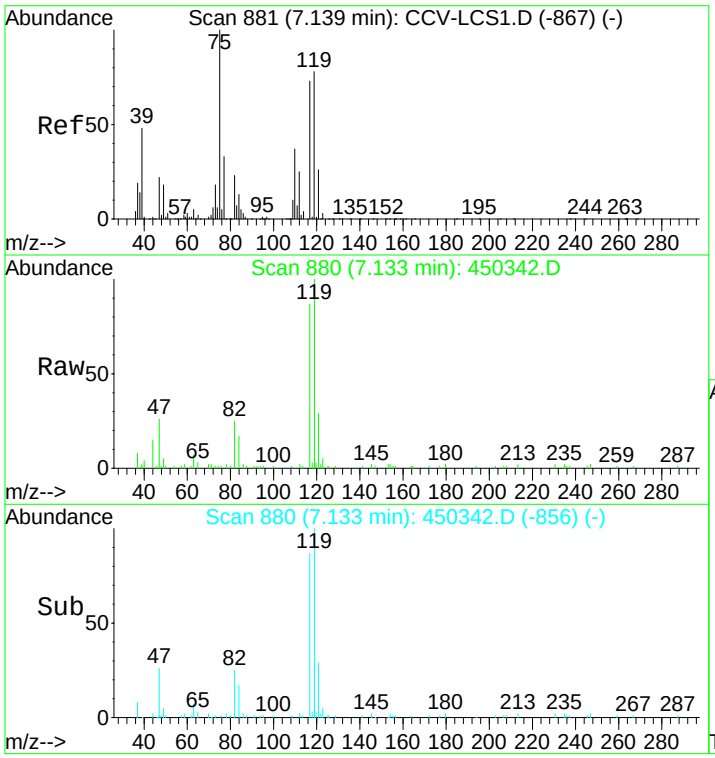


#39
Chloroform
Concen: 0.42 ug/L
RT: 6.68 min Scan# 805
Delta R.T. -0.01 min
Lab File: 450342.D
Acq: 28 Jul 2020 21:53

Tgt Ion: 83 Resp: 13782

Ion	Ratio	Lower	Upper
83	100		
85	63.0	46.3	86.3

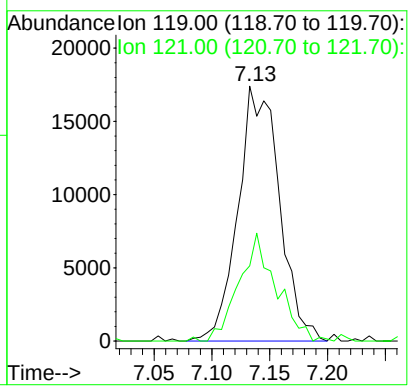


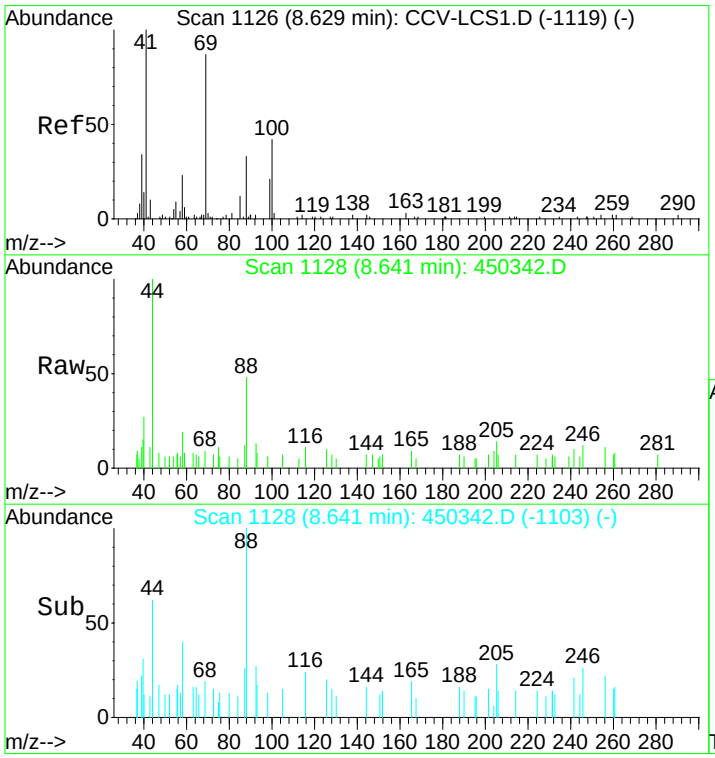


#43
Carbtetraclo
Concen: 2.82 ug/L
RT: 7.13 min Scan# 880
Delta R.T. -0.01 min
Lab File: 450342.D
Acq: 28 Jul 2020 21:53

Tgt Ion:119 Resp: 43302

Ion	Ratio	Lower	Upper
119	100		
121	37.9	12.8	52.8

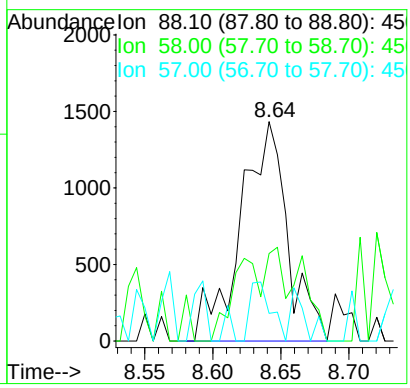




#55
14dioxane
Concen: 67.05 ug/L
RT: 8.64 min Scan# 1128
Delta R.T. 0.00 min
Lab File: 450342.D
Acq: 28 Jul 2020 21:53

Tgt Ion: 88 Resp: 3445

Ion	Ratio	Lower	Upper
88	100		
58	0.0	60.3	100.3#
57	0.0	14.9	54.9#



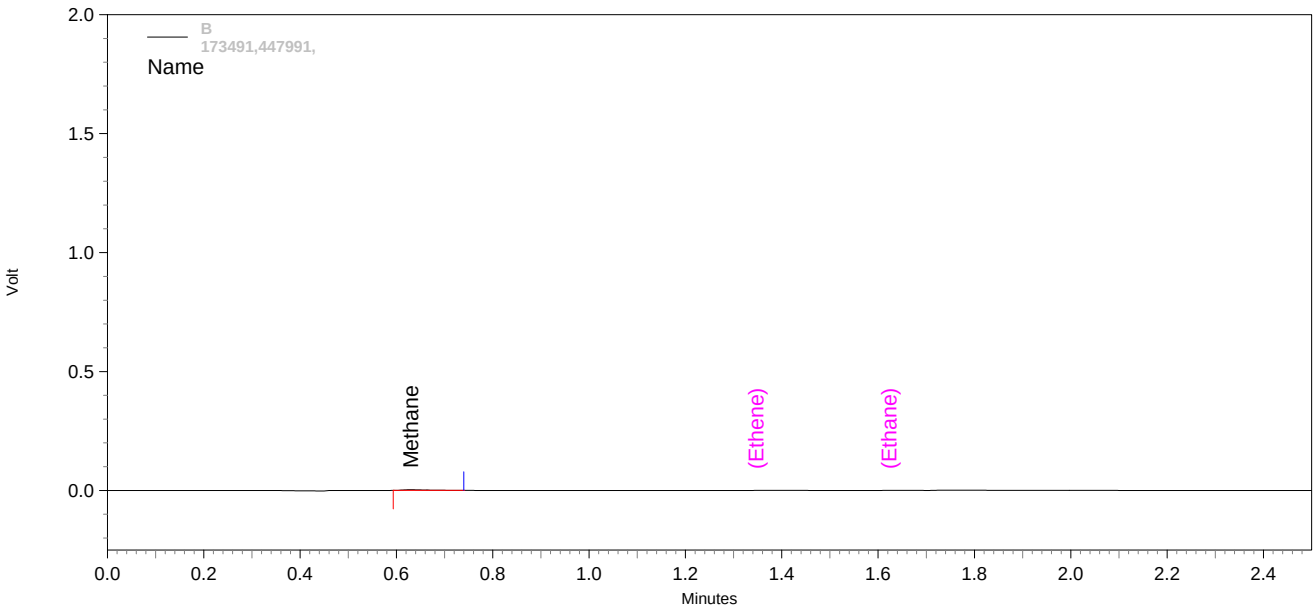
Negative Library Identification

[redacted]

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173491,447991,
Acquired: Jul 27, 2020 11:05:56
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



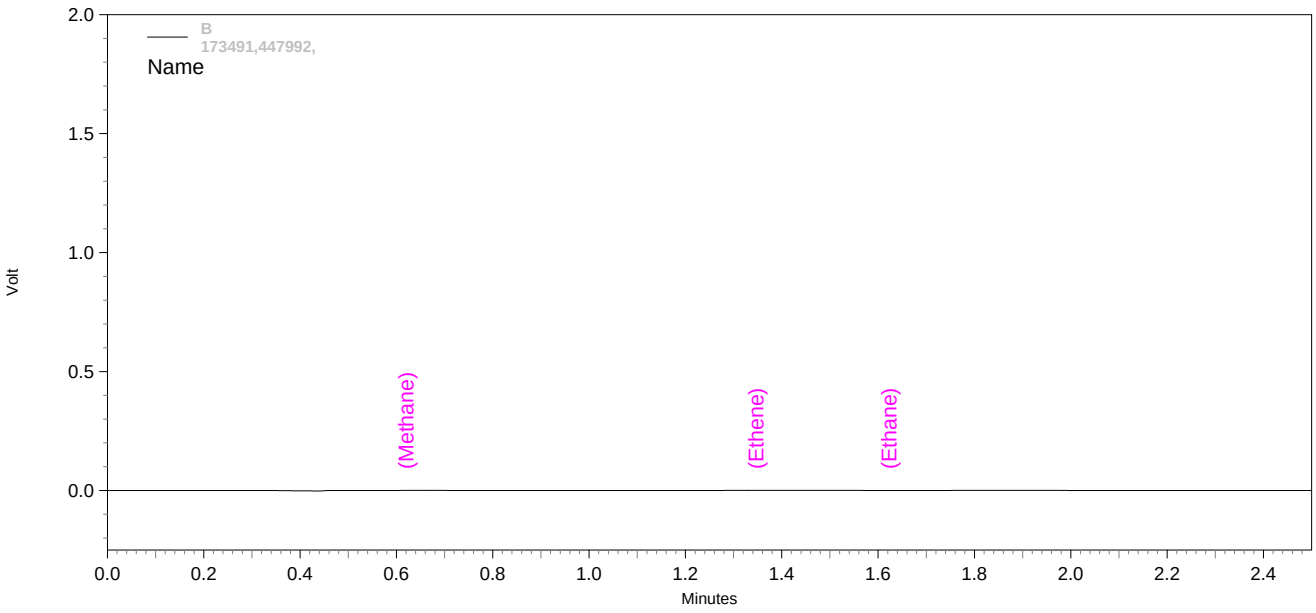
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.630**	**0.620**	**9272**	**1.786**	**ppmV**
	Ethene		**1.347**		**0.000 BDL**	**ppmV**
	Ethane		**1.623**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173491,447992,
Acquired: Jul 27, 2020 11:09:39
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



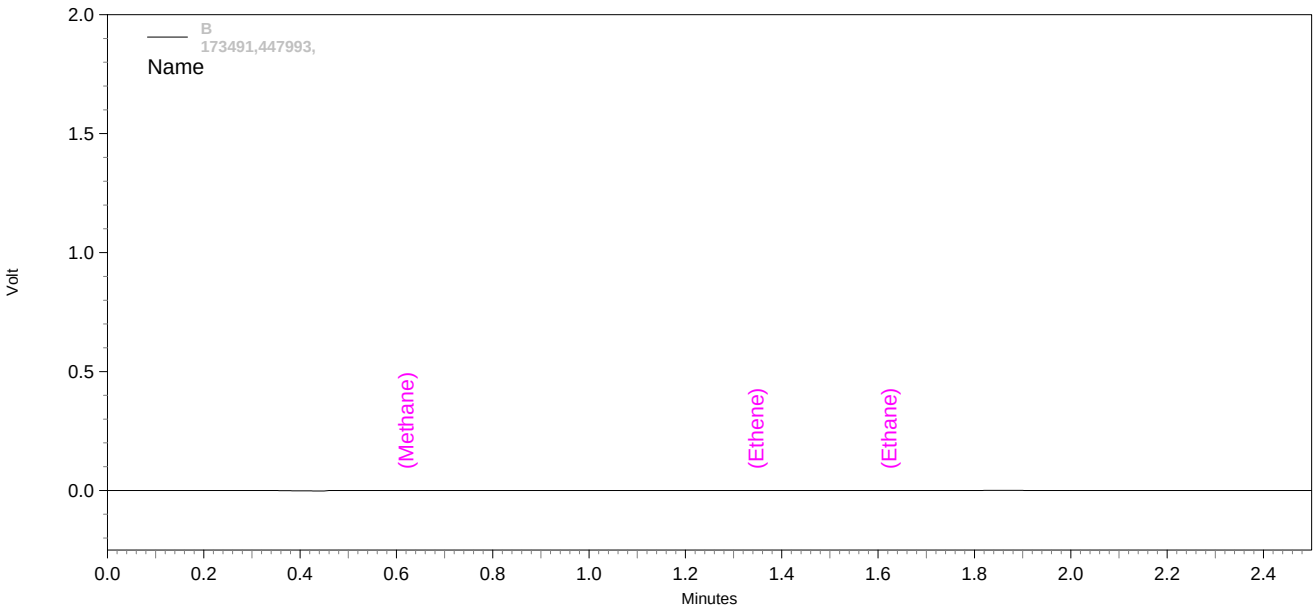
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.620**		**0.000 BDL**	**ppmV**
	Ethene		**1.347**		**0.000 BDL**	**ppmV**
	Ethane		**1.623**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173491,447993,
Acquired: Jul 27, 2020 11:15:43
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



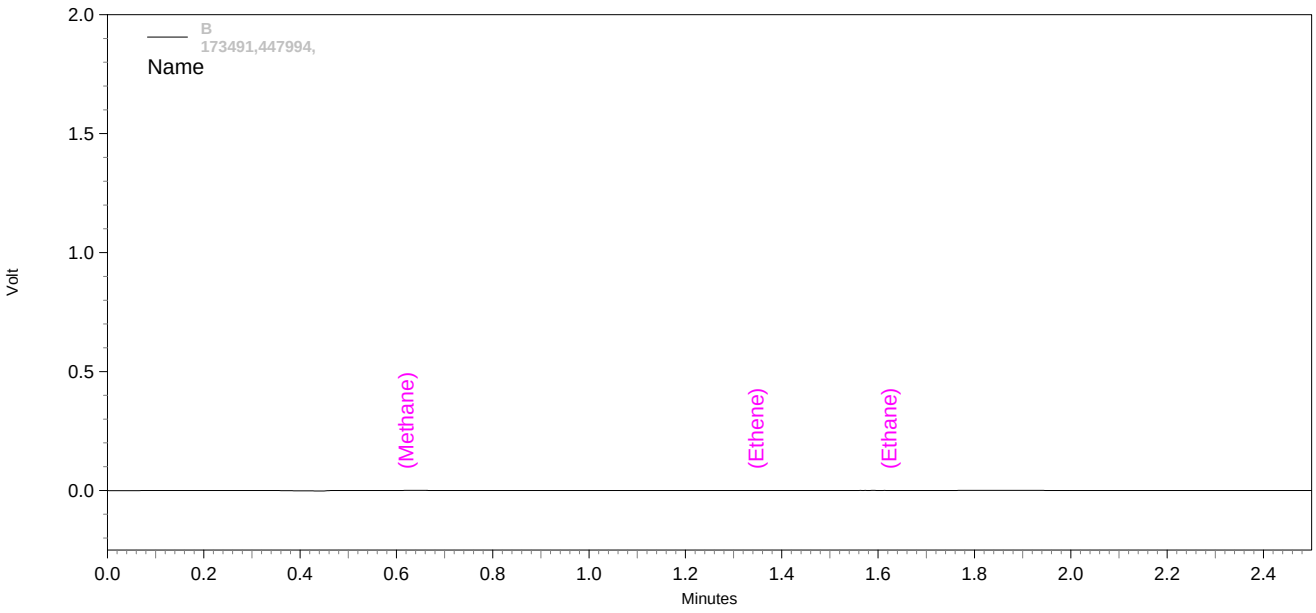
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.620**		**0.000 BDL**	**ppmV**
	Ethene		**1.347**		**0.000 BDL**	**ppmV**
	Ethane		**1.623**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173491,447994,
Acquired: Jul 27, 2020 11:19:15
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



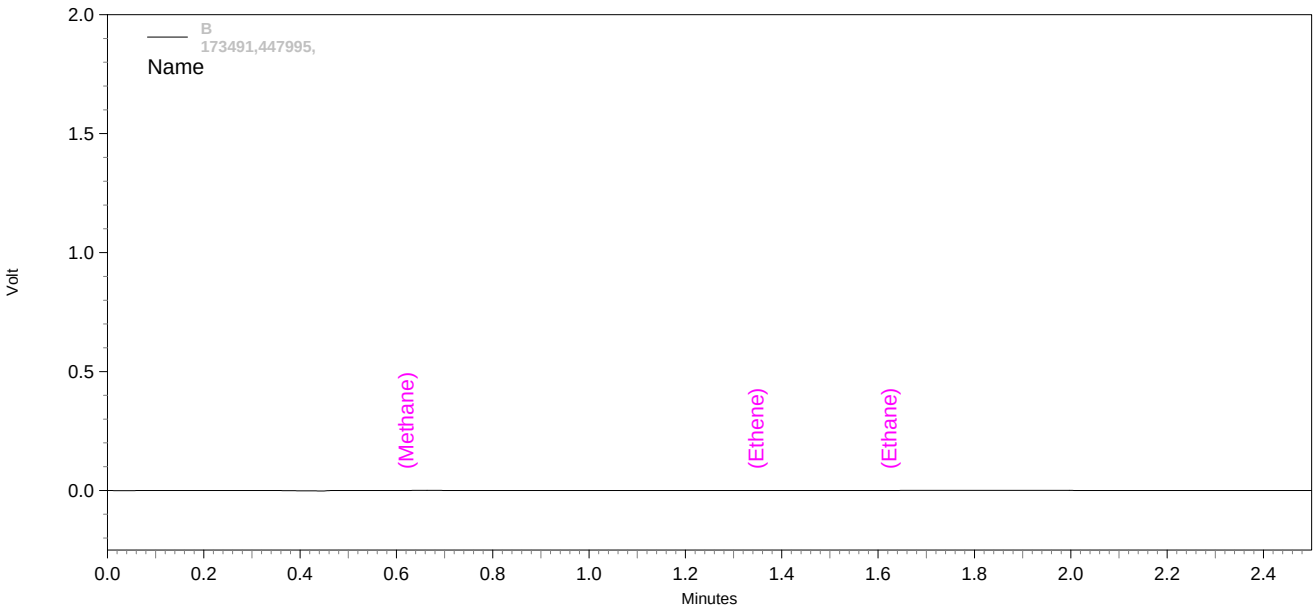
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.620**		**0.000 BDL**	**ppmV**
	Ethene		**1.347**		**0.000 BDL**	**ppmV**
	Ethane		**1.623**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173491,447995,
Acquired: Jul 27, 2020 11:22:36
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



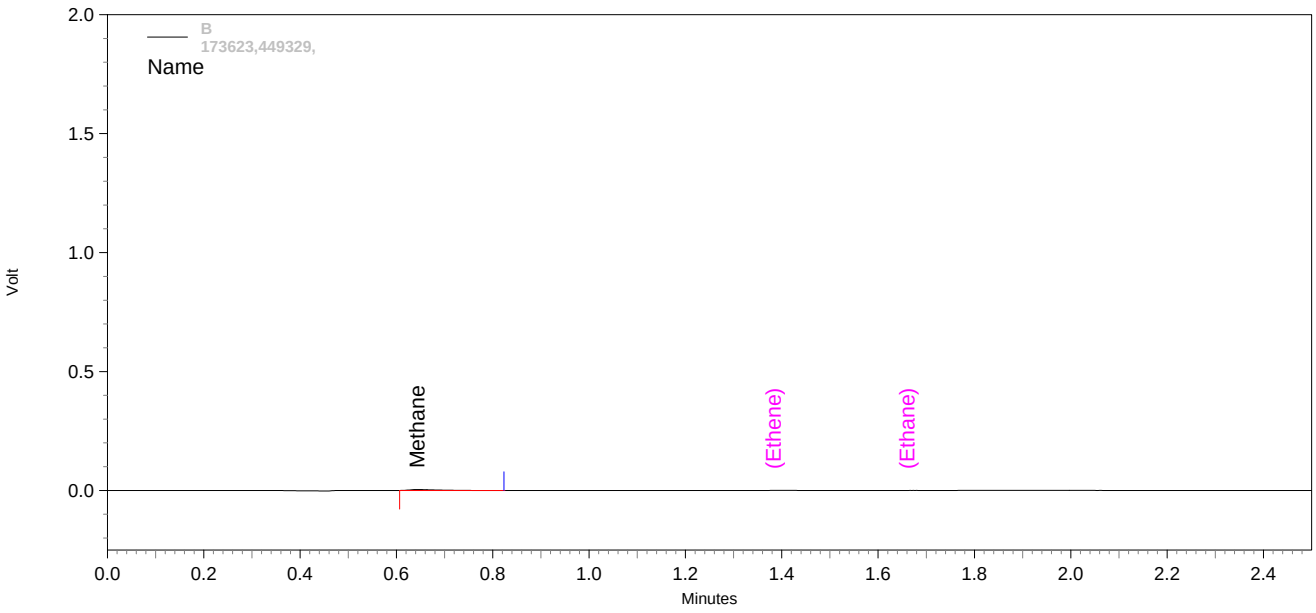
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.620**		**0.000 BDL**	**ppmV**
	Ethene		**1.347**		**0.000 BDL**	**ppmV**
	Ethane		**1.623**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\015.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,449329,
Acquired: Jul 29, 2020 15:37:09
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



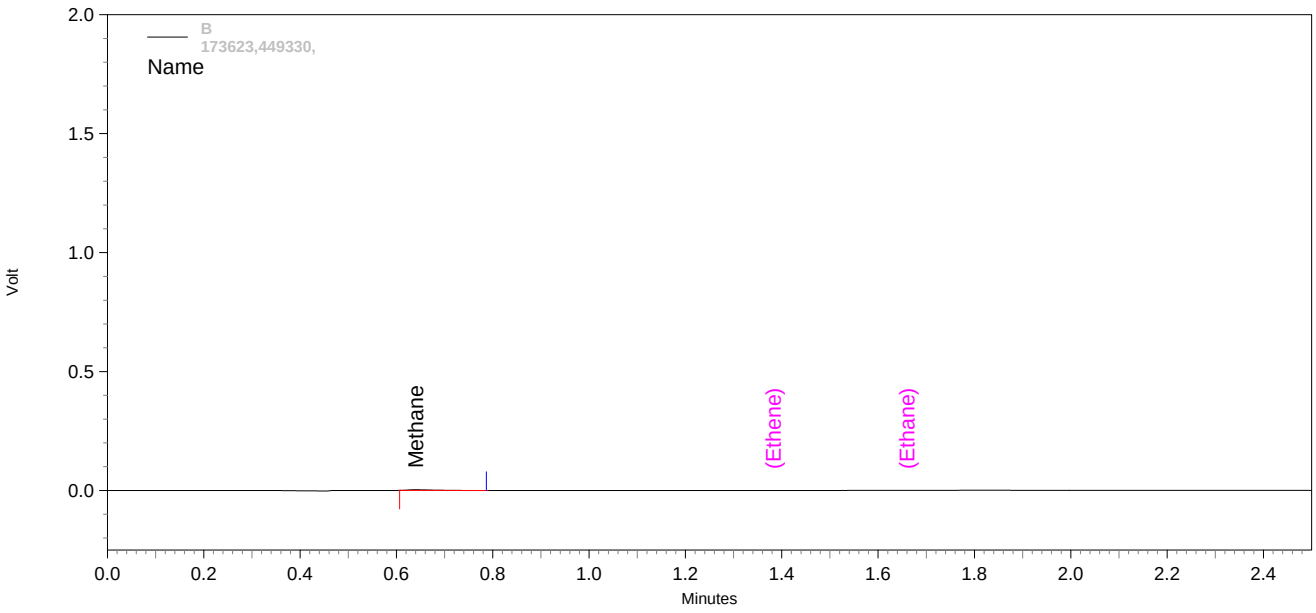
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.643**	**0.637**	**14654**	**3.271**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\016.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,449330,
Acquired: Jul 29, 2020 15:40:39
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



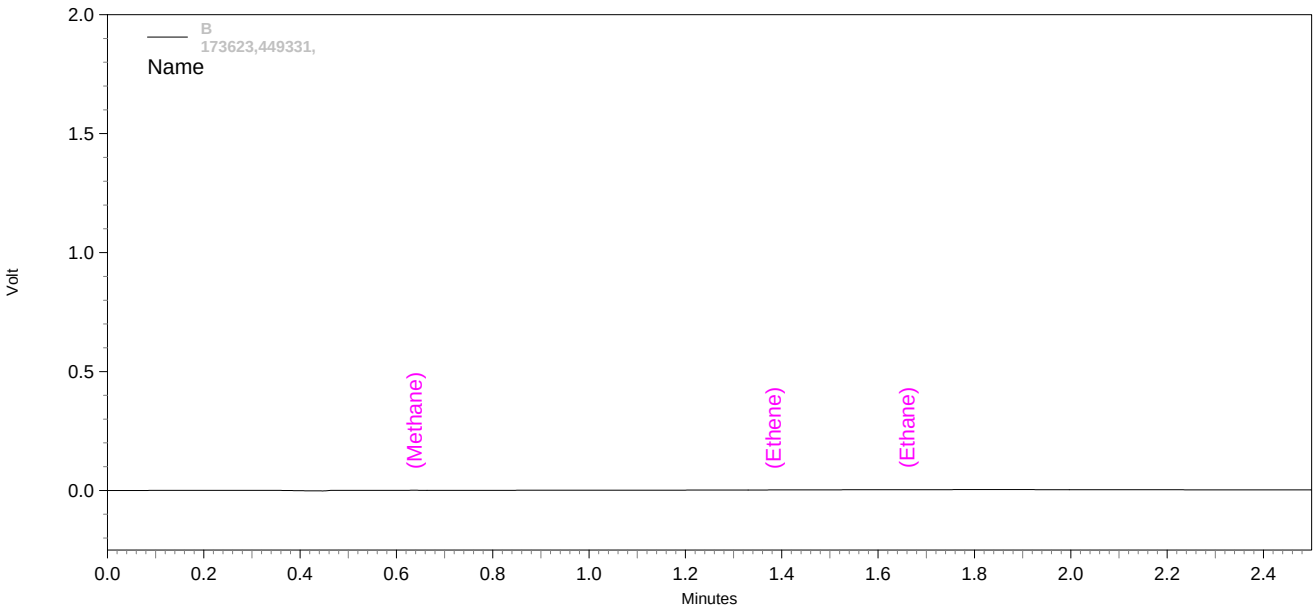
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.640**	**0.637**	**9407**	**1.823**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,449331,
Acquired: Jul 29, 2020 15:46:06
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



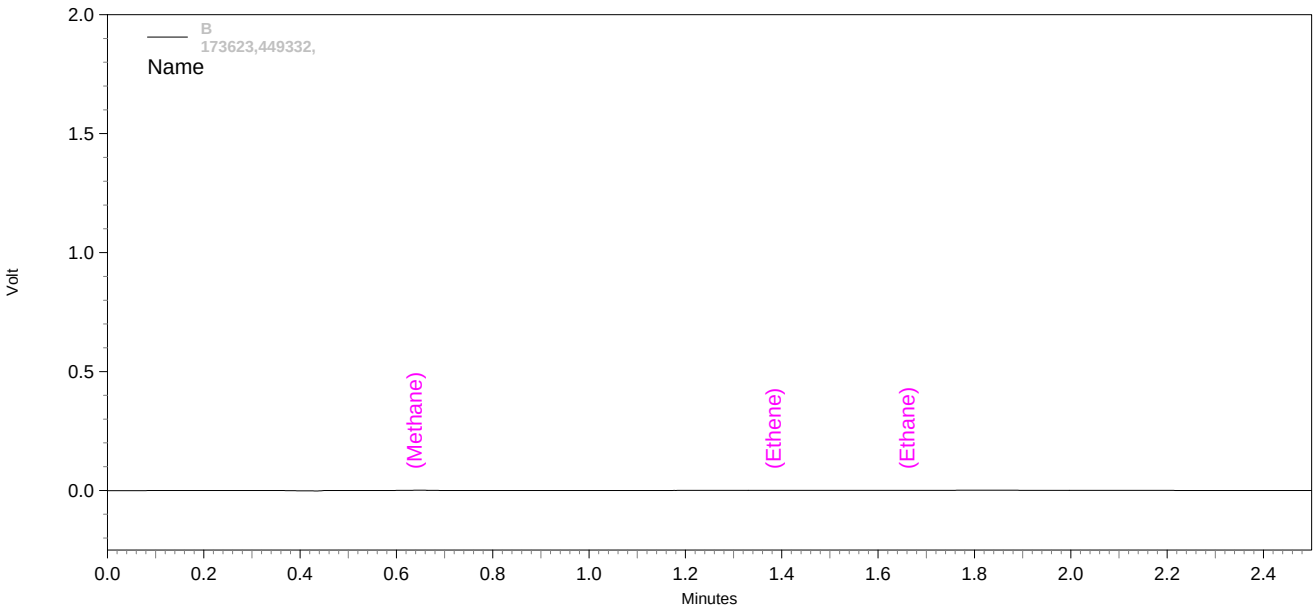
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,449332,
Acquired: Jul 29, 2020 15:51:16
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



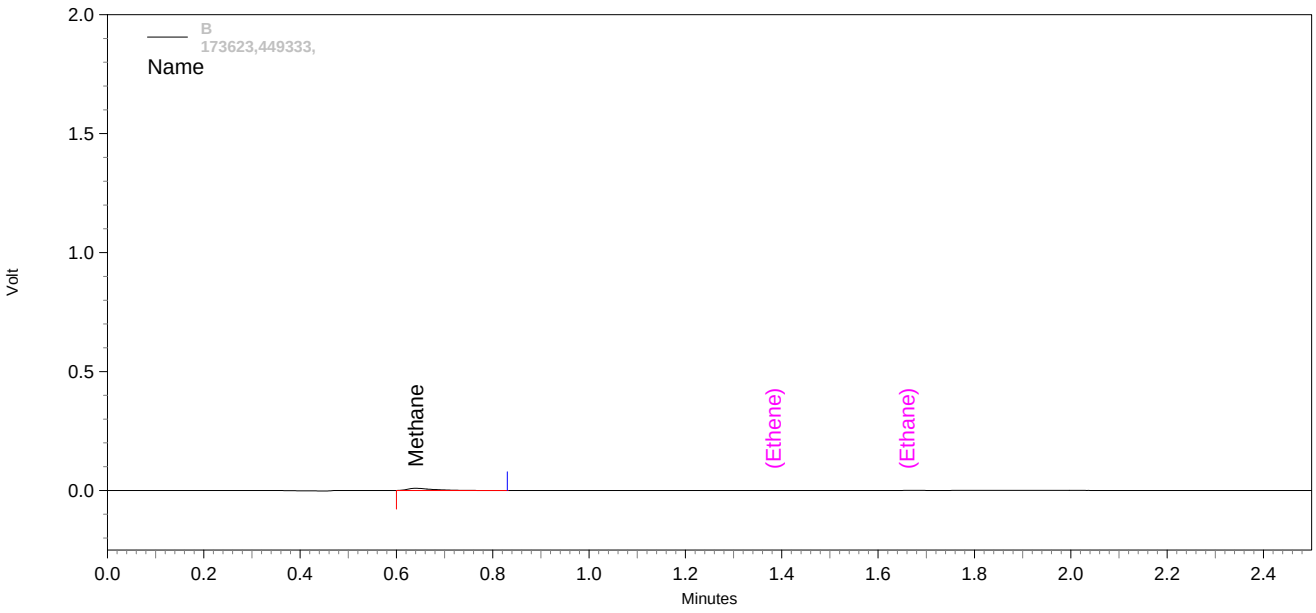
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,449333,
Acquired: Jul 29, 2020 15:54:33
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



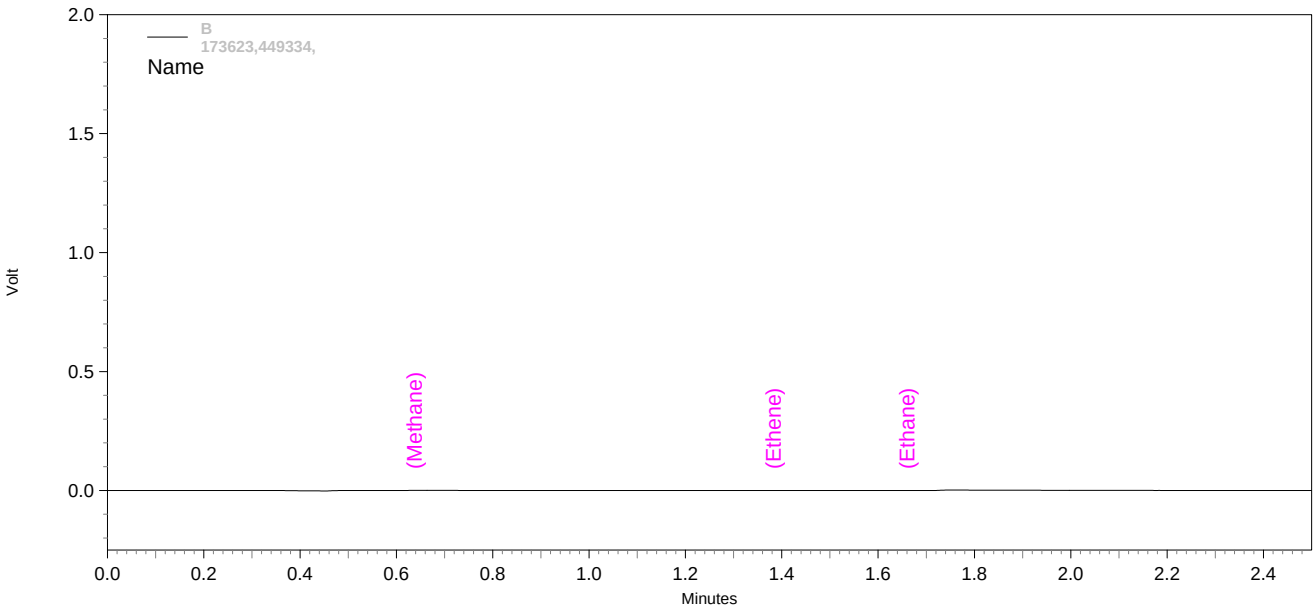
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.640**	**0.637**	**33085**	**8.355**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,449334,
Acquired: Jul 29, 2020 16:00:08
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



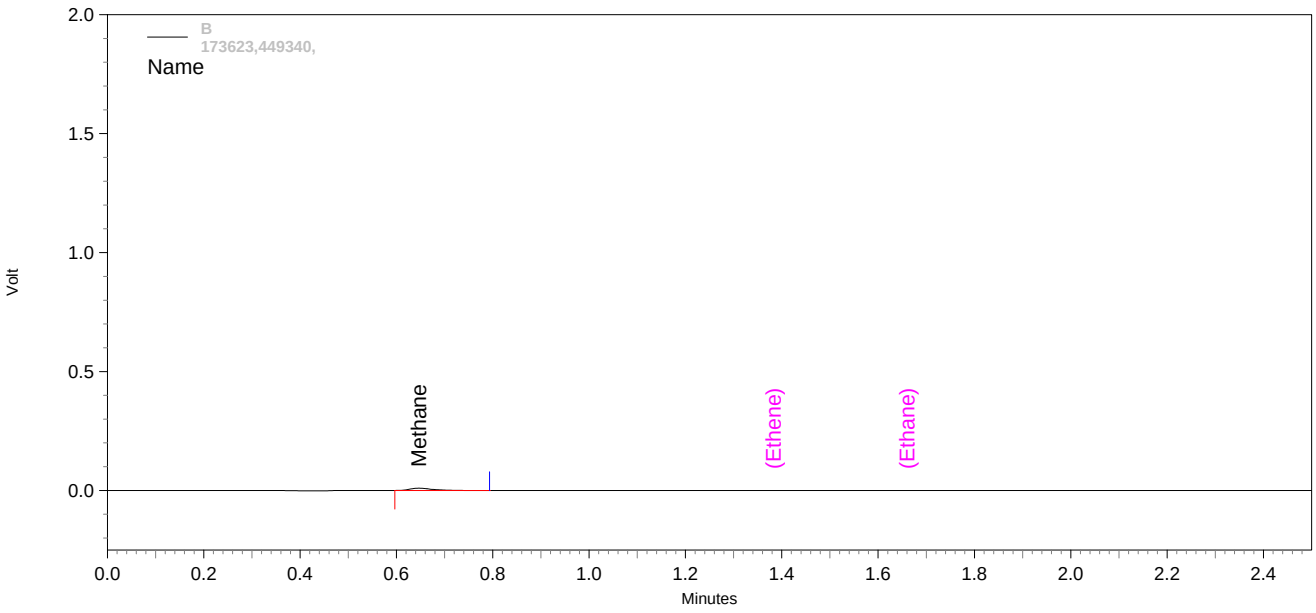
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\025.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,450340,
Acquired: Jul 30, 2020 09:52:54
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



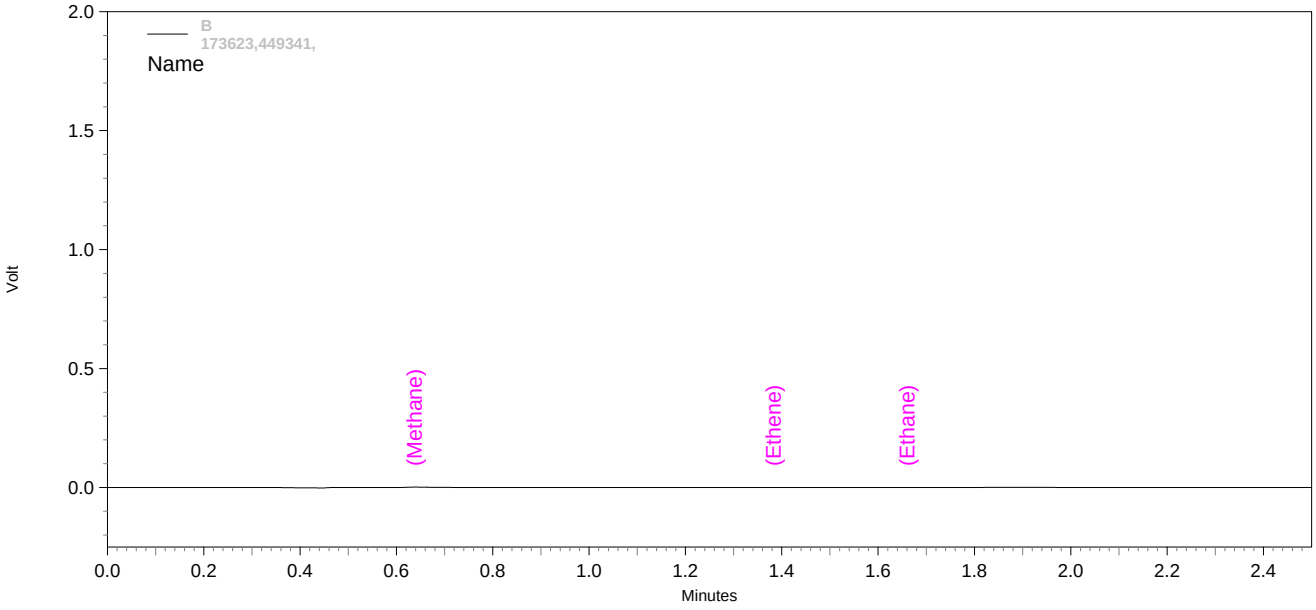
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.647**	**0.637**	**30342**	**7.598**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\026.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,450341,
Acquired: Jul 30, 2020 10:25:55
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



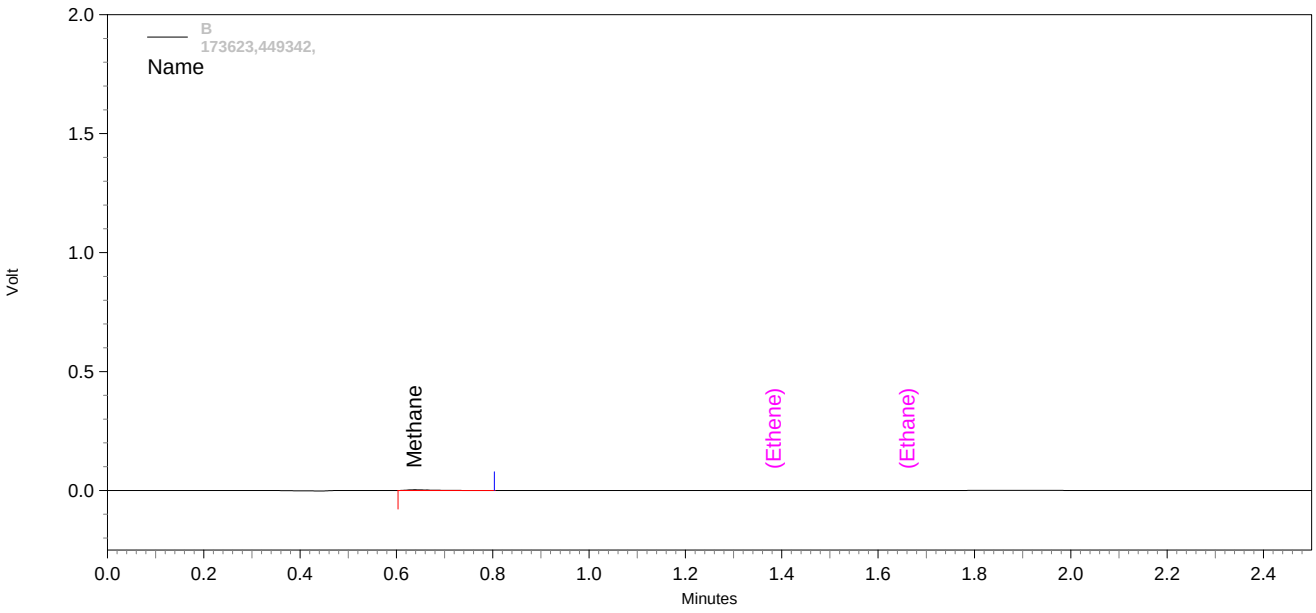
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\027.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,450342,
Acquired: Jul 30, 2020 10:31:49
File Desc. Field Sample - 1.0 mL Injection (Methane, Ethene, Ethane,)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.637**	**0.637**	**10631**	**2.161**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
INITIAL CALIBRATION
DOCUMENTS

Method Path : C:\INSTARCH\METHODS\
Method File : W072320.M
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response Via : Initial Calibration

RJ 08/04/2020

Calibration Files ug/L
1 0.5.0 =WCAL1.D 2 1.0/10.0 =WCAL2.D 3 2.0/20.0 =WCAL3.D
4 5.0/50.0 =WCAL4.D 5 10.0/100.0 =WCAL5.D 6 20.0/200.0 =WCAL6.D
7 30.0/300.0 =WCAL7.D 8 40.0/400.0 =WCAL8.D 9 80.0/800.0 =WCAL9.D

	Compound	1	2	3	4	5	6	7	Avg	%RSD
		8	9							
1) I	FLUOROBENZENE**ISTD**	----------ISTD----------								
2) PT	Dichlorodi	0.192	0.226	0.229	0.262	0.302	0.295	0.277	-----	
		0.276								
							Q	A= -0.018 R=0.999		
								B= 0.313		
								C= -0.006		
3) PT	Chloromethan	0.274	0.271	0.236	0.225	0.238	0.234	0.229	0.237	9.65
		0.228	0.199							
4) PT	VinylChlorid	0.225	0.269	0.234	0.251	0.275	0.271	0.263	0.252	7.87
		0.253	0.225							
5) PT	Bromomethane		0.155	0.150	0.146	0.160	0.152	0.140	0.151	4.03
		0.150	0.156							
6) PT	Chloroethane		0.179	0.182	0.166	0.172	0.170	0.170	0.170	4.91
		0.164	0.155							
7) T	Dichloroflmetha	0.489	0.467	0.401	0.412	0.433	0.413	0.395	0.416	10.08
		0.390	0.349							
8) PT	Trichlorofma	0.281	0.344	0.327	0.377	0.429	0.416	0.397	0.371	13.48
		0.397								
9) T	Ethylether	0.232	0.188	0.175	0.185	0.190	0.191	0.188	0.191	8.44
		0.190	0.181							
10) T	dichlorotfluoro	0.195	0.232	0.215	0.244	0.267	0.261	0.253	0.239	9.68
		0.251	0.233							
11) T	propyleneoxide		0.046	0.046	0.045	0.044	0.044	0.043	0.044	5.54
		0.044	0.038							
12) T	Acrolein		0.037	0.031	0.032	0.030	0.030	0.029	0.031	9.88
		0.029	0.027							
13) PT	11dichlorthe	0.189	0.207	0.204	0.214	0.245	0.238	0.231	0.220	8.43
		0.236	0.217							
14) PT	Trichlorotfluor	0.138	0.174	0.182	0.214	0.255	0.249	0.240	-----	
		0.237	0.212							
							Q	A= -0.007 R=1.000		
								B= 0.266		
								C= -0.012		
15) PT	Acetone	0.080	0.073	0.060	0.060	0.058	0.056	0.053	----- #	
		0.056	0.048							
							Q	A= -0.000 R=0.999		
								B= 0.059		
								C= 0.002		
16) T	Iodomethane		0.095	0.105	0.122	0.171	0.222	0.253	-----	
		0.270	0.243							
							Q	A= -0.005 R=0.996		
								B= 0.289		
								C= -0.064		
17) PT	Carbon Dislf	0.731	0.719	0.626	0.654	0.675	0.626	0.576	0.644	10.16
		0.542								
18) T	allylchloride	0.368	0.330	0.308	0.303	0.320	0.311	0.303	0.309	10.16
		0.291	0.251							
19) PT	methylacetate		0.052	0.052	0.047	0.052	0.055	0.056	0.054#	6.32
		0.057	0.058							
20) PT	Methylchlorid	0.417	0.344	0.285	0.273	0.276	0.265	0.261	-----	
		0.254	0.232							
							Q	A= -0.011 R=1.000		

```
                                                    B=  0.275
                                                    C=  0.002
21) T   tbutylalcohol   0.010 0.009 0.009 0.010 0.010 0.012 0.011 0.011# 14.25
                        0.013 0.012
22) T   Acrylonitrile         0.081 0.079 0.073 0.074 0.075 0.073 0.074   7.11
                        0.070 0.064
23) PT  t12dichlorte    0.295 0.284 0.263 0.249 0.267 0.265 0.256 0.263   6.82
                        0.254 0.235
24) PT  MtBE            0.772 0.742 0.665 0.642 0.670 0.668 0.626 0.662   9.93
                        0.627 0.548
25) T   Hexane          0.233 0.286 0.288 0.371 0.430 0.425 0.388 -----
                        0.375 0.310
                                                  Q  A= -0.017 R=1.000
                                                    B=  0.452
                                                    C= -0.018
26) PT  11dichlorota    0.471 0.450 0.425 0.419 0.418 0.418 0.395 0.415   8.34
                        0.391 0.351
27) T   Vinylacetate    0.382 0.374 0.349 0.347 0.325 0.291 0.247 -----
                        0.217
                                                  Q  A= -0.007 R=1.000
                                                    B=  0.357
                                                    C=  0.011
28) T   chloroprene     0.304 0.316 0.303 0.342 0.363 0.352 0.335 0.325   8.05
                        0.328 0.281
29) T   Diisopether     0.690 0.678 0.692 0.610 0.664 0.629 0.614 0.635   8.12
                        0.605 0.534
30) T   ETBE            0.759 0.649 0.598 0.589 0.624 0.602 0.582 0.611  10.94
                        0.583 0.512
31) T   22dichloropr    0.279 0.295 0.246 0.275 0.313 0.321 0.328 0.299   9.19
                        0.323 0.314
32) PT  c12dichlorte    0.375 0.326 0.306 0.287 0.303 0.289 0.283 0.302  10.83
                        0.284 0.262
33) PT  2Butanone             0.032 0.029 0.028 0.028 0.028 0.028 0.029#  4.51
                        0.029 0.027
34) T   propionitrile         0.029 0.026 0.027 0.026 0.027 0.025 0.027#  4.71
                        0.027 0.026
35) T   Ethylacetate          0.011 0.009 0.009 0.010 0.010 0.010 0.010#  5.77
                        0.011 0.011
36) T   methacrylonitri      0.116 0.111 0.112 0.113 0.109 0.109 0.110   2.89
                        0.110 0.105
37) T   Bromochlorma    0.183 0.179 0.140 0.137 0.138 0.142 0.140 0.148  13.14
                        0.142 0.129
38) T   Tetrahydofur    0.071 0.067 0.062 0.059 0.058 0.057 0.053 0.059  12.03
                        0.055 0.048
39) PT  Chloroform      0.566 0.502 0.446 0.456 0.468 0.446 0.432 0.459  11.03
                        0.430 0.386
40) PT  111trichlota    0.324 0.323 0.302 0.322 0.370 0.376 0.374 0.346   8.36
                        0.376 0.347
41) S   SURRDibrflma    0.274 0.271 0.276 0.271 0.268 0.281 0.281 0.275   1.57
                        0.277 0.277
42) PT  Cyclohexane     0.226 0.305 0.283 0.355 0.411 0.410 0.393 -----
                        0.392 0.359
                                                  Q  A= -0.017 R=1.000
                                                    B=  0.430
                                                    C= -0.009
43) PT  Carbtetraclo    0.176 0.217 0.195 0.215 0.260 0.277 0.291 -----
                        0.299 0.289
                                                  Q  A= -0.003 R=0.999
                                                    B=  0.304
                                                    C= -0.012
44) T   11dicloprope          0.127 0.114 0.116 0.143 0.144 0.139 0.133   9.32
                        0.144 0.138
45) S   SURR12DCAd4     0.068 0.070 0.067 0.069 0.068 0.068 0.070 0.069   1.53
                        0.069 0.067
46) PT  Benzene         1.284 1.192 1.058 1.040 1.050 0.971 0.909 1.047  13.17
                        0.871
47) PT  12dichlorota    0.470 0.438 0.355 0.341 0.340 0.331 0.328 -----
                        0.328 0.299
                                                  Q  A= -0.012 R=1.000
                                                    B=  0.348
```

```
                                                    C=  0.001
48) T   TAME            0.772 0.704 0.659 0.630 0.643 0.639 0.617 0.648   9.64
                        0.621 0.546
49) PT  trichloroete    0.318 0.287 0.268 0.271 0.294 0.288 0.278 0.282   6.34
                        0.279 0.256
50) PT  methylcyclohexa 0.286 0.319 0.328 0.410 0.491 0.480 0.470 -----
                        0.467 0.418
                                                 Q  A= -0.025 R=1.000
                                                    B=  0.520
                                                    C= -0.014
51) PT  12dicloropra    0.383 0.303 0.260 0.266 0.262 0.259 0.256 -----
                        0.254 0.240
                                                 Q  A= -0.006 R=1.000
                                                    B=  0.265
                                                    C=  0.001
52) T   23Dicl1propene          0.416 0.367 0.400 0.399 0.395 0.396 0.389   5.25
                        0.388 0.351
53) T   Dibromometha            0.191 0.174 0.170 0.166 0.167 0.165 0.171   5.32
                        0.169 0.163
54) T   methylmethacryl         0.156 0.141 0.147 0.169 0.179 0.179 0.167  10.23
                        0.187 0.181
55) T   14dioxane               0.001 0.001 0.001 0.000 0.001 0.001 0.001# 21.46
                        0.001 0.001
56) PT  Bromodiclrma    0.344 0.321 0.315 0.307 0.312 0.321 0.322 0.318   3.87
                        0.323 0.300
57) T   2Nitropropane   0.029 0.027 0.024 0.025 0.026 0.030 0.032 ----- #
                        0.035 0.038
                                                 Q  A=  0.000 R=0.999
                                                    B=  0.030
                                                    C= -0.009
58) T   2CLEVE                  0.138 0.136 0.138 0.141 0.137 0.132 0.133   7.36
                        0.131 0.110
59) PT  c13dicloproe    0.442 0.391 0.354 0.370 0.385 0.389 0.391 0.386   6.73
                        0.391 0.356
60) PT  4Meth2Pentan    0.216 0.211 0.199 0.194 0.184 0.165 0.149 -----
                        0.139
                                                 Q  A= -0.003 R=1.000
                                                    B=  0.189
                                                    C=  0.018
61) S   SURRd8Tolule    1.005 0.995 1.010 0.995 0.996 1.010 1.006 1.002   0.62
                        0.999 1.001
62) PT  Toluene         0.771 0.780 0.690 0.669 0.694 0.656 0.633 0.670  11.76
                        0.617 0.522
63) PT  t13Dicloprop    0.320 0.292 0.283 0.287 0.319 0.328 0.334 0.314   6.72
                        0.341 0.321
64) T   ethylmethacryla         0.256 0.239 0.273 0.294 0.302 0.299 0.278   8.79
                        0.300 0.260
65) PT  112Triclotha            0.231 0.198 0.204 0.208 0.200 0.197 0.203   6.13
                        0.201 0.188
66) PT  Tetrachlorte    0.325 0.330 0.279 0.320 0.352 0.346 0.337 0.326   6.78
                        0.338 0.307
67) T   13Diclorpropa   0.528 0.481 0.414 0.393 0.414 0.390 0.384 0.415  13.44
                        0.384 0.346

68) I   d5-CHLOROBENZENE**IST ----------------ISTD--------------------
69) PT  2Hexanone               0.192 0.177 0.179 0.172 0.154 0.145 0.165  12.03
                        0.138
70) PT  Clorodibrmta    0.275 0.255 0.230 0.247 0.273 0.287 0.299 0.275   9.85
                        0.310 0.302
71) PT  12Dibrometha    0.335 0.302 0.258 0.281 0.302 0.301 0.303 0.297   7.23
                        0.308 0.284
72) PT  Chlorobenzen    1.245 1.114 0.978 0.957 0.955 0.890 0.862 0.980  13.99
                        0.838
73) T   1Clhexane       0.442 0.405 0.358 0.417 0.451 0.453 0.446 0.423   7.59
                        0.439 0.395
74) T   1112Tetclota           0.230 0.224 0.223 0.250 0.267 0.285 0.259  12.07
                        0.299 0.290
75) PT  Ethylbenzene    1.735 1.693 1.509 1.549 1.547 1.417 1.336 1.506  10.90
                        1.260
76) PT  m p-Xylene      0.656 0.648 0.574 0.597 0.609 0.582 0.555 0.576  11.93
```

```
                    0.535 0.426
 77) PT  o-Xylene         0.699 0.622 0.560 0.577 0.610 0.592 0.582 0.591   8.94
                    0.573 0.503
 78) PT  Styrene          1.054 1.024 0.921 0.969 0.994 0.955 0.922 0.941   9.79
                    0.896 0.737
 79) PT  Bromoform              0.149 0.133 0.154 0.163 0.184 0.196 -----
                    0.216 0.219
                                                      Q  A=  0.005 R=0.999
                                                         B=  0.201
                                                         C= -0.011
 80) PT  Isopropylben     1.509 1.539 1.356 1.454 1.516 1.392 1.321 1.367  13.15
                    1.255 0.962
 81) T   cyclohexanone          0.008 0.007 0.008 0.007 0.008 0.007 ----- #
                    0.010 0.009
                                                      Q  A=  0.000 R=0.992
                                                         B=  0.008
                                                         C= -0.007

 82) I   d4-1,4-DICHLOROBENZEN ----------------ISTD---------------------
 83) S   SURR4BrFBenz     0.880 0.876 0.868 0.868 0.868 0.865 0.853 0.865   1.19
                    0.848 0.858
 84) T   Bromobenzene     0.902 0.827 0.711 0.700 0.740 0.690 0.659 0.724  12.43
                    0.675 0.607
 85) PT  1122Tetrclta     0.963 0.774 0.695 0.712 0.660 0.661 0.628 -----
                    0.625 0.577
                                                      Q  A= -0.022 R=1.000
                                                         B=  0.664
                                                         C=  0.007
 86) T   123Triclproa           0.849 0.747 0.786 0.768 0.757 0.749 0.771   4.53
                    0.776 0.739
 87) T   14dichloro2bute        0.178 0.130 0.145 0.141 0.148 0.149 0.152   9.92
                    0.163 0.164
 88) T   n-Propylbenz     3.180 3.127 2.729 2.845 2.971 2.672 2.406 2.776  11.63
                    2.277
 89) T   2chlorotolue     2.082 2.078 1.752 1.796 1.837 1.670 1.571 1.788  11.76
                    1.515
 90) T   4chlorotolue     2.452 2.330 1.983 2.120 2.118 1.947 1.807 2.062  11.90
                    1.736
 91) T   135Trimebenz     2.373 2.200 2.005 2.098 2.143 2.002 1.843 1.984  14.12
                    1.778 1.411
 92) T   tbutylbenzen     1.819 1.837 1.645 1.750 1.882 1.746 1.628 1.689  10.45
                    1.596 1.299
 93) T   124Trimetben     2.401 2.107 1.984 2.110 2.166 2.001 1.862 1.979  14.13
                    1.774 1.410
 94) T   sbutylbenzen     2.296 2.512 2.133 2.411 2.610 2.386 2.170 2.243  13.47
                    2.080 1.590
 95) PT  13Diclorbenz     1.582 1.487 1.280 1.332 1.322 1.256 1.183 1.290  13.50
                    1.173 0.991
 96) T   pIsopropylto     2.069 2.178 1.935 2.126 2.238 2.077 1.917 1.982  11.89
                    1.841 1.456
 97) PT  14dichlorobe     1.680 1.667 1.370 1.365 1.383 1.293 1.219 1.397  13.19
                    1.197
 98) PT  12dichlorobe     1.565 1.427 1.217 1.246 1.254 1.198 1.131 1.234  14.41
                    1.113 0.953
 99) T   nButylbenzen     1.903 1.974 1.627 1.875 1.958 1.827 1.687 1.757  12.06
                    1.643 1.314
100) PT  12dibromo3cl           0.078 0.088 0.097 0.105 0.116 0.128 -----
                    0.135 0.140
                                                      Q  A=  0.004 R=0.999
                                                         B=  0.127
                                                         C= -0.007
101) T   135Trichloroben 0.994 0.995 0.827 0.876 0.918 0.874 0.834 0.874   9.93
                    0.823 0.723
102) PT  124Trichlobe    0.794 0.772 0.741 0.749 0.807 0.748 0.734 0.748   6.06
                    0.738 0.649
103) T   Hexachlorobu    0.317 0.316 0.291 0.348 0.356 0.354 0.345 0.333   6.69
                    0.345 0.323
104) T   Naphthalene     1.714 1.835 1.630 1.707 1.741 1.666 1.570 1.626  10.63
                    1.533 1.233
105) T   123Trichlben     0.775 0.681 0.603 0.665 0.698 0.667 0.661 0.667   7.95
```

```
                        0.657 0.593
-------------------------------------------------------------------------------
                                                 Total Average %RSD   9.17
-------------------------------------------------------------------------------
L = Linear LO = Linear+Origin Q = Quad QO = Quad+Origin R = Corr. Coef
(#) = Out of Range

          W072320.M         Tue Aug 04 10:12:10 2020
```

BFB

Data File : C:\Instarch\Data\JUL2320B\BFB1.D Vial: 1
Acq On : 23 Jul 2020 16:44 Operator: RLD-DGS
Sample : BFB DIRECT INJ. Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method

Spectrum Information: Average of 2.053 to 2.065 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	16.5	16520	PASS
75	95	30	60	54.9	54945	PASS
95	95	100	100	100.0	100000	PASS
96	95	5	9	6.6	6592	PASS
173	174	0.00	2	0.6	554	PASS
174	95	50	100	98.9	98859	PASS
175	174	5	9	7.8	7673	PASS
176	174	95	101	96.0	94862	PASS
177	176	5	9	7.3	6920	PASS

W072320.M Tue Aug 04 09:58:57 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL1.D Vial: 4
Acq On : 23 Jul 2020 17:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:51:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1352628	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1112444	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	621577	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	371116	20.711 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104 %		
45) SURR12DCAd4	7.28	102	92482	19.939 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %		
61) SURRd8Tolule	9.72	98	1359936	20.416 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102 %		
83) SURR4BrFBenz	13.27	95	547109	19.929 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100 %		
Target Compounds					Qvalue
2) Dichlorodi	1.85	85	6492	0.3248 ug/L #	42
3) Chloromethan	2.10	50	9250	0.5277 ug/L	96
4) VinylChlorid	2.25	62	7600	0.4097 ug/L	70
5) Bromomethane	2.73	94	6088	0.4327 ug/L	87
6) Chloroethane	2.89	64	6489	0.5288 ug/L	81
7) Dichloroflmethane	3.20	67	16532	0.6107 ug/L #	86
8) Trichlorofma	3.29	101	9508	0.3763 ug/L #	95
9) Ethylether	3.73	59	7853	0.6007 ug/L	83
10) dichlorotfluoroethan	3.73	67	6586	0.4026 ug/L	93
11) propyleneoxide	3.78	58	18428	6.2908 ug/L	94
12) Acrolein	3.86	56	7950	3.4134 ug/L	94
13) 11dichlorthe	4.01	96	6382	0.4202 ug/L #	82
14) Trichlorotfluoroeth	4.05	101	9332	0.6354 ug/L	95
15) Acetone	4.08	43	27164	6.7734 ug/L	98
16) Iodomethane	4.18	142	7112	0.4157 ug/L #	85
17) Carbon Dislf	4.27	76	49460	1.1948 ug/L	93
18) allylchloride	4.49	41	24916	1.2966 ug/L	99
19) methylacetate	4.55	74	1917	0.5449 ug/L #	0
20) Methylchlorid	4.65	84	14108	0.7227 ug/L	96
21) tbutylalcohol	4.86	59	16981	29.7178 ug/L	95
22) Acrylonitrile	4.95	53	15022	2.9403 ug/L	91
23) t12dichlorte	5.02	96	9963	0.5802 ug/L	96
24) MtBE	5.06	73	26109	0.6439 ug/L	93
25) Hexane	5.42	57	15759	0.6313 ug/L #	94
26) 11dichlorota	5.56	63	15937	0.5763 ug/L	93
27) Vinylacetate	5.64	43	129165	6.9440 ug/L	94
28) chloroprene	5.68	53	20575	0.9319 ug/L	99
29) Diisopether	5.71	45	23330	0.5451 ug/L	95
30) ETBE	6.16	59	25664	0.7986 ug/L	98
31) 22dichloropr	6.29	77	9427	0.6317 ug/L #	79
32) c12dichlorte	6.27	96	12686	0.6406 ug/L	98
33) 2Butanone	6.31	72	10560	5.3129 ug/L	98
34) propionitrile	6.35	54	9801	5.2209 ug/L #	54
35) Ethylacetate	6.40	88	2373	3.5830 ug/L #	0
36) methacrylonitrile	6.55	67	8251	1.0673 ug/L #	60
37) Bromochlorma	6.57	128	6196	0.6470 ug/L	89
38) Tetrahydofur	6.66	42	24107	5.8731 ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL1.D Vial: 4
Acq On : 23 Jul 2020 17:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:51:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.68	83	19123	0.6373 ug/L		98
40)	111trichlota	6.91	97	10963	0.5326 ug/L		93
42)	Cyclohexane	7.00	56	7641	0.3051 ug/L		88
43)	Carbtetraclo	7.14	119	5947	0.4121 ug/L		78
44)	11dicloprope	7.12	110	3796	0.4145 ug/L		89
46)	Benzene	7.38	78	43403	0.6517 ug/L		97
47)	12dichlorota	7.38	62	15897	0.7009 ug/L	#	91
48)	TAME	7.56	73	26096	0.7498 ug/L		94
49)	trichloroete	8.19	95	10769	0.5726 ug/L		93
50)	methylcyclohexane	8.46	83	9679	0.3309 ug/L		92
51)	12dicloropra	8.44	63	12951	0.7221 ug/L	#	89
52)	23Dicl1propene	8.50	75	15593	0.6076 ug/L		95
53)	Dibromometha	8.58	93	6921	0.6106 ug/L		99
54)	methylmethacrylate	8.61	69	6262	0.5951 ug/L	#	81
55)	14dioxane	8.63	88	2408	56.8404 ug/L	#	0
56)	Bromodiclrma	8.78	83	11617	0.5996 ug/L	#	95
57)	2Nitropropane	9.06	43	9851	5.4901 ug/L		93
58)	2CLEVE	9.18	63	25954	2.8952 ug/L		98
59)	c13dicloproe	9.37	75	14952	0.6578 ug/L		99
60)	4Meth2Pentan	9.57	43	72989	5.8431 ug/L		92
62)	Toluene	9.80	92	26087	0.5802 ug/L		92
63)	t13Dicloprop	10.07	75	10815	0.6175 ug/L		87
64)	ethylmethacrylate	10.22	69	20260	1.2263 ug/L		99
65)	112Triclotha	10.30	83	8777	0.6230 ug/L		89
66)	Tetrachlorte	10.54	166	10995	0.5207 ug/L		96
67)	13Diclorpropa	10.53	76	17842	0.6540 ug/L		100
69)	2Hexanone	10.66	43	54426	5.6899 ug/L		94
70)	Clorodibrmta	10.84	129	7654	0.5639 ug/L	#	83
71)	12Dibrometha	11.00	107	9329	0.6650 ug/L		91
72)	Chlorobenzen	11.67	112	34626	0.6555 ug/L	#	76
73)	1Clhexane	11.66	91	12292	0.5005 ug/L	#	37
74)	1112Tetclota	11.78	131	8017	0.6086 ug/L		86
75)	Ethylbenzene	11.83	91	48259	0.5947 ug/L		95
76)	m p-Xylene	12.00	106	36493	1.1240 ug/L		91
77)	o-Xylene	12.55	106	19434	0.5815 ug/L		97
78)	Styrene	12.55	104	29310	0.5488 ug/L		92
79)	Bromoform	12.80	173	5064	0.5729 ug/L	#	28
80)	Isopropylben	13.07	105	41961	0.5438 ug/L		95
81)	cyclohexanone	13.17	55	3458	8.5690 ug/L	#	30
84)	Bromobenzene	13.48	156	14023	0.5995 ug/L		93
85)	1122Tetrclta	13.45	83	14966	0.6986 ug/L		91
86)	123Triclproa	13.51	75	14641	0.5867 ug/L		92
87)	14dichloro2butene	13.54	53	2937	0.5676 ug/L	#	25
88)	n-Propylbenz	13.65	91	49414	0.5389 ug/L		94
89)	2chlorotolue	13.76	91	32347	0.5856 ug/L		99
90)	4chlorotolue	13.92	91	38099	0.5705 ug/L		100
91)	135Trimebenz	13.92	105	36868	0.5745 ug/L		95
92)	tbutylbenzen	14.38	119	28261	0.5172 ug/L		96
93)	124Trimetben	14.45	105	37304	0.5811 ug/L		97
94)	sbutylbenzen	14.70	105	35679	0.4612 ug/L		96
95)	13Diclorbenz	14.84	146	24591	0.6040 ug/L		99
96)	pIsopropylto	14.91	119	32154	0.4981 ug/L	#	98
97)	14dichlorobe	14.97	146	26109	0.6130 ug/L	#	69
98)	12dichlorobe	15.51	146	24317	0.6114 ug/L	#	70
99)	nButylbenzen	15.51	91	29578	0.5016 ug/L		93
100)	12dibromo3cl	16.59	157	1479	0.4620 ug/L	#	0
101)	135Trichlorobenzene	16.93	180	15449	0.5517 ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL1.D Vial: 4
Acq On : 23 Jul 2020 17:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:51:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
102) 124Trichlobe	17.73	180	12341	0.4962	ug/L		92
103) Hexachlorobu	17.99	225	4920	0.4542	ug/L		90
104) Naphthalene	18.03	128	26632	0.4789	ug/L	#	90
105) 123Trichlben	18.34	180	12047	0.5507	ug/L		92

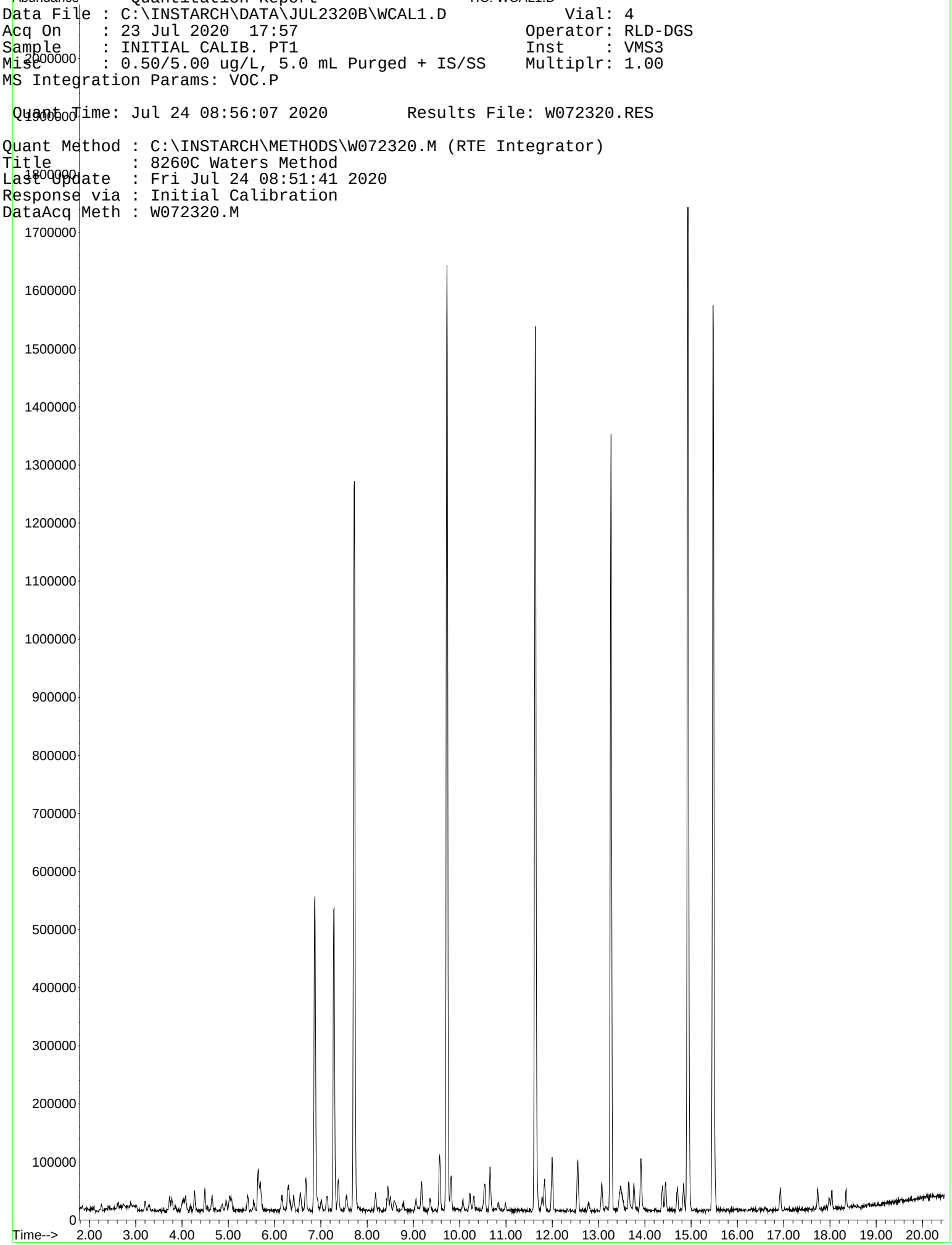
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL1.D

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL1.D Vial: 4
Acq On : 23 Jul 2020 17:57 Operator: RLD-DGS
Sample : INITIAL CALIB. PT1 Inst : VMS3
Misc : 0.50/5.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:51:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL2.D Vial: 5
Acq On : 23 Jul 2020 18:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1463490	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1189734	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	677868	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	396847	20.270	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	103149	20.602	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103	%		
61) SURRd8Tolule	9.72	98	1455742	20.129	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	593632	19.868	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	16525	0.7876	ug/L	94
3) Chloromethan	2.10	50	19830	1.0402	ug/L	99
4) VinylChlorid	2.25	62	19660	0.9915	ug/L	98
5) Bromomethane	2.73	94	11350	0.7456	ug/L	93
6) Chloroethane	2.89	64	13113	0.9877	ug/L	94
7) Dichloroflmethane	3.20	67	34143	1.1320	ug/L	97
8) Trichlorofma	3.28	101	25149	0.9276	ug/L	97
9) Ethylether	3.73	59	13781	0.9539	ug/L	91
10) dichlorotfluoroethan	3.74	67	16968	0.9624	ug/L	94
11) propyleneoxide	3.78	58	33841	10.6772	ug/L	96
12) Acrolein	3.85	56	13654	5.4184	ug/L	100
13) 11dichlorthe	4.01	96	15161	0.9262	ug/L	90
14) Trichlorotfluoroeth	4.05	101	25504	1.6226	ug/L	89
15) Acetone	4.08	43	53481	12.0271	ug/L	98
16) Iodomethane	4.18	142	13944	0.7533	ug/L #	85
17) Carbon Dislf	4.27	76	105186	2.3135	ug/L	96
18) allylchloride	4.49	41	48313	2.2191	ug/L	99
19) methylacetate	4.55	74	3804	0.9994	ug/L #	42
20) Methylchlorid	4.64	84	25145	1.1835	ug/L	92
21) tbutylalcohol	4.86	59	32988	50.5354	ug/L	82
22) Acrylonitrile	4.95	53	29696	5.3722	ug/L	97
23) t12dichlorte	5.03	96	20810	1.0968	ug/L	98
24) MtBE	5.07	73	54278	1.2116	ug/L	96
25) Hexane	5.42	57	41799	1.5658	ug/L	96
26) 11dichlorota	5.56	63	32964	1.0908	ug/L	97
27) Vinylacetate	5.64	43	273739	12.9886	ug/L	93
28) chloroprene	5.68	53	46227	1.9256	ug/L	99
29) Diisopether	5.70	45	49635	1.0614	ug/L	98
30) ETBE	6.16	59	47509	1.2809	ug/L	98
31) 22dichloropr	6.29	77	21570	1.2588	ug/L	100
32) c12dichlorte	6.28	96	23821	1.0806	ug/L	94
33) 2Butanone	6.31	72	23062	10.7239	ug/L	98
34) propionitrile	6.35	54	21578	10.6237	ug/L	92
35) Ethylacetate	6.41	88	3917	5.4663	ug/L	96
36) methacrylonitrile	6.55	67	16991	2.0314	ug/L	97
37) Bromochlorma	6.57	128	13121	1.2530	ug/L #	82
38) Tetrahydofur	6.68	42	49086	11.0053	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL2.D Vial: 5
Acq On : 23 Jul 2020 18:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.68	83	36760	1.0928 ug/L		98
40)	111trichlota	6.93	97	23631	1.0230 ug/L		93
42)	Cyclohexane	7.01	56	22350	0.8372 ug/L		97
43)	Carbtetraclo	7.13	119	15885	0.9982 ug/L		96
44)	11dicloprope	7.13	110	9275	0.9360 ug/L		91
46)	Benzene	7.38	78	87226	1.1860 ug/L		99
47)	12dichlorota	7.38	62	32058	1.2448 ug/L	#	87
48)	TAME	7.55	73	51550	1.2850 ug/L		96
49)	trichloroete	8.19	95	20991	1.0184 ug/L		95
50)	methylcyclohexane	8.45	83	23372	0.7445 ug/L		96
51)	12dicloropra	8.44	63	22156	1.0894 ug/L		84
52)	23Dicl1propene	8.51	75	30426	1.0957 ug/L		97
53)	Dibromometha	8.59	93	14010	1.1424 ug/L		97
54)	methylmethacrylate	8.61	69	11380	0.9995 ug/L	#	79
55)	14dioxane	8.64	88	3112	67.8936 ug/L	#	76
56)	Bromodiclrma	8.78	83	23459	1.0686 ug/L		98
57)	2Nitropropane	9.06	43	19782	9.8181 ug/L		84
58)	2CLEVE	9.17	63	50628	5.2198 ug/L		97
59)	c13dicloproe	9.36	75	28609	1.0983 ug/L		92
60)	4Meth2Pentan	9.57	43	154491	11.3823 ug/L		95
62)	Toluene	9.81	92	57075	1.1637 ug/L		100
63)	t13Dicloprop	10.07	75	21398	1.0672 ug/L		94
64)	ethylmethacrylate	10.22	69	37412	2.0929 ug/L		96
65)	112Triclotha	10.30	83	16880	1.1074 ug/L		98
66)	Tetrachlorte	10.55	166	24139	1.0376 ug/L		98
67)	13Diclorpropa	10.53	76	35223	1.1542 ug/L		96
69)	2Hexanone	10.66	43	114242	11.1675 ug/L		95
70)	Clorodibrmta	10.84	129	15158	0.9921 ug/L		97
71)	12Dibrometha	10.99	107	17937	1.1067 ug/L		96
72)	Chlorobenzen	11.67	112	66243	1.1468 ug/L		85
73)	1Clhexane	11.65	91	24090	0.9176 ug/L	#	65
74)	1112Tetclota	11.78	131	13675	0.9706 ug/L		95
75)	Ethylbenzene	11.84	91	100723	1.1466 ug/L		94
76)	m p-Xylene	12.00	106	77114	2.1960 ug/L		92
77)	o-Xylene	12.54	106	36995	1.0135 ug/L		96
78)	Styrene	12.56	104	60900	1.0532 ug/L		100
79)	Bromoform	12.78	173	8865	0.9377 ug/L		92
80)	Isopropylben	13.07	105	91535	1.0930 ug/L		99
81)	cyclohexanone	13.16	55	9014	20.8857 ug/L	#	92
84)	Bromobenzene	13.48	156	28015	1.0826 ug/L		99
85)	1122Tetrclta	13.45	83	26249	1.0769 ug/L		99
86)	123Triclproa	13.51	75	28769	1.0571 ug/L		93
87)	14dichloro2butene	13.53	53	6035	1.0694 ug/L	#	54
88)	n-Propylbenz	13.65	91	105985	1.0493 ug/L		95
89)	2chlorotolue	13.76	91	70431	1.1497 ug/L		99
90)	4chlorotolue	13.92	91	78984	1.0687 ug/L		94
91)	135Trimebenz	13.91	105	74561	1.0545 ug/L		96
92)	tbutylbenzen	14.38	119	62277	1.0358 ug/L		96
93)	124Trimetben	14.45	105	71411	1.0058 ug/L		97
94)	sbutylbenzen	14.70	105	85157	1.0060 ug/L		95
95)	13Diclorbenz	14.83	146	50393	1.1155 ug/L		95
96)	pIsopropylto	14.91	119	73814	1.0424 ug/L	#	97
97)	14dichlorobe	14.96	146	56495	1.1921 ug/L		94
98)	12dichlorobe	15.51	146	48352	1.1067 ug/L		90
99)	nButylbenzen	15.52	91	66912	1.0453 ug/L		96
100)	12dibromo3cl	16.59	157	2652	0.7596 ug/L	#	11
101)	135Trichlorobenzene	16.92	180	33737	1.0892 ug/L		96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL2.D Vial: 5
Acq On : 23 Jul 2020 18:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc Unit	Qvalue
102) 124Trichlobe	17.74	180	26173	0.9672 ug/L	93
103) Hexachlorobu	17.99	225	10698	0.8939 ug/L	96
104) Naphthalene	18.04	128	62196	1.0358 ug/L	98
105) 123Trichlben	18.35	180	23070	0.9512 ug/L	97

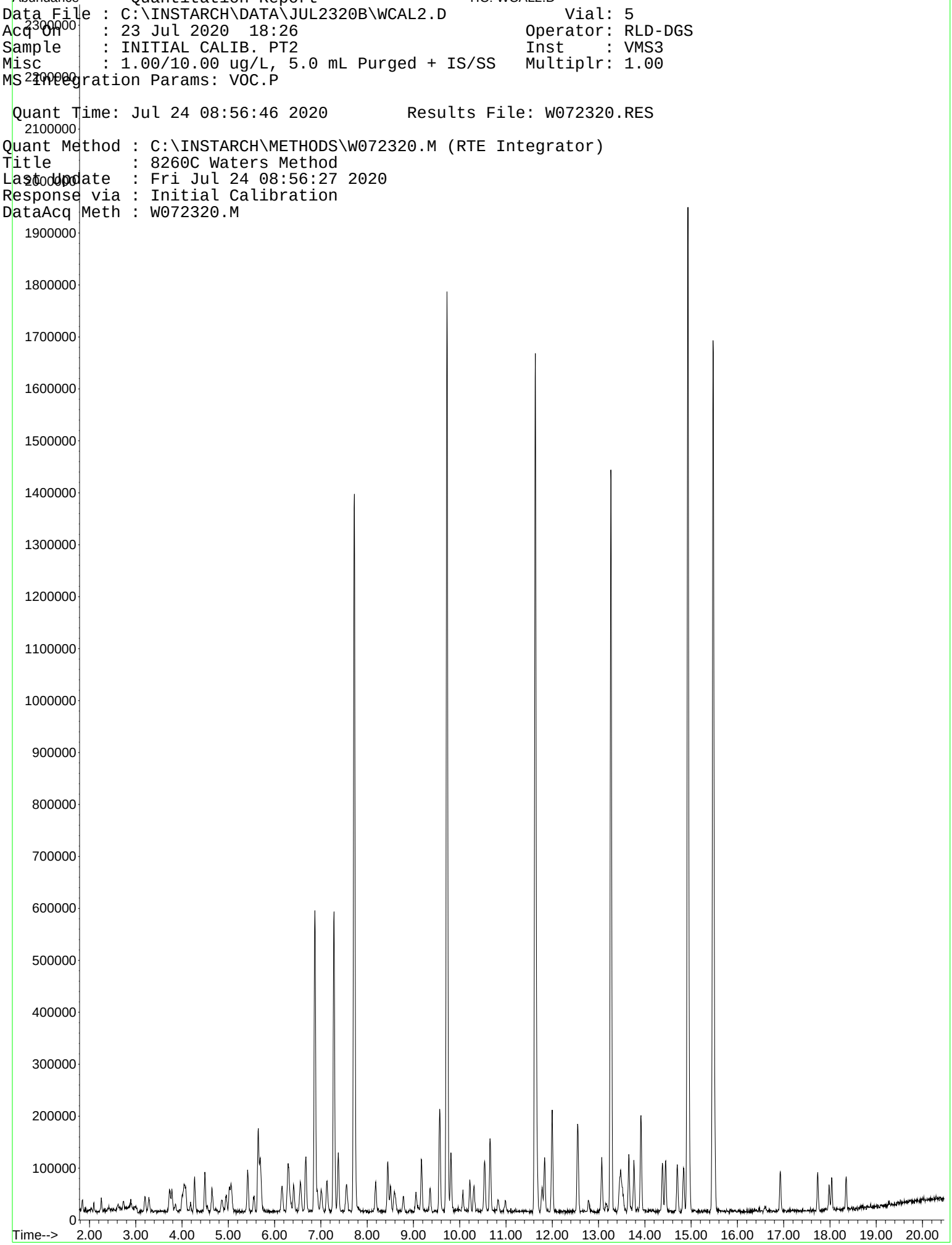
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL2.D

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL2.D Vial: 5
Acq On : 23 Jul 2020 18:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT2 Inst : VMS3
Misc : 1.00/10.00 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:56:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:56:27 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL3.D Vial: 6
Acq On : 23 Jul 2020 18:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:06 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:00 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1503221	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1236581	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	715344	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	414244	20.495 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 102 %		
45) SURR12DCAd4	7.28	102	101046	19.630 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98 %		
61) SURRd8Tolule	9.72	98	1517849	20.422 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102 %		
83) SURR4BrFBenz	13.27	95	620980	19.742 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %		
Target Compounds					Qvalue
2) Dichlorodi	1.85	85	34368	1.6443 ug/L	99
3) Chloromethan	2.10	50	35496	1.8297 ug/L	99
4) VinylChlorid	2.25	62	35111	1.7572 ug/L	96
5) Bromomethane	2.73	94	22494	1.5284 ug/L	98
6) Chloroethane	2.89	64	27305	2.0251 ug/L	93
7) Dichloroflmethane	3.20	67	60299	1.9384 ug/L	98
8) Trichlorofma	3.28	101	49228	1.7797 ug/L	99
9) Ethylether	3.73	59	26380	1.8083 ug/L	88
10) dichlorotfluoroethan	3.74	67	32325	1.7871 ug/L	96
11) propyleneoxide	3.78	58	68658	21.0321 ug/L	94
12) Acrolein	3.85	56	23597	9.2219 ug/L	97
13) 11dichlorthe	4.00	96	30733	1.8438 ug/L	97
14) Trichlorotfluoroeth	4.05	101	54793	3.4591 ug/L	99
15) Acetone	4.08	43	90670	19.8730 ug/L	99
16) Iodomethane	4.18	142	31540	1.7636 ug/L	95
17) Carbon Dislf	4.27	76	188202	4.0245 ug/L	97
18) allylchloride	4.49	41	92501	4.0988 ug/L	99
19) methylacetate	4.55	74	7821	1.9886 ug/L	95
20) Methylchlorid	4.65	84	42790	1.9468 ug/L	92
21) tbutylalcohol	4.86	59	65669	96.1796 ug/L	96
22) Acrylonitrile	4.95	53	59625	10.5610 ug/L	97
23) t12dichlorte	5.03	96	39518	1.9936 ug/L	95
24) MtBE	5.06	73	99894	2.1329 ug/L	95
25) Hexane	5.42	57	86710	3.2450 ug/L	99
26) 11dichlorota	5.55	63	63848	2.0506 ug/L	99
27) Vinylacetate	5.65	43	525016	23.5336 ug/L	95
28) chloroprene	5.68	53	91175	3.7087 ug/L	98
29) Diisopether	5.71	45	104055	2.1735 ug/L	92
30) ETBE	6.15	59	89860	2.2833 ug/L	99
31) 22dichloropr	6.29	77	37013	1.9928 ug/L	93
32) c12dichlorte	6.28	96	45932	2.0241 ug/L	98
33) 2Butanone	6.31	72	42874	19.4707 ug/L	99
34) propionitrile	6.35	54	39484	19.0571 ug/L	98
35) Ethylacetate	6.41	88	7120	9.7661 ug/L #	92
36) methacrylonitrile	6.55	67	33323	3.9043 ug/L	97
37) Bromochlorma	6.56	128	21068	1.9031 ug/L	95
38) Tetrahydofur	6.67	42	92664	20.3706 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL3.D Vial: 6
Acq On : 23 Jul 2020 18:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:06 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:00 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.68	83	67090	1.9398 ug/L		95
40)	111trichlota	6.93	97	45363	1.8719 ug/L		98
42)	Cyclohexane	7.00	56	42536	1.5694 ug/L		96
43)	Carbtetraclo	7.14	119	29272	1.7385 ug/L		93
44)	11dicloprope	7.13	110	17125	1.6917 ug/L		95
46)	Benzene	7.38	78	159011	2.0762 ug/L		98
47)	12dichlorota	7.38	62	53312	1.9734 ug/L		97
48)	TAME	7.55	73	99121	2.3014 ug/L		97
49)	trichloroete	8.18	95	40354	1.9022 ug/L		96
50)	methylcyclohexane	8.45	83	49346	1.5694 ug/L		99
51)	12dicloropra	8.44	63	39035	1.8572 ug/L	#	96
52)	23Dicl1propene	8.51	75	55152	1.9043 ug/L		91
53)	Dibromometha	8.57	93	26133	2.0691 ug/L		95
54)	methylmethacrylate	8.62	69	21267	1.7908 ug/L		95
55)	14dioxane	8.64	88	6261	134.5381 ug/L	#	59
56)	Bromodiclrma	8.78	83	47338	2.0587 ug/L		95
57)	2Nitropropane	9.05	43	35829	17.0265 ug/L		97
58)	2CLEVE	9.18	63	102418	10.2864 ug/L		99
59)	c13dicloproe	9.36	75	53223	1.9395 ug/L		94
60)	4Meth2Pentan	9.57	43	298824	21.5657 ug/L		94
62)	Toluene	9.81	92	103703	2.0461 ug/L		95
63)	t13Dicloprop	10.07	75	42520	1.9944 ug/L		97
64)	ethylmethacrylate	10.22	69	71824	3.7777 ug/L		94
65)	112Triclotha	10.30	83	29814	1.9233 ug/L		95
66)	Tetrachlorte	10.55	166	42004	1.7414 ug/L		96
67)	13Diclorpropa	10.53	76	62222	1.9728 ug/L		95
69)	2Hexanone	10.66	43	219049	20.8485 ug/L		96
70)	Clorodibrmta	10.83	129	28434	1.7343 ug/L		98
71)	12Dibrometha	10.99	107	31864	1.8095 ug/L		96
72)	Chlorobenzen	11.67	112	120994	2.0095 ug/L		92
73)	1Clhexane	11.65	91	44226	1.6527 ug/L		87
74)	1112Tetclota	11.78	131	27729	1.8232 ug/L		98
75)	Ethylbenzene	11.84	91	186657	2.0317 ug/L		97
76)	m p-Xylene	12.00	106	141866	3.8740 ug/L		98
77)	o-Xylene	12.55	106	69200	1.8286 ug/L		96
78)	Styrene	12.56	104	113921	1.8950 ug/L		98
79)	Bromoform	12.78	173	16466	1.6160 ug/L		98
80)	Isopropylben	13.07	105	167723	1.9286 ug/L		98
81)	cyclohexanone	13.16	55	16297	36.1819 ug/L	#	90
84)	Bromobenzene	13.48	156	50861	1.8660 ug/L		95
85)	1122Tetrclta	13.45	83	49725	1.9092 ug/L		96
86)	123Triclproa	13.51	75	53439	1.8523 ug/L		95
87)	14dichloro2butene	13.54	53	9326	1.5701 ug/L		88
88)	n-Propylbenz	13.65	91	195183	1.8533 ug/L		98
89)	2chlorotolue	13.77	91	125296	1.9325 ug/L		100
90)	4chlorotolue	13.92	91	141842	1.8250 ug/L		97
91)	135Trimebenz	13.91	105	143460	1.9300 ug/L		94
92)	tbutylbenzen	14.38	119	117674	1.8674 ug/L		97
93)	124Trimetben	14.45	105	141942	1.9184 ug/L		99
94)	sbutylbenzen	14.71	105	152548	1.7221 ug/L		99
95)	13Diclorbenz	14.84	146	91531	1.9150 ug/L		98
96)	pIsopropylto	14.91	119	138425	1.8657 ug/L		98
97)	14dichlorobe	14.97	146	98009	1.9576 ug/L		94
98)	12dichlorobe	15.50	146	87023	1.8958 ug/L		91
99)	nButylbenzen	15.51	91	116382	1.7428 ug/L		100
100)	12dibromo3cl	16.59	157	6288	1.7100 ug/L		80
101)	135Trichlorobenzene	16.93	180	59168	1.8168 ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL3.D Vial: 6
Acq On : 23 Jul 2020 18:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:06 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:00 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

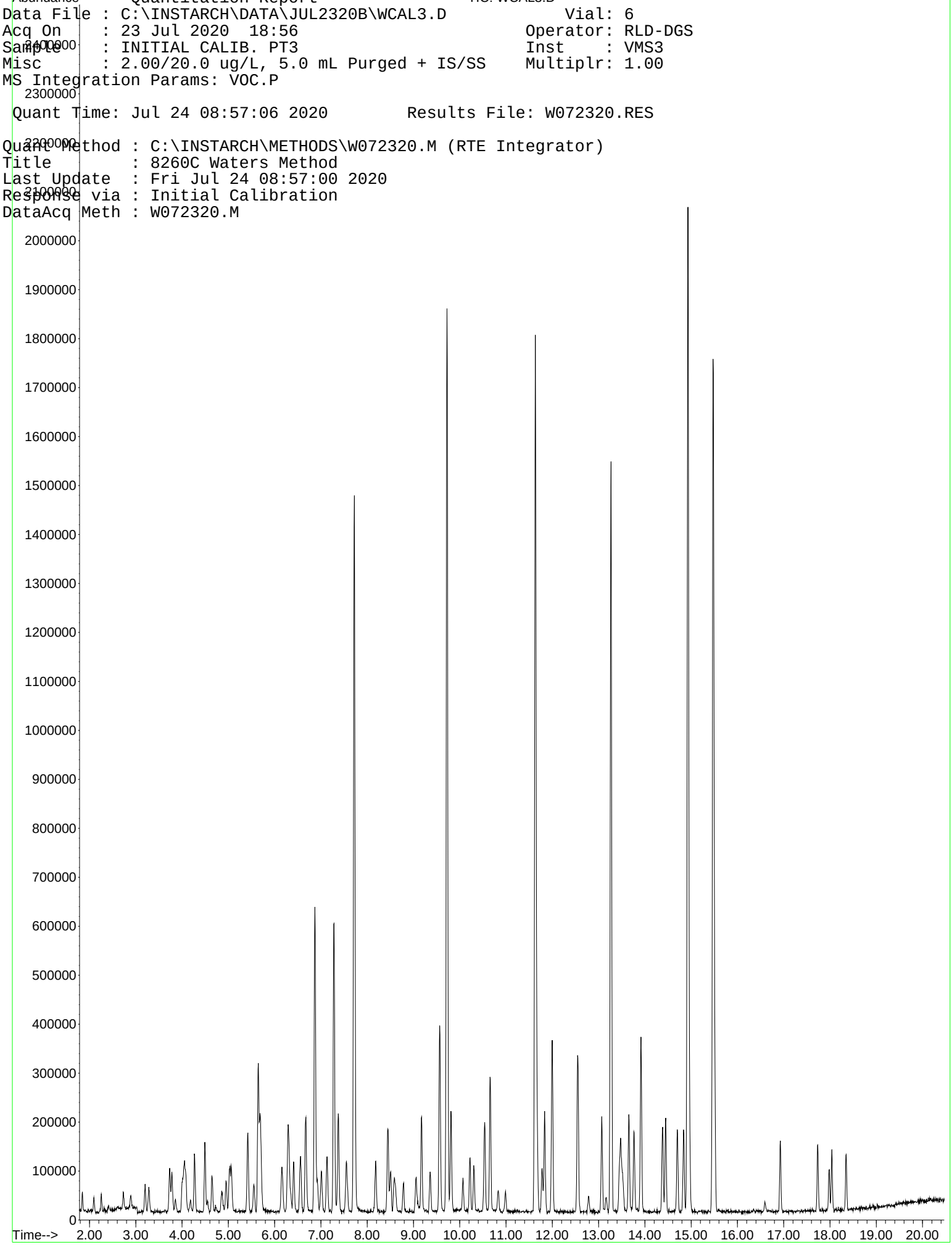
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.73	180	53038	1.8983	ug/L	99
103) Hexachlorobu	17.97	225	20789	1.6679	ug/L	96
104) Naphthalene	18.04	128	116579	1.8669	ug/L	99
105) 123Trichlben	18.35	180	43171	1.7057	ug/L	99

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL3.D Vial: 6
Acq On : 23 Jul 2020 18:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT3 Inst : VMS3
Misc : 2.00/20.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:06 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:00 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL4.D Vial: 7
Acq On : 23 Jul 2020 19:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:28 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:21 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1527530	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1234730	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	723750	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	413591	20.082	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	104906	20.116	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.72	98	1520344	20.070	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	628123	19.795	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	100081	4.8261	ug/L	98
3) Chloromethan	2.10	50	86110	4.4808	ug/L	97
4) VinylChlorid	2.25	62	95861	4.8052	ug/L	99
5) Bromomethane	2.73	94	55722	4.0001	ug/L	94
6) Chloroethane	2.89	64	63368	4.6542	ug/L	96
7) Dichloroflmethane	3.20	67	157172	4.9769	ug/L	100
8) Trichlorofma	3.28	101	143783	5.1626	ug/L	100
9) Ethylether	3.73	59	70726	4.7993	ug/L	96
10) dichlorotfluoroethan	3.74	67	93340	5.1554	ug/L	97
11) propyleneoxide	3.77	58	170291	51.3455	ug/L	99
12) Acrolein	3.86	56	61939	24.2626	ug/L	88
13) 11dichlorthe	4.01	96	81622	4.8228	ug/L	95
14) Trichlorotfluoroeth	4.04	101	163146	10.2131	ug/L	98
15) Acetone	4.08	43	229852	50.1876	ug/L	100
16) Iodomethane	4.18	142	93392	5.4388	ug/L	99
17) Carbon Dislf	4.27	76	499842	10.5926	ug/L	98
18) allylchloride	4.49	41	231275	10.0055	ug/L	99
19) methylacetate	4.55	74	18119	4.4753	ug/L	92
20) Methylchlorid	4.65	84	104310	4.6769	ug/L	98
21) tbutylalcohol	4.86	59	185099	259.5339	ug/L	99
22) Acrylonitrile	4.95	53	139902	24.3159	ug/L	95
23) t12dichlorte	5.02	96	95014	4.6943	ug/L	98
24) MtBE	5.06	73	245224	5.0704	ug/L	99
25) Hexane	5.42	57	283086	10.6009	ug/L	97
26) 11dichlorota	5.55	63	159852	5.0460	ug/L	98
27) Vinylacetate	5.64	43	1323547	56.6748	ug/L	98
28) chloroprene	5.68	53	261345	10.5357	ug/L	97
29) Diisopether	5.70	45	232835	4.7769	ug/L	96
30) ETBE	6.16	59	224768	5.3792	ug/L	98
31) 22dichloropr	6.29	77	105129	5.3306	ug/L	98
32) c12dichlorte	6.29	96	109767	4.7391	ug/L	97
33) 2Butanone	6.31	72	107540	48.2049	ug/L	99
34) propionitrile	6.35	54	101243	48.5797	ug/L	99
35) Ethylacetate	6.41	88	17684	23.4386	ug/L	95
36) methacrylonitrile	6.55	67	85231	9.8650	ug/L	95
37) Bromochlorma	6.57	128	52480	4.6671	ug/L	96
38) Tetrahydofur	6.66	42	225584	48.9467	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL4.D Vial: 7
Acq On : 23 Jul 2020 19:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:28 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:21 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.68	83	174035	4.9467 ug/L		100
40)	111trichlota	6.93	97	122810	4.9101 ug/L		97
42)	Cyclohexane	7.00	56	135684	5.0013 ug/L		97
43)	Carbtetraclo	7.14	119	82068	4.7353 ug/L		99
44)	11dicloprope	7.13	110	44392	4.3433 ug/L	#	87
46)	Benzene	7.38	78	397059	5.1167 ug/L		99
47)	12dichlorota	7.38	62	130279	4.7389 ug/L		99
48)	TAME	7.55	73	240737	5.2715 ug/L		99
49)	trichloroete	8.19	95	103329	4.7904 ug/L		96
50)	methylcyclohexane	8.45	83	156529	4.9764 ug/L		99
51)	12dicloropra	8.44	63	101519	4.7638 ug/L		94
52)	23Dicl1propene	8.51	75	152613	5.1843 ug/L		99
53)	Dibromometha	8.58	93	64929	5.0111 ug/L		98
54)	methylmethacrylate	8.61	69	56180	4.5217 ug/L		96
55)	14dioxane	8.64	88	14399	301.6310 ug/L		86
56)	Bromodiclrma	8.78	83	117087	4.9478 ug/L		98
57)	2Nitropropane	9.05	43	95077	44.2351 ug/L		98
58)	2CLEVE	9.18	63	264345	25.9477 ug/L		99
59)	c13dicloproe	9.37	75	141363	4.9524 ug/L		99
60)	4Meth2Pentan	9.57	43	740862	52.6639 ug/L		98
62)	Toluene	9.81	92	255440	4.9734 ug/L		95
63)	t13Dicloprop	10.07	75	109568	4.8945 ug/L		98
64)	ethylmethacrylate	10.22	69	208441	10.3998 ug/L		98
65)	112Triclotha	10.31	83	77859	4.9576 ug/L		97
66)	Tetrachlorte	10.54	166	122013	4.9904 ug/L		99
67)	13Diclorpropa	10.53	76	150226	4.6799 ug/L		98
69)	2Hexanone	10.65	43	553005	52.6609 ug/L		97
70)	Clorodibrmta	10.83	129	76354	4.6174 ug/L		99
71)	12Dibrometha	10.99	107	86616	4.7999 ug/L		99
72)	Chlorobenzen	11.67	112	295521	4.9408 ug/L		97
73)	1Clhexane	11.65	91	128722	4.8485 ug/L		96
74)	1112Tetclota	11.78	131	68745	4.4488 ug/L		98
75)	Ethylbenzene	11.84	91	478257	5.2628 ug/L		96
76)	m p-Xylene	12.00	106	368496	10.1494 ug/L		96
77)	o-Xylene	12.55	106	178179	4.7557 ug/L		96
78)	Styrene	12.56	104	299087	5.0247 ug/L		99
79)	Bromoform	12.78	173	47691	4.6284 ug/L		95
80)	Isopropylben	13.07	105	448878	5.2208 ug/L		97
81)	cyclohexanone	13.16	55	47478	105.4686 ug/L		97
84)	Bromobenzene	13.48	156	126699	4.6514 ug/L		95
85)	1122Tetrclta	13.45	83	128800	4.8965 ug/L		98
86)	123Triclproa	13.51	75	142173	4.9040 ug/L		99
87)	14dichloro2butene	13.54	53	26206	4.4252 ug/L		90
88)	n-Propylbenz	13.65	91	514782	4.8996 ug/L		99
89)	2chlorotolue	13.77	91	325047	5.0068 ug/L		98
90)	4chlorotolue	13.92	91	383608	4.9475 ug/L		97
91)	135Trimebenz	13.91	105	379669	5.1117 ug/L		97
92)	tbutylbenzen	14.38	119	316599	5.0061 ug/L		99
93)	124Trimetben	14.45	105	381731	5.1511 ug/L		98
94)	sbutylbenzen	14.70	105	436243	4.9576 ug/L		98
95)	13Diclorbenz	14.84	146	240994	5.0124 ug/L		97
96)	pIsopropylto	14.91	119	384610	5.1797 ug/L		99
97)	14dichlorobe	14.97	146	247006	4.8969 ug/L		98
98)	12dichlorobe	15.50	146	225395	4.8975 ug/L		98
99)	nButylbenzen	15.51	91	339324	5.1116 ug/L		98
100)	12dibromo3cl	16.60	157	17547	4.6404 ug/L		96
101)	135Trichlorobenzene	16.93	180	158463	4.8535 ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL4.D Vial: 7
Acq On : 23 Jul 2020 19:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:28 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:21 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	135459	4.8330	ug/L	96
103) Hexachlorobu	17.98	225	62888	5.0566	ug/L	93
104) Naphthalene	18.04	128	308905	4.9747	ug/L	98
105) 123Trichlben	18.35	180	120264	4.7516	ug/L	97

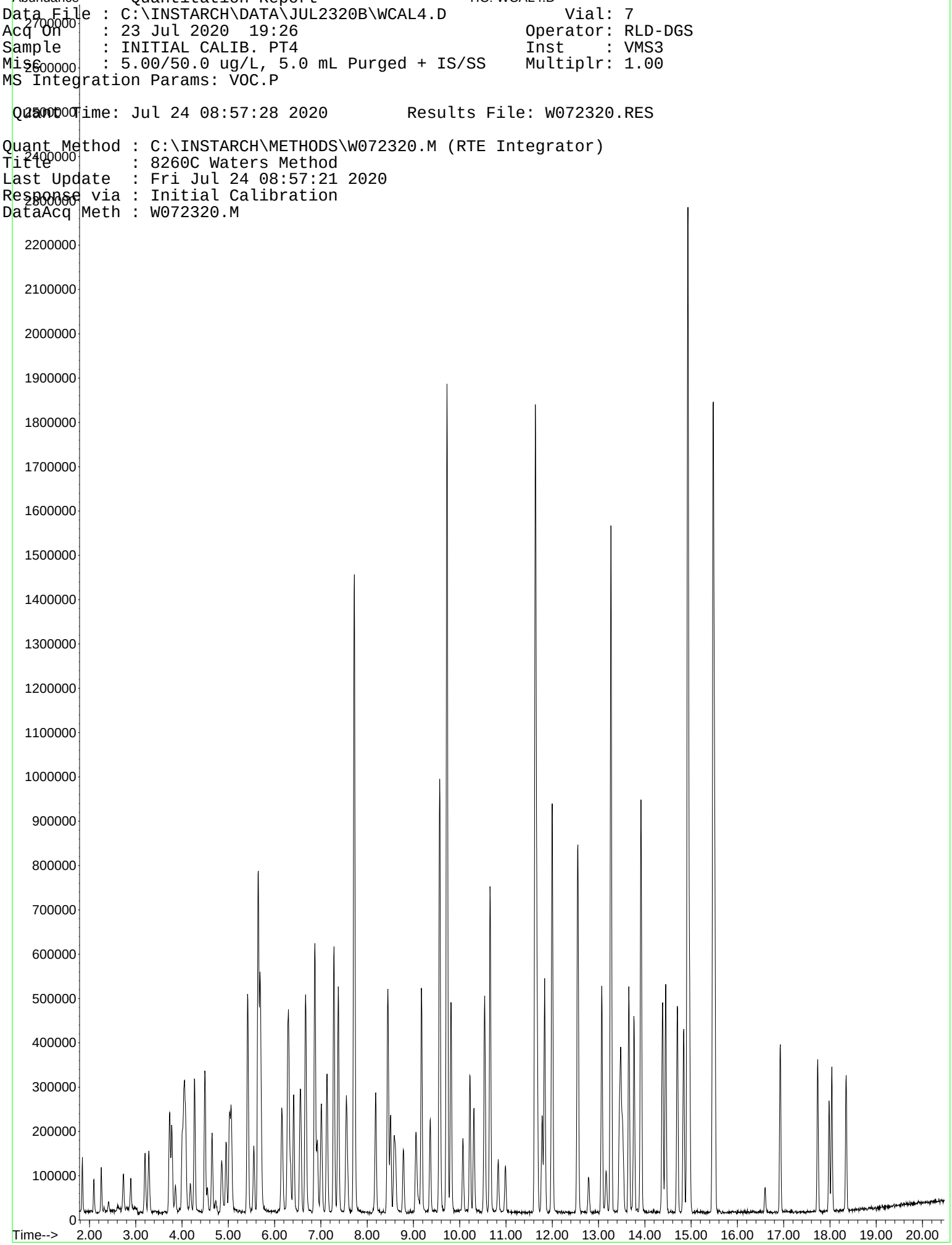
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL4.D

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL4.D Vial: 7
Acq On : 23 Jul 2020 19:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT4 Inst : VMS3
Misc : 5.00/50.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:28 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:21 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL5.D Vial: 8
Acq On : 23 Jul 2020 19:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:40 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1541336	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1238274	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	729630	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	413455	19.860	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	105471	19.994	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100 %			
61) SURRd8Tolule	9.72	98	1534719	20.073	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %			
83) SURR4BrFBenz	13.26	95	633013	19.863	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	232598	11.3354	ug/L	100
3) Chloromethan	2.10	50	183307	9.6546	ug/L	100
4) VinylChlorid	2.25	62	211919	10.6771	ug/L	100
5) Bromomethane	2.73	94	123152	9.3570	ug/L	100
6) Chloroethane	2.89	64	132428	9.8183	ug/L	100
7) Dichloroflmethane	3.20	67	333341	10.5216	ug/L	100
8) Trichlorofma	3.28	101	330959	11.8171	ug/L	100
9) Ethylether	3.73	59	146063	9.9617	ug/L	100
10) dichlorotfluoroethan	3.74	67	206137	11.2972	ug/L	100
11) propyleneoxide	3.78	58	336059	100.8382	ug/L	100
12) Acrolein	3.85	56	117163	46.5499	ug/L	100
13) 11dichlorthe	4.01	96	188904	11.1691	ug/L	100
14) Trichlorotfluoroeth	4.05	101	393366	24.5132	ug/L	100
15) Acetone	4.08	43	448604	97.8865	ug/L	100
16) Iodomethane	4.18	142	263289	16.3989	ug/L	100
17) Carbon Dislf	4.27	76	1039789	21.9425	ug/L	100
18) allylchloride	4.49	41	492565	20.9904	ug/L	100
19) methylacetate	4.55	74	39916	9.8222	ug/L	100
20) Methylchlorid	4.65	84	212989	9.5344	ug/L	100
21) tbutylalcohol	4.86	59	391495	525.1906	ug/L	100
22) Acrylonitrile	4.95	53	285087	49.6152	ug/L	100
23) t12dichlorte	5.02	96	205805	10.1323	ug/L	100
24) MtBE	5.06	73	516450	10.3774	ug/L	100
25) Hexane	5.42	57	662178	24.7869	ug/L	100
26) 11dichlorota	5.55	63	322349	10.0814	ug/L	100
27) Vinylacetate	5.64	43	2504485	103.8973	ug/L	100
28) chloroprene	5.68	53	559647	22.4185	ug/L	100
29) Diisopether	5.70	45	511653	10.4782	ug/L	100
30) ETBE	6.16	59	480567	10.8892	ug/L	100
31) 22dichloropr	6.29	77	240857	11.5956	ug/L	100
32) c12dichlorte	6.28	96	233142	10.0022	ug/L	100
33) 2Butanone	6.31	72	217446	97.8344	ug/L	100
34) propionitrile	6.35	54	200140	96.5638	ug/L	100
35) Ethylacetate	6.41	88	38287	49.1290	ug/L	100
36) methacrylonitrile	6.55	67	173534	20.0500	ug/L	100
37) Bromochlorma	6.57	128	106408	9.4222	ug/L	100
38) Tetrahydofur	6.67	42	443983	96.4854	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL5.D Vial: 8
Acq On : 23 Jul 2020 19:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:40 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	360902	10.2116	ug/L	100
40)	111trichlota	6.92	97	285190	11.1398	ug/L	100
42)	Cyclohexane	7.01	56	316520	11.6090	ug/L	100
43)	Carbtetraclo	7.14	119	200595	11.2950	ug/L	100
44)	11dicloprope	7.13	110	110163	10.7533	ug/L	100
46)	Benzene	7.38	78	809574	10.3915	ug/L	100
47)	12dichlorota	7.38	62	261764	9.4841	ug/L	100
48)	TAME	7.55	73	495403	10.3412	ug/L	100
49)	trichloroete	8.19	95	226380	10.4356	ug/L	100
50)	methylcyclohexane	8.45	83	378163	11.9458	ug/L	100
51)	12dicloropra	8.45	63	201656	9.4102	ug/L	100
52)	23Dicl1propene	8.51	75	307113	10.3252	ug/L	100
53)	Dibromometha	8.58	93	127743	9.7373	ug/L	100
54)	methylmethacrylate	8.61	69	130192	10.2050	ug/L	100
55)	14dioxane	8.64	88	17880	363.5713	ug/L	100
56)	Bromodiclrma	8.78	83	240780	10.0163	ug/L	100
57)	2Nitropropane	9.05	43	200387	92.8481	ug/L	100
58)	2CLEVE	9.18	63	544498	53.2567	ug/L	100
59)	c13dicloproe	9.37	75	296467	10.1367	ug/L	100
60)	4Meth2Pentan	9.57	43	1420141	100.6432	ug/L	100
62)	Toluene	9.81	92	534781	10.3681	ug/L	100
63)	t13Dicloprop	10.07	75	245621	10.5751	ug/L	100
64)	ethylmethacrylate	10.22	69	453787	21.6268	ug/L	100
65)	112Triclotha	10.31	83	160459	10.1981	ug/L	100
66)	Tetrachlorte	10.55	166	271091	10.9450	ug/L	100
67)	13Diclorpropa	10.53	76	319251	9.9292	ug/L	100
69)	2Hexanone	10.66	43	1066635	101.7770	ug/L	100
70)	Clorodibrmta	10.83	129	169041	10.1185	ug/L	100
71)	12Dibrometha	10.99	107	186744	10.1057	ug/L	100
72)	Chlorobenzen	11.67	112	591402	9.9170	ug/L	100
73)	1Clhexane	11.65	91	279196	10.4796	ug/L	100
74)	1112Tetclota	11.78	131	154974	9.9069	ug/L	100
75)	Ethylbenzene	11.84	91	957873	10.5640	ug/L	100
76)	m p-Xylene	12.00	106	753612	20.8871	ug/L	100
77)	o-Xylene	12.55	106	377365	10.1645	ug/L	100
78)	Styrene	12.55	104	615401	10.4246	ug/L	100
79)	Bromoform	12.79	173	101195	9.6272	ug/L	100
80)	Isopropylben	13.07	105	938731	10.9659	ug/L	100
81)	cyclohexanone	13.16	55	82614	178.8064	ug/L	100
84)	Bromobenzene	13.48	156	269824	9.9480	ug/L	100
85)	1122Tetrclta	13.45	83	240927	9.1308	ug/L	100
86)	123Triclproa	13.51	75	280055	9.5621	ug/L	100
87)	14dichloro2butene	13.54	53	51573	8.7358	ug/L	100
88)	n-Propylbenz	13.65	91	1084047	10.4162	ug/L	100
89)	2chlorotolue	13.77	91	670239	10.3525	ug/L	100
90)	4chlorotolue	13.92	91	772689	10.0196	ug/L	100
91)	135Trimebenz	13.91	105	781820	10.5342	ug/L	100
92)	tbutylbenzen	14.38	119	686593	10.8746	ug/L	100
93)	124Trimetben	14.45	105	790244	10.6931	ug/L	100
94)	sbutylbenzen	14.70	105	952205	10.9058	ug/L	100
95)	13Diclorbenz	14.84	146	482453	10.0328	ug/L	100
96)	pIsopropylto	14.91	119	816339	11.0311	ug/L	100
97)	14dichlorobe	14.97	146	504717	10.0123	ug/L	100
98)	12dichlorobe	15.50	146	457563	9.9540	ug/L	100
99)	nButylbenzen	15.51	91	714307	10.7877	ug/L	100
100)	12dibromo3cl	16.60	157	38229	9.6969	ug/L	100
101)	135Trichlorobenzene	16.93	180	334743	10.2281	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL5.D Vial: 8
Acq On : 23 Jul 2020 19:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:40 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	294586	10.4967	ug/L	100
103) Hexachlorobu	17.99	225	129835	10.3570	ug/L	100
104) Naphthalene	18.04	128	635319	10.3142	ug/L	100
105) 123Trichlben	18.35	180	254627	10.0930	ug/L	100

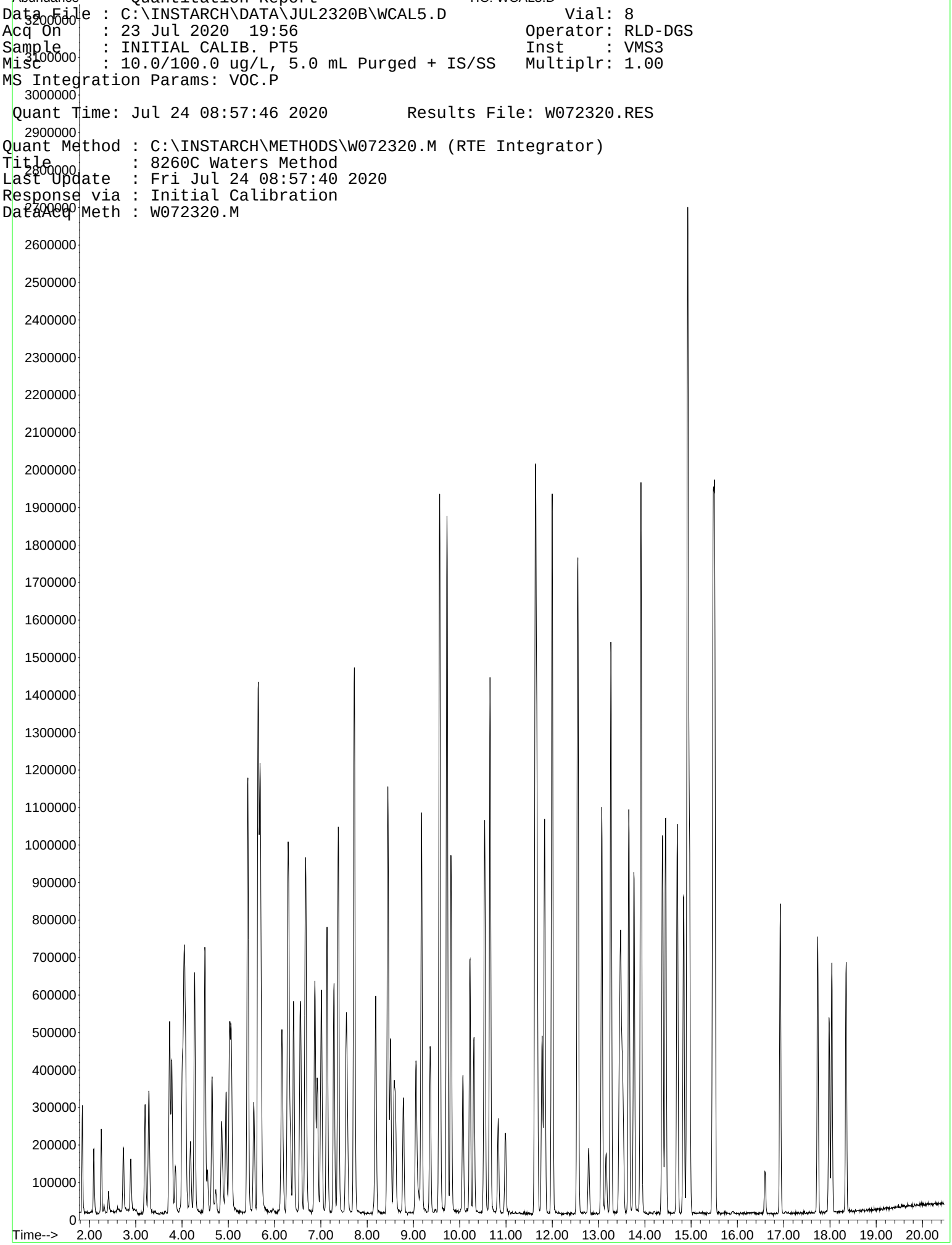
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL5.D

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL5.D Vial: 8
Acq On : 23 Jul 2020 19:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT5 Inst : VMS3
Misc : 10.0/100.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:57:46 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:40 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL6.D Vial: 9
Acq On : 23 Jul 2020 20:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:03 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:58 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1548750	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1273504	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	762003	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	434558	20.774	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 104	%		
45) SURR12DCAd4	7.28	102	105361	19.878	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1564790	20.368	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102	%		
83) SURR4BrFBenz	13.26	95	658813	19.794	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	456289	22.1302	ug/L	98
3) Chloromethan	2.10	50	362993	19.0271	ug/L	98
4) VinylChlorid	2.25	62	419863	21.0526	ug/L	99
5) Bromomethane	2.73	94	234889	17.7613	ug/L	99
6) Chloroethane	2.89	64	263944	19.4753	ug/L	97
7) Dichloroflmethane	3.20	67	639687	20.0944	ug/L	99
8) Trichlorofma	3.29	101	643796	22.8771	ug/L	100
9) Ethylether	3.73	59	295244	20.0396	ug/L	99
10) dichlorotfluoroethan	3.74	67	403873	22.0280	ug/L	99
11) propyleneoxide	3.78	58	685037	204.5688	ug/L	99
12) Acrolein	3.85	56	232927	92.1009	ug/L	100
13) 11dichlorthe	4.01	96	368158	21.6635	ug/L	96
14) Trichlorotfluoroeth	4.05	101	772047	47.8810	ug/L	98
15) Acetone	4.08	43	864269	187.6829	ug/L	98
16) Iodomethane	4.18	142	686893	42.5643	ug/L	99
17) Carbon Dislf	4.27	76	1939844	40.7403	ug/L	98
18) allylchloride	4.50	41	963393	40.8579	ug/L	97
19) methylacetate	4.55	74	85791	21.0097	ug/L	97
20) Methylchlorid	4.65	84	409907	18.2615	ug/L	98
21) tbutylalcohol	4.86	59	961383	1283.5214	ug/L	99
22) Acrylonitrile	4.95	53	579382	100.3501	ug/L	98
23) t12dichlorte	5.03	96	410376	20.1072	ug/L	98
24) MtBE	5.06	73	1034724	20.6920	ug/L	99
25) Hexane	5.42	57	1315896	49.0180	ug/L	99
26) 11dichlorota	5.55	63	647815	20.1633	ug/L	99
27) Vinylacetate	5.65	43	4512789	186.3146	ug/L	93
28) chloroprene	5.68	53	1088787	43.4033	ug/L	98
29) Diisopether	5.70	45	974345	19.8582	ug/L	96
30) ETBE	6.16	59	932128	21.0201	ug/L	96
31) 22dichloropr	6.29	77	496518	23.7896	ug/L	98
32) c12dichlorte	6.28	96	447424	19.1034	ug/L	96
33) 2Butanone	6.31	72	440986	197.4609	ug/L	99
34) propionitrile	6.34	54	417527	200.4846	ug/L	99
35) Ethylacetate	6.41	88	78504	100.2522	ug/L	100
36) methacrylonitrile	6.55	67	337162	38.7690	ug/L	97
37) Bromochlorma	6.57	128	219496	19.3429	ug/L	93
38) Tetrahydofur	6.66	42	882166	190.7927	ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL6.D Vial: 9
Acq On : 23 Jul 2020 20:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:03 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:58 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	6.68	83	690192	19.4353 ug/L	99
40)	111trichlota	6.93	97	582167	22.6311 ug/L	98
42)	Cyclohexane	7.01	56	635146	23.1837 ug/L	99
43)	Carbtetraclo	7.14	119	429636	24.0758 ug/L	99
44)	11dicloprope	7.13	110	222538	21.6185 ug/L	97
46)	Benzene	7.38	78	1503316	19.2039 ug/L	97
47)	12dichlorota	7.38	62	513222	18.5058 ug/L	99
48)	TAME	7.55	73	990209	20.5709 ug/L	99
49)	trichloroete	8.19	95	446467	20.4827 ug/L	99
50)	methylcyclohexane	8.45	83	742831	23.3530 ug/L	99
51)	12dicloropra	8.45	63	400680	18.6081 ug/L	99
52)	23Dicl1propene	8.51	75	612314	20.4876 ug/L	96
53)	Dibromometha	8.58	93	258026	19.5741 ug/L	98
54)	methylmethacrylate	8.61	69	276476	21.5677 ug/L	99
55)	14dioxane	8.64	88	54430	1101.4794 ug/L	87
56)	Bromodiclrma	8.78	83	497270	20.5871 ug/L	97
57)	2Nitropropane	9.06	43	470314	216.8739 ug/L	91
58)	2CLEVE	9.18	63	1060656	103.2448 ug/L	96
59)	c13dicloproe	9.37	75	602696	20.5085 ug/L	97
60)	4Meth2Pentan	9.57	43	2554972	180.2002 ug/L	96
62)	Toluene	9.81	92	1015896	19.6015 ug/L	98
63)	t13Dicloprop	10.07	75	507432	21.7427 ug/L	99
64)	ethylmethacrylate	10.22	69	936137	44.4013 ug/L	98
65)	112Triclotha	10.31	83	309518	19.5775 ug/L	98
66)	Tetrachlorte	10.55	166	535475	21.5156 ug/L	99
67)	13Diclorpropa	10.53	76	603293	18.6736 ug/L	97
69)	2Hexanone	10.66	43	1963980	182.2163 ug/L	96
70)	Clorodibrmta	10.83	129	365381	21.2660 ug/L	98
71)	12Dibrometha	10.99	107	383926	20.2015 ug/L	99
72)	Chlorobenzen	11.67	112	1133108	18.4750 ug/L	99
73)	1Clhexane	11.65	91	576728	21.0486 ug/L	97
74)	1112Tetclota	11.77	131	340567	21.1689 ug/L	99
75)	Ethylbenzene	11.84	91	1804964	19.3556 ug/L	98
76)	m p-Xylene	12.00	106	1481391	39.9223 ug/L	90
77)	o-Xylene	12.55	106	753714	19.7401 ug/L	94
78)	Styrene	12.55	104	1216394	20.0350 ug/L	98
79)	Bromoform	12.79	173	234542	21.6958 ug/L	100
80)	Isopropylben	13.07	105	1772664	20.1348 ug/L	97
81)	cyclohexanone	13.16	55	207325	436.3123 ug/L	97
84)	Bromobenzene	13.48	156	525969	18.5678 ug/L	99
85)	1122Tetrclta	13.45	83	503670	18.2774 ug/L	100
86)	123Triclproa	13.51	75	577166	18.8694 ug/L	97
87)	14dichloro2butene	13.53	53	112655	18.2717 ug/L	98
88)	n-Propylbenz	13.65	91	2036348	18.7352 ug/L	96
89)	2chlorotolue	13.76	91	1272600	18.8214 ug/L	95
90)	4chlorotolue	13.92	91	1483305	18.4171 ug/L	97
91)	135Trimebenz	13.91	105	1525903	19.6864 ug/L	97
92)	tbutylbenzen	14.38	119	1330174	20.1729 ug/L	98
93)	124Trimetben	14.45	105	1524433	19.7514 ug/L	95
94)	sbutylbenzen	14.70	105	1817795	19.9350 ug/L	97
95)	13Diclorbenz	14.84	146	957432	19.0643 ug/L	99
96)	pIsopropylto	14.91	119	1582679	20.4780 ug/L	96
97)	14dichlorobe	14.97	146	984939	18.7087 ug/L	98
98)	12dichlorobe	15.50	146	913099	19.0200 ug/L	99
99)	nButylbenzen	15.52	91	1392240	20.1328 ug/L	98
100)	12dibromo3cl	16.60	157	88630	21.5261 ug/L	95
101)	135Trichlorobenzene	16.93	180	666345	19.4953 ug/L	98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL6.D Vial: 9
Acq On : 23 Jul 2020 20:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:03 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:58 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	570198	19.4542	ug/L	96
103) Hexachlorobu	17.98	225	270119	20.6322	ug/L	99
104) Naphthalene	18.04	128	1269435	19.7334	ug/L	98
105) 123Trichlben	18.35	180	508299	19.2922	ug/L	99

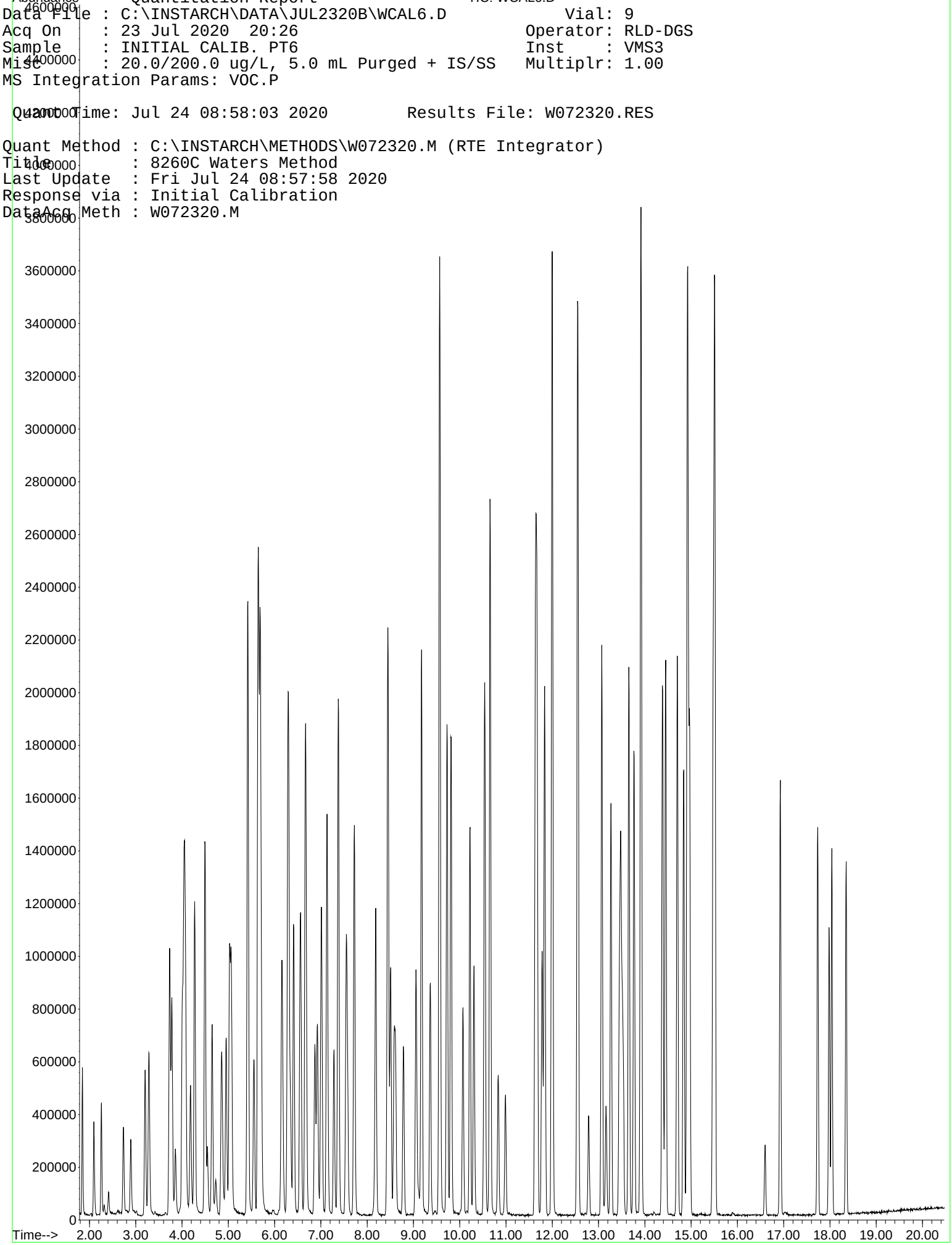
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL6.D

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL6.D Vial: 9
Acq On : 23 Jul 2020 20:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT6 Inst : VMS3
Misc : 20.0/200.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:03 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:57:58 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL7.D Vial: 10
Acq On : 23 Jul 2020 20:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:14 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1578507	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1273588	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	788836	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	442804	20.632	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 103	%		
45) SURR12DCAd4	7.28	102	109777	20.254	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101	%		
61) SURRd8Tolule	9.72	98	1587912	20.246	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	672979	19.568	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	656723	31.8032	ug/L	97
3) Chloromethan	2.10	50	541334	28.3150	ug/L	100
4) VinylChlorid	2.25	62	623672	31.0282	ug/L	100
5) Bromomethane	2.73	94	332523	25.5373	ug/L	95
6) Chloroethane	2.89	64	401826	29.4991	ug/L	95
7) Dichloroflmethane	3.20	67	935235	28.9048	ug/L	97
8) Trichlorofma	3.28	101	940504	32.8200	ug/L	99
9) Ethylether	3.73	59	445575	29.8232	ug/L	98
10) dichlorotfluoroethan	3.74	67	598961	32.1249	ug/L	97
11) propyleneoxide	3.78	58	1021939	300.3635	ug/L	98
12) Acrolein	3.86	56	345322	136.7523	ug/L	99
13) 11dichlorthe	4.01	96	547634	31.7457	ug/L	98
14) Trichlorotfluoroeth	4.05	101	1135940	69.1355	ug/L	97
15) Acetone	4.08	43	1264601	271.0602	ug/L	95
16) Iodomethane	4.18	142	1198419	77.4652	ug/L	97
17) Carbon Dislf	4.27	76	2726183	56.3939	ug/L	96
18) allylchloride	4.50	41	1436301	59.5308	ug/L	97
19) methylacetate	4.55	74	131633	31.6368	ug/L	99
20) Methylchlorid	4.65	84	618928	27.2372	ug/L	100
21) tbutylalcohol	4.85	59	1327255	1678.4539	ug/L	98
22) Acrylonitrile	4.95	53	862907	148.5109	ug/L	99
23) t12dichlorte	5.03	96	606220	29.2678	ug/L	97
24) MtBE	5.06	73	1481798	28.8371	ug/L	96
25) Hexane	5.42	57	1839493	67.5150	ug/L	98
26) 11dichlorota	5.55	63	934578	28.5718	ug/L	97
27) Vinylacetate	5.65	43	5853353	236.8446	ug/L	88
28) chloroprene	5.68	53	1586066	62.4000	ug/L	99
29) Diisopether	5.70	45	1453542	29.4295	ug/L	98
30) ETBE	6.16	59	1377092	29.7305	ug/L	94
31) 22dichloropr	6.29	77	775476	35.1686	ug/L	97
32) c12dichlorte	6.29	96	670626	28.2519	ug/L	97
33) 2Butanone	6.31	72	663017	295.5391	ug/L	100
34) propionitrile	6.35	54	602526	287.7619	ug/L	99
35) Ethylacetate	6.41	88	122999	154.4605	ug/L	97
36) methacrylonitrile	6.55	67	516358	59.0614	ug/L	98
37) Bromochlorma	6.57	128	330583	28.6355	ug/L	94
38) Tetrahydofur	6.66	42	1257635	270.4202	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL7.D Vial: 10
Acq On : 23 Jul 2020 20:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:14 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	1022239	28.4059	ug/L		98
40)	111trichlota	6.93	97	884421	33.3219	ug/L		97
42)	Cyclohexane	7.01	56	930849	33.6452	ug/L		98
43)	Carbtetraclo	7.14	119	688948	37.1471	ug/L		99
44)	11dicloprope	7.13	110	330242	31.5558	ug/L		96
46)	Benzene	7.38	78	2152705	27.1331	ug/L		96
47)	12dichlorota	7.38	62	775693	27.6329	ug/L		99
48)	TAME	7.55	73	1461103	29.3033	ug/L		98
49)	trichloroete	8.18	95	658032	29.7137	ug/L		97
50)	methylcyclohexane	8.45	83	1112331	34.5837	ug/L		98
51)	12dicloropra	8.45	63	607093	27.8690	ug/L		99
52)	23Dicl1propene	8.51	75	937860	30.8557	ug/L		97
53)	Dibromometha	8.58	93	391250	29.2900	ug/L		99
54)	methylmethacrylate	8.61	69	424654	32.4232	ug/L		98
55)	14dioxane	8.64	88	60138	1162.4299	ug/L	#	80
56)	Bromodiclrma	8.78	83	761277	30.8923	ug/L		99
57)	2Nitropropane	9.05	43	760220	343.2730	ug/L		91
58)	2CLEVE	9.18	63	1562819	150.8056	ug/L		95
59)	c13dicloproe	9.36	75	926585	30.8979	ug/L		97
60)	4Meth2Pentan	9.57	43	3522320	246.2924	ug/L		91
62)	Toluene	9.81	92	1498156	28.5549	ug/L		94
63)	t13Dicloprop	10.07	75	790240	32.8177	ug/L		99
64)	ethylmethacrylate	10.22	69	1418035	65.9291	ug/L		97
65)	112Triclotha	10.31	83	466201	29.2184	ug/L		98
66)	Tetrachlorte	10.55	166	796839	31.4747	ug/L		99
67)	13Diclorpropa	10.53	76	908268	27.8632	ug/L		97
69)	2Hexanone	10.65	43	2772958	262.1654	ug/L		93
70)	Clorodibrmta	10.83	129	572159	33.2109	ug/L		99
71)	12Dibrometha	10.98	107	578650	30.5149	ug/L		98
72)	Chlorobenzen	11.67	112	1647045	27.1224	ug/L		98
73)	1Clhexane	11.65	91	851990	31.3636	ug/L		96
74)	1112Tetclota	11.78	131	545044	33.7385	ug/L		100
75)	Ethylbenzene	11.84	91	2551972	27.6479	ug/L		94
76)	m p-Xylene	12.00	106	2119723	57.6858	ug/L	#	85
77)	o-Xylene	12.55	106	1112178	29.4218	ug/L		91
78)	Styrene	12.56	104	1761204	29.3006	ug/L		96
79)	Bromoform	12.78	173	375049	34.4448	ug/L		98
80)	Isopropylben	13.07	105	2524128	28.9660	ug/L		94
81)	cyclohexanone	13.16	55	267460	560.2401	ug/L		98
84)	Bromobenzene	13.48	156	780282	26.9518	ug/L		98
85)	1122Tetrclta	13.45	83	742678	26.3938	ug/L		99
86)	123Triclproa	13.51	75	886436	28.4454	ug/L		99
87)	14dichloro2butene	13.54	53	176625	28.2416	ug/L		92
88)	n-Propylbenz	13.65	91	2846462	25.6635	ug/L		92
89)	2chlorotolue	13.76	91	1858941	26.9181	ug/L		94
90)	4chlorotolue	13.92	91	2137953	25.9820	ug/L		94
91)	135Trimebenz	13.91	105	2181163	27.5250	ug/L		96
92)	tbutylbenzen	14.38	119	1925880	28.5659	ug/L		96
93)	124Trimetben	14.45	105	2203222	27.9226	ug/L		94
94)	sbutylbenzen	14.70	105	2567231	27.6046	ug/L		94
95)	13Diclorbenz	14.84	146	1400295	27.2287	ug/L		99
96)	pIsopropylto	14.91	119	2268213	28.6930	ug/L		94
97)	14dichlorobe	14.97	146	1442079	26.7669	ug/L		98
98)	12dichlorobe	15.50	146	1337902	27.1944	ug/L		100
99)	nButylbenzen	15.52	91	1996721	28.3107	ug/L		95
100)	12dibromo3cl	16.60	157	151911	35.2683	ug/L		99
101)	135Trichlorobenzene	16.93	180	986334	28.1695	ug/L		98

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL7.D Vial: 10
Acq On : 23 Jul 2020 20:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:14 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	868666	28.9628	ug/L	98
103) Hexachlorobu	17.99	225	408448	30.4233	ug/L	98
104) Naphthalene	18.04	128	1857183	28.3957	ug/L	96
105) 123Trichlben	18.35	180	782166	29.1462	ug/L	99

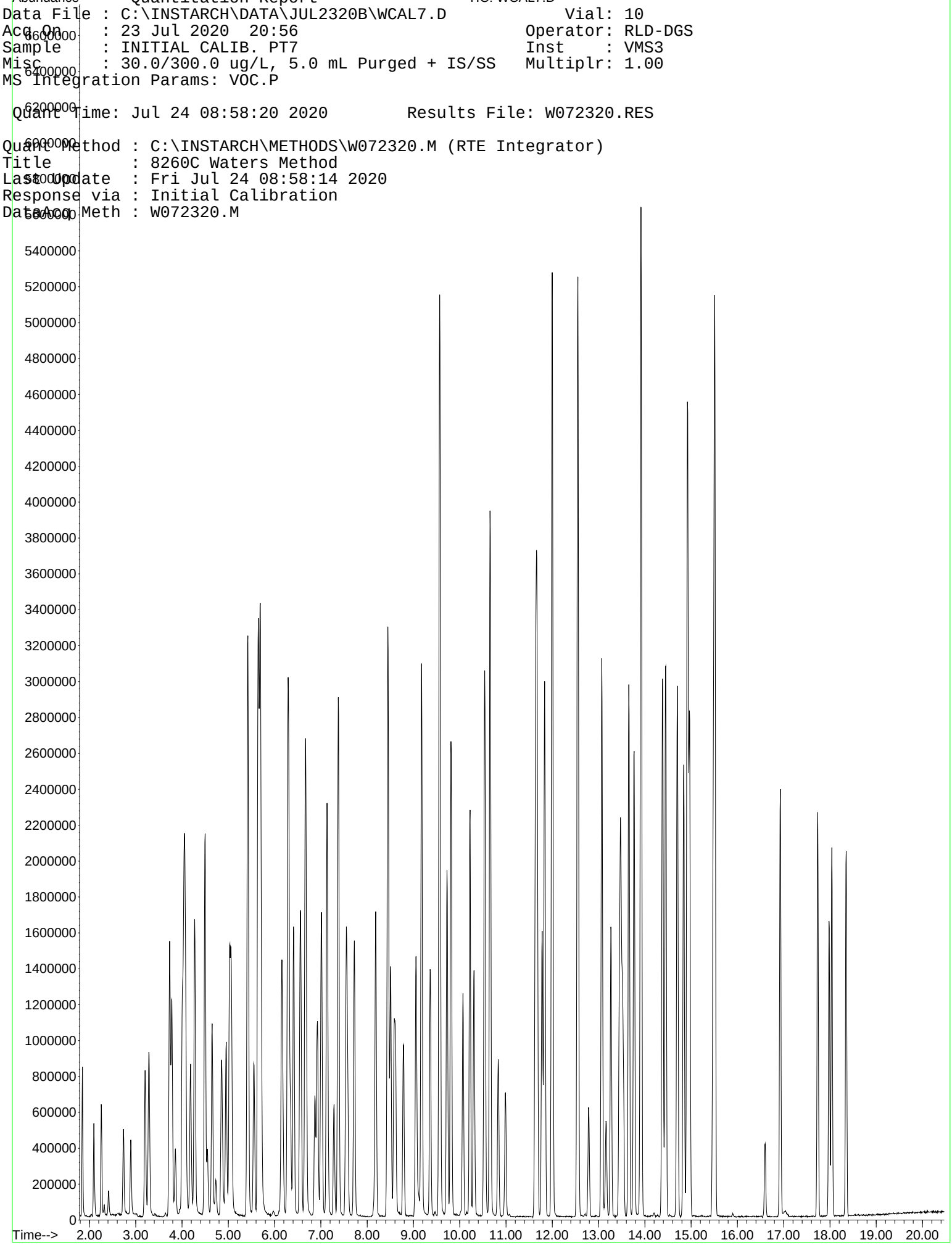
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: WCAL7.D

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL7.D Vial: 10
Acq On : 23 Jul 2020 20:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT7 Inst : VMS3
Misc : 30.0/300.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:20 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:14 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL8.D Vial: 11
Acq On : 23 Jul 2020 21:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:38 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:31 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1589301	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1290463	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	798864	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	439564	20.226	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	109692	20.097	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 100	%		
61) SURRd8Tolule	9.72	98	1586928	20.044	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.27	95	677518	19.539	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	876700	42.7018	ug/L	96
3) Chloromethan	2.10	50	724929	38.0185	ug/L	98
4) VinylChlorid	2.25	62	803948	39.8881	ug/L	99
5) Bromomethane	2.73	94	476038	37.7142	ug/L	97
6) Chloroethane	2.89	64	521971	38.3514	ug/L	97
7) Dichloroflmethane	3.20	67	1238543	37.8643	ug/L	96
8) Trichlorofma	3.28	101	1260863	43.5446	ug/L	99
9) Ethylether	3.73	59	605103	40.1640	ug/L	96
10) dichlorotfluoroethan	3.74	67	798759	42.4562	ug/L	97
11) propyleneoxide	3.77	58	1392156	404.1928	ug/L	98
12) Acrolein	3.85	56	455906	181.4312	ug/L	98
13) 11dichlorthe	4.01	96	749280	43.1684	ug/L	99
14) Trichlorotfluoroeth	4.05	101	1509051	90.8376	ug/L	96
15) Acetone	4.08	43	1767459	374.3910	ug/L	95
16) Iodomethane	4.18	142	1719503	114.1893	ug/L	96
17) Carbon Dislf	4.27	76	3446185	70.6787	ug/L	93
18) allylchloride	4.49	41	1847905	75.5789	ug/L	96
19) methylacetate	4.55	74	179769	42.4755	ug/L	95
20) Methylchlorid	4.65	84	807912	35.2555	ug/L	100
21) tbutylalcohol	4.85	59	2061935	2526.5097	ug/L	99
22) Acrylonitrile	4.95	53	1116947	190.5718	ug/L	96
23) t12dichlorte	5.03	96	807512	38.7171	ug/L	97
24) MtBE	5.06	73	1993367	38.2903	ug/L	96
25) Hexane	5.42	57	2383320	87.0372	ug/L	96
26) 11dichlorota	5.55	63	1242398	37.7538	ug/L	97
27) Vinylacetate	5.65	43	6903741	275.2992	ug/L	84
28) chloroprene	5.68	53	2088238	81.6090	ug/L	98
29) Diisopether	5.70	45	1924035	38.5592	ug/L	100
30) ETBE	6.15	59	1854688	39.0626	ug/L	93
31) 22dichloropr	6.29	77	1027576	44.8919	ug/L	96
32) c12dichlorte	6.29	96	904293	37.8525	ug/L	98
33) 2Butanone	6.31	72	925568	409.4214	ug/L	98
34) propionitrile	6.34	54	848393	402.4423	ug/L	99
35) Ethylacetate	6.41	88	167947	208.5263	ug/L	99
36) methacrylonitrile	6.55	67	697023	79.3378	ug/L	97
37) Bromochlorma	6.57	128	451277	38.7826	ug/L	93
38) Tetrahydofur	6.66	42	1733314	371.6211	ug/L	95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL8.D Vial: 11
Acq On : 23 Jul 2020 21:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:38 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:31 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	1365908	37.6944	ug/L		97
40)	111trichlota	6.92	97	1194744	44.2350	ug/L		97
42)	Cyclohexane	7.01	56	1246267	44.8981	ug/L		98
43)	Carbtetraclo	7.14	119	949966	49.8813	ug/L		99
44)	11dicloprope	7.13	110	456706	43.4932	ug/L		93
46)	Benzene	7.38	78	2767713	34.6851	ug/L		94
47)	12dichlorota	7.38	62	1042861	36.8631	ug/L		98
48)	TAME	7.55	73	1974702	38.9377	ug/L		98
49)	trichloroete	8.18	95	886090	39.7806	ug/L		98
50)	methylcyclohexane	8.45	83	1484066	45.8873	ug/L		98
51)	12dicloropra	8.45	63	808483	36.9190	ug/L		98
52)	23Dicl1propene	8.51	75	1231861	40.1974	ug/L		94
53)	Dibromometha	8.58	93	537078	40.0087	ug/L		98
54)	methylmethacrylate	8.61	69	593102	44.8420	ug/L		97
55)	14dioxane	8.63	88	130532	2509.4455	ug/L		84
56)	Bromodiclrma	8.78	83	1027339	41.1054	ug/L		96
57)	2Nitropropane	9.05	43	1105856	488.3287	ug/L		92
58)	2CLEVE	9.18	63	2079056	198.9090	ug/L		93
59)	c13dicloproe	9.37	75	1242207	40.9061	ug/L		94
60)	4Meth2Pentan	9.57	43	4402960	305.3424	ug/L		87
62)	Toluene	9.82	92	1960471	37.1195	ug/L		91
63)	t13Dicloprop	10.07	75	1082491	44.1376	ug/L		96
64)	ethylmethacrylate	10.22	69	1905888	87.5566	ug/L		94
65)	112Triclotha	10.31	83	639375	39.8244	ug/L		99
66)	Tetrachlorte	10.55	166	1074611	42.0229	ug/L		99
67)	13Diclorpropa	10.53	76	1219198	37.1879	ug/L		97
69)	2Hexanone	10.65	43	3559153	333.3614	ug/L		90
70)	Clorodibrmta	10.83	129	799737	45.4659	ug/L		98
71)	12Dibrometha	10.99	107	794955	41.3752	ug/L		99
72)	Chlorobenzen	11.67	112	2161731	35.2654	ug/L		96
73)	1Clhexane	11.65	91	1133985	41.3415	ug/L		96
74)	1112Tetclota	11.78	131	772592	46.8835	ug/L		99
75)	Ethylbenzene	11.84	91	3250689	34.8600	ug/L		91
76)	m p-Xylene	12.00	106	2759536	74.3247	ug/L	#	81
77)	o-Xylene	12.55	106	1478601	38.7318	ug/L		89
78)	Styrene	12.56	104	2312674	38.0882	ug/L		94
79)	Bromoform	12.79	173	557714	50.0169	ug/L		98
80)	Isopropylben	13.07	105	3239969	36.7978	ug/L		90
81)	cyclohexanone	13.17	55	502045	1045.0109	ug/L		99
84)	Bromobenzene	13.48	156	1079144	37.1274	ug/L		99
85)	1122Tetrclta	13.45	83	998133	35.3145	ug/L		99
86)	123Triclproa	13.52	75	1239289	39.6271	ug/L		99
87)	14dichloro2butene	13.54	53	260882	41.8751	ug/L		88
88)	n-Propylbenz	13.65	91	3637269	32.6738	ug/L		89
89)	2chlorotolue	13.77	91	2421016	34.8961	ug/L		91
90)	4chlorotolue	13.92	91	2773421	33.5302	ug/L		91
91)	135Trimebenz	13.92	105	2840183	35.6729	ug/L		93
92)	tbutylbenzen	14.38	119	2550538	37.6586	ug/L		95
93)	124Trimetben	14.45	105	2834759	35.7097	ug/L		91
94)	sbutylbenzen	14.70	105	3322614	35.6113	ug/L		90
95)	13Diclorbenz	14.84	146	1874097	36.2546	ug/L		98
96)	pIsopropylto	14.92	119	2940975	37.0101	ug/L		90
97)	14dichlorobe	14.97	146	1912635	35.2511	ug/L		97
98)	12dichlorobe	15.50	146	1778400	35.9296	ug/L		99
99)	nButylbenzen	15.52	91	2625092	37.1277	ug/L		93
100)	12dibromo3cl	16.60	157	216299	48.8496	ug/L		98
101)	135Trichlorobenzene	16.93	180	1315519	37.4192	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL8.D Vial: 11
Acq On : 23 Jul 2020 21:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:38 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:31 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	1178891	39.1493	ug/L	97
103) Hexachlorobu	17.99	225	551547	40.9506	ug/L	100
104) Naphthalene	18.04	128	2450038	37.3330	ug/L	95
105) 123Trichlben	18.35	180	1049094	38.9224	ug/L	99

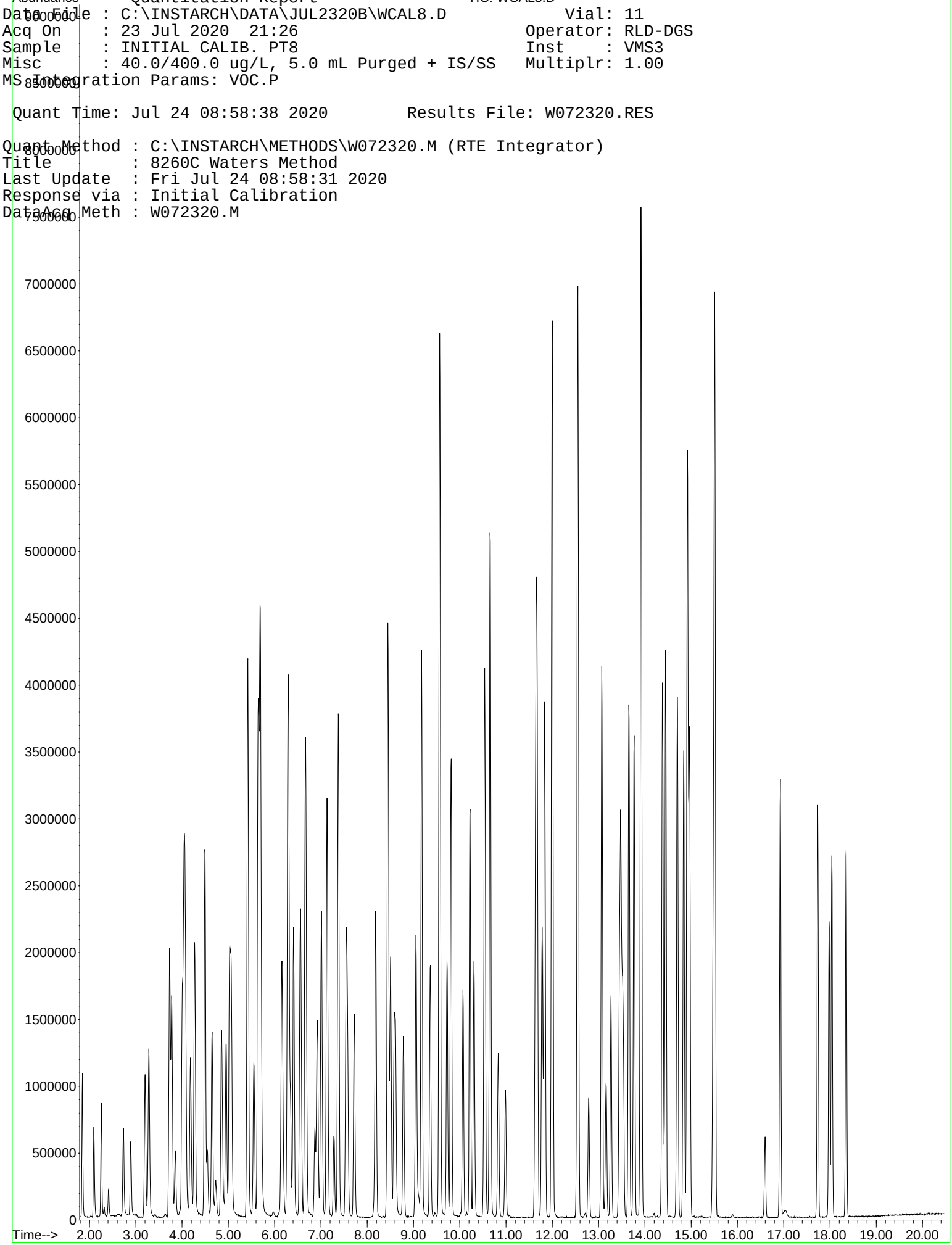
(#) = qualifier out of range (m) = manual integration

Quantitation Report (RTE Integrator)

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL8.D Vial: 11
Acq On : 23 Jul 2020 21:26 Operator: RLD-DGS
Sample : INITIAL CALIB. PT8 Inst : VMS3
Misc : 40.0/400.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:38 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:31 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL9.D Vial: 12
Acq On : 23 Jul 2020 21:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:51 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1663130	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1358567	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	839313	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	461395	20.223	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.29	102	111810	19.582	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 98	%		
61) SURRd8Tolule	9.72	98	1665388	20.061	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.27	95	720275	19.874	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	1561534	73.2499	ug/L	91
3) Chloromethan	2.10	50	1326776	66.9246	ug/L	96
4) VinylChlorid	2.25	62	1493676	71.1801	ug/L	97
5) Bromomethane	2.73	94	1036554	81.1647	ug/L	95
6) Chloroethane	2.89	64	1033975	73.1583	ug/L	97
7) Dichloroflmethane	3.20	67	2318832	67.4221	ug/L	93
8) Trichlorofma	3.28	101	2328485	76.3840	ug/L	96
9) Ethylether	3.73	59	1206001	76.2171	ug/L	98
10) dichlorotfluoroethan	3.74	67	1546747	78.2112	ug/L	95
11) propyleneoxide	3.78	58	2547570	703.9642	ug/L	95
12) Acrolein	3.85	56	910491	351.9231	ug/L	99
13) 11dichlorthe	4.01	96	1442063	79.0977	ug/L	95
14) Trichlorotfluoroeth	4.05	101	2817492	161.2254	ug/L	94
15) Acetone	4.08	43	3203796	642.7488	ug/L	89
16) Iodomethane	4.18	142	3227636	208.1564	ug/L	91
17) Carbon Dislf	4.27	76	5495772	107.4023	ug/L	86
18) allylchloride	4.50	41	3335597	130.0498	ug/L	93
19) methylacetate	4.55	74	384821	87.0208	ug/L	95
20) Methylchlorid	4.65	84	1540796	64.0736	ug/L	98
21) tbutylalcohol	4.86	59	4005831	4599.9780	ug/L	97
22) Acrylonitrile	4.95	53	2134110	348.8404	ug/L	94
23) t12dichlorte	5.03	96	1564827	71.6519	ug/L	96
24) MtBE	5.06	73	3643243	66.5019	ug/L	91
25) Hexane	5.42	57	4130167	144.2337	ug/L #	89
26) 11dichlorota	5.56	63	2337128	67.8163	ug/L	93
27) Vinylacetate	5.65	43	9971394	378.7665	ug/L	67
28) chloroprene	5.68	53	3739063	139.1945	ug/L	93
29) Diisopether	5.70	45	3550132	67.5169	ug/L	95
30) ETBE	6.15	59	3404797	67.6386	ug/L	88
31) 22dichloropr	6.29	77	2090074	85.3916	ug/L	94
32) c12dichlorte	6.29	96	1744963	69.7146	ug/L	98
33) 2Butanone	6.31	72	1803537	761.6166	ug/L	95
34) propionitrile	6.35	54	1713937	778.8348	ug/L	98
35) Ethylacetate	6.41	88	362965	431.8936	ug/L	92
36) methacrylonitrile	6.55	67	1399152	152.7221	ug/L	98
37) Bromochlorma	6.57	128	855588	69.9410	ug/L	92
38) Tetrahydofur	6.66	42	3205076	657.1870	ug/L	90

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL9.D Vial: 12
Acq On : 23 Jul 2020 21:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:51 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit		Qvalue
39)	Chloroform	6.68	83	2570688	67.6346 ug/L		95
40)	111trichlota	6.93	97	2305836	80.8043 ug/L		93
42)	Cyclohexane	7.01	56	2388446	82.4632 ug/L		97
43)	Carbtetraclo	7.14	119	1920277	94.6705 ug/L		93
44)	11dicloprope	7.13	110	918136	83.3148 ug/L	#	88
46)	Benzene	7.38	78	4673407	55.9238 ug/L		85
47)	12dichlorota	7.38	62	1990119	66.9755 ug/L		95
48)	TAME	7.55	73	3629509	67.8082 ug/L		93
49)	trichloroete	8.18	95	1701270	72.8213 ug/L		97
50)	methylcyclohexane	8.45	83	2778398	82.1234 ug/L		95
51)	12dicloropra	8.45	63	1599712	69.8509 ug/L		96
52)	23Dicl1propene	8.51	75	2337583	72.6040 ug/L		89
53)	Dibromometha	8.58	93	1083250	76.8425 ug/L		99
54)	methylmethacrylate	8.61	69	1204686	86.8453 ug/L		94
55)	14dioxane	8.64	88	282026	4941.4113 ug/L		82
56)	Bromodiclrma	8.79	83	1993422	75.7617 ug/L		94
57)	2Nitropropane	9.05	43	2532597	1052.7044 ug/L		89
58)	2CLEVE	9.18	63	3670996	334.1893 ug/L		86
59)	c13dicloproe	9.36	75	2371224	74.3754 ug/L		91
60)	4Meth2Pentan	9.57	43	6588439	435.2407 ug/L		73
62)	Toluene	9.81	92	3472827	62.6579 ug/L	#	83
63)	t13Dicloprop	10.07	75	2138168	82.6484 ug/L		93
64)	ethylmethacrylate	10.22	69	3457641	150.8976 ug/L		89
65)	112Triclotha	10.31	83	1250993	74.3550 ug/L		97
66)	Tetrachlorte	10.55	166	2040663	75.8147 ug/L		96
67)	13Diclorpropa	10.53	76	2304717	67.0596 ug/L		93
69)	2Hexanone	10.65	43	5568070	495.5474 ug/L		79
70)	Clorodibrmta	10.84	129	1640033	88.0595 ug/L		97
71)	12Dibrometha	10.99	107	1542481	76.2962 ug/L		98
72)	Chlorobenzen	11.68	112	3815874	59.2036 ug/L		92
73)	1Clhexane	11.65	91	2146121	74.5533 ug/L		97
74)	1112Tetclota	11.78	131	1578371	90.1106 ug/L		99
75)	Ethylbenzene	11.84	91	5242290	53.4377 ug/L		79
76)	m p-Xylene	12.00	106	4633722	118.5957 ug/L	#	68
77)	o-Xylene	12.55	106	2731862	68.0680 ug/L	#	78
78)	Styrene	12.56	104	4003509	62.6833 ug/L		86
79)	Bromoform	12.78	173	1192522	100.0328 ug/L		95
80)	Isopropylben	13.07	105	5229377	56.4183 ug/L		78
81)	cyclohexanone	13.16	55	1021771	1990.3647 ug/L		98
84)	Bromobenzene	13.48	156	2037912	66.9964 ug/L		99
85)	1122Tetrclta	13.45	83	1937203	65.7907 ug/L		96
86)	123Triclproa	13.51	75	2481032	76.2600 ug/L		98
87)	14dichloro2butene	13.54	53	549346	85.0245 ug/L		80
88)	n-Propylbenz	13.65	91	5617938	48.2272 ug/L		75
89)	2chlorotolue	13.77	91	4160109	57.3658 ug/L		82
90)	4chlorotolue	13.92	91	4655357	53.8103 ug/L		82
91)	135Trimebenz	13.92	105	4737124	56.8971 ug/L		85
92)	tbutylbenzen	14.38	119	4362539	61.5268 ug/L		89
93)	124Trimetben	14.45	105	4734245	57.0031 ug/L		83
94)	sbutylbenzen	14.70	105	5336483	54.7028 ug/L		78
95)	13Diclorbenz	14.84	146	3328110	61.4556 ug/L		93
96)	pIsopropylto	14.92	119	4886987	58.7937 ug/L		81
97)	14dichlorobe	14.97	146	3409419	59.9983 ug/L		91
98)	12dichlorobe	15.50	146	3200069	61.7883 ug/L		95
99)	nButylbenzen	15.51	91	4411310	59.7546 ug/L		84
100)	12dibromo3cl	16.60	157	471266	101.1738 ug/L		97
101)	135Trichlorobenzene	16.93	180	2427392	66.0903 ug/L		95

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL9.D Vial: 12
Acq On : 23 Jul 2020 21:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:51 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	2178323	69.1793	ug/L	95
103) Hexachlorobu	17.99	225	1083318	77.3367	ug/L	97
104) Naphthalene	18.04	128	4140851	60.5695	ug/L	88
105) 123Trichlben	18.35	180	1992256	70.9187	ug/L	99

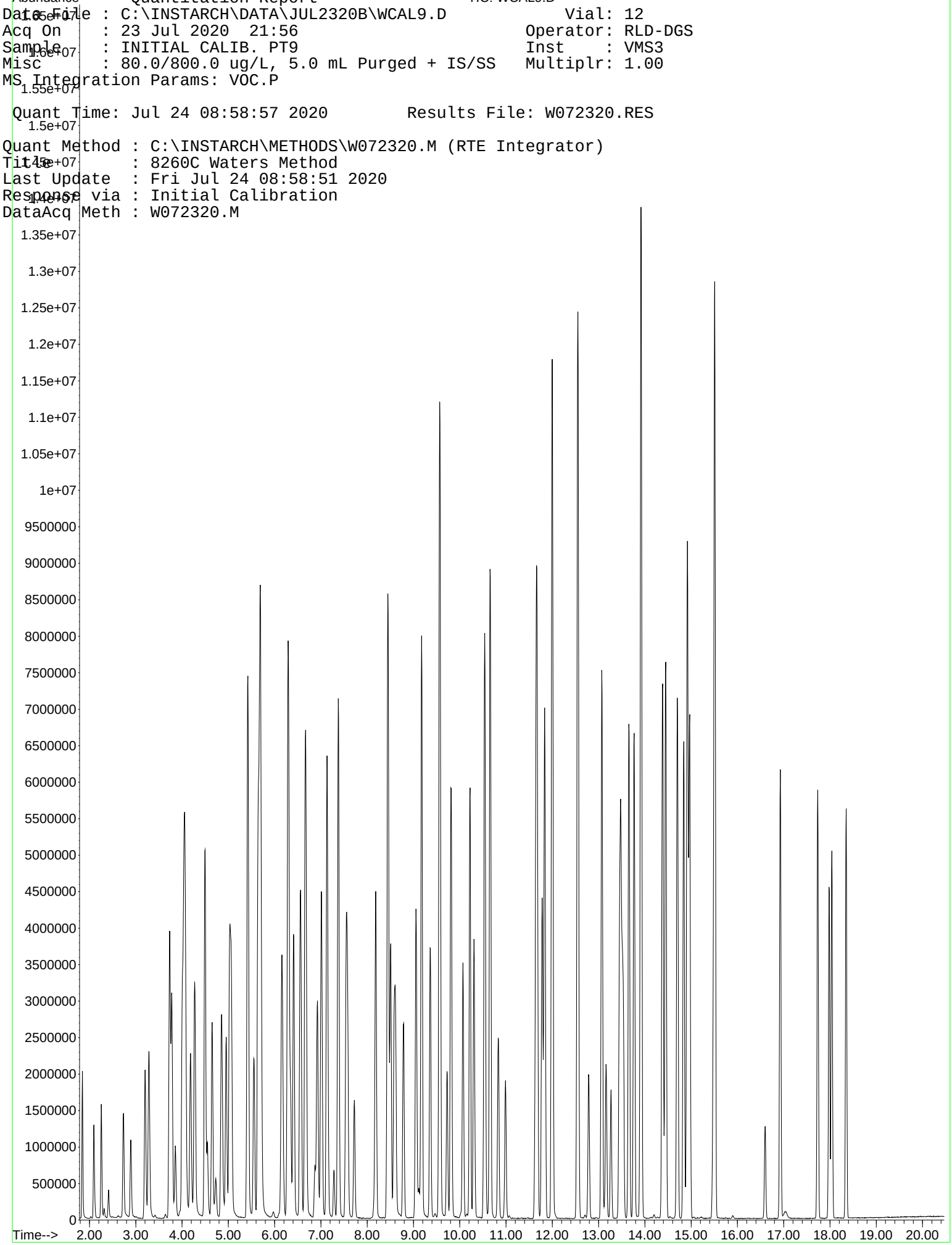
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\WCAL9.D Vial: 12
Acq On : 23 Jul 2020 21:56 Operator: RLD-DGS
Sample : INITIAL CALIB. PT9 Inst : VMS3
Misc : 80.0/800.0 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 08:58:57 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 08:58:51 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV1.D Vial: 14
Acq On : 23 Jul 2020 22:55 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 24 09:22:56 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	102	0.00
2	PT	Dichlorodi	0.2573	0.3484	-35.41#	118	0.00
3	PT	Chloromethan	0.2372	0.2576	-8.60	111	0.00
4	PT	VinylChlorid	0.2517	0.2918	-15.93	109	0.00
5	PT	Bromomethane	0.1510	0.2023	-33.97#	130	0.00
6	PT	Chloroethane	0.1698	0.1791	-5.48	107	0.00
7	T	Dichloroflmethane	0.4163	0.4378	-5.16	104	0.00
8	PT	Trichlorofma	0.3710	0.4449	-19.92	106	0.00
9	T	Ethylether	0.1913	0.1958	-2.35	106	0.00
10	T	dichlorotfluoroethan	0.2390	0.2767	-15.77	106	0.00
11	T	propyleneoxide	0.0437	0.0466	-6.64	109	0.00
12	T	Acrolein	0.0309	0.0284#	8.09	96	0.00
13	PT	11dichlorthe	0.2201	0.2535	-15.17	106	0.00
14	PT	Trichlorotfluoroeth	0.2113	0.2593	-22.72#	104	0.00
15	PT	Acetone	0.0606	0.0601#	0.83	106	0.00
16	T	Iodomethane	0.1851	0.1868	-0.92	112	0.00
17	PT	Carbon Dislf	0.6436	0.7101	-10.33	108	0.00
18	T	allylchloride	0.3094	0.3498	-13.06	112	0.00
19	PT	methylacetate	0.0536	0.0536#	0.00	106	0.00
20	PT	Methylchlorid	0.2897	0.2835	2.14	105	0.00
21	T	tbutylalcohol	0.0107	0.0111#	-3.74	112	0.00
22	T	Acrylonitrile	0.0737	0.0771	-4.61	107	0.00
23	PT	t12dichlorte	0.2631	0.2757	-4.79	106	0.00
24	PT	MtBE	0.6622	0.7117	-7.48	109	0.00
25	T	Hexane	0.3451	0.4534	-31.38#	108	0.00
26	PT	11dichlorota	0.4154	0.4300	-3.51	105	0.00
27	T	Vinylacetate	0.3166	0.3485	-10.08	110	0.00
28	T	chloroprene	0.3250	0.3768	-15.94	106	0.00
29	T	Diisopether	0.6351	0.6772	-6.63	104	0.00
30	T	ETBE	0.6108	0.6728	-10.15	110	0.00
31	T	22dichloropr	0.2992	0.3390	-13.30	111	0.00
32	PT	c12dichlorte	0.3017	0.3100	-2.75	105	0.00
33	PT	2Butanone	0.0286	0.0294#	-2.80	107	0.00
34	T	propionitrile	0.0266	0.0274#	-3.01	108	0.00
35	T	Ethylacetate	0.0102	0.0107#	-4.90	110	0.00
36	T	methacrylonitrile	0.1105	0.1193	-7.96	108	0.00
37	T	Bromochlorma	0.1478	0.1489	-0.74	110	0.00
38	T	Tetrahydofur	0.0588	0.0602	-2.38	107	0.00
39	PT	Chloroform	0.4591	0.4830	-5.21	106	0.00
40	PT	111trichlota	0.3458	0.3999	-15.64	111	0.00
41	S	SURRDibrflma	0.2750	0.2726	0.87	104	0.00
42	PT	Cyclohexane	0.3483	0.4392	-26.10#	109	0.00
43	PT	Carbtetraclo	0.2465	0.2909	-18.01	114	0.00
44	T	11dicloprope	0.1331	0.1525	-14.58	109	0.00
45	S	SURR12DCAd4	0.0686	0.0660	3.79	99	0.00
46	PT	Benzene	1.0468	1.0871	-3.85	106	0.00
47	PT	12dichlorota	0.3589	0.3571	0.50	108	0.00
48	T	TAME	0.6480	0.7058	-8.92	112	0.00

49	PT	trichloroete	0.2821	0.3049	-8.08	106	0.00
50	PT	methylcyclohexane	0.4076	0.5131	-25.88#	107	0.00
51	PT	12dicloropra	0.2759	0.2778	-0.69	109	0.00
52	T	23Dicl1propene	0.3889	0.4284	-10.16	110	0.00
53	T	Dibromometha	0.1706	0.1774	-3.99	110	0.00
54	T	methylmethacrylate	0.1673	0.1911	-14.23	116	0.00
55	T	14dioxane	0.0007	0.0006#	14.29	136	0.00
56	PT	Bromodiclrma	0.3182	0.3462	-8.80	113	0.00
57	T	2Nitropropane	0.0296	0.0286#	3.38	113	0.00
58	T	2CLEVE	0.1331	0.1513	-13.67	110	0.00
59	PT	c13dicloproe	0.3855	0.4114	-6.72	110	0.00
60	PT	4Meth2Pentan	0.1820	0.1875	-3.02	104	0.00
61	S	SURRd8Tolule	1.0019	0.9709	3.09	100	0.00
62	PT	Toluene	0.6702	0.7048	-5.16	104	0.00
63	PT	t13Dicloprop	0.3138	0.3428	-9.24	110	0.00
64	T	ethylmethacrylate	0.2779	0.3243	-16.70	113	0.00
65	PT	112Triclotha	0.2034	0.2050	-0.79	101	0.00
66	PT	Tetrachlorte	0.3259	0.3628	-11.32	106	0.00
67	T	13Diclorpropa	0.4149	0.4102	1.13	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	102	0.00
69	PT	2Hexanone	0.1654	0.1754	-6.05	104	0.00
70	PT	Clorodibrmta	0.2754	0.2991	-8.61	112	0.00
71	PT	12Dibrometha	0.2970	0.3178	-7.00	108	0.00
72	PT	Chlorobenzen	0.9799	0.9770	0.30	105	0.00
73	T	1Clhexane	0.4229	0.4798	-13.45	109	0.00
74	T	1112Tetclota	0.2587	0.2809	-8.58	115	0.00
75	PT	Ethylbenzene	1.5059	1.5806	-4.96	105	0.00
76	PT	m p-Xylene	0.5756	0.6372	-10.70	107	0.00
77	PT	o-Xylene	0.5907	0.6410	-8.52	108	0.00
78	PT	Styrene	0.9413	1.0205	-8.41	105	0.00
79	PT	Bromoform	0.1770	0.1861	-5.14	117	0.00
80	PT	Isopropylben	1.3672	1.5565	-13.85	105	0.00
81	T	cyclohexanone	0.0078	0.0080#	-2.56	122	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	102	0.00
83	S	SURR4BrFBenz	0.8648	0.8713	-0.75	103	0.00
84	T	Bromobenzene	0.7236	0.7571	-4.63	105	0.00
85	PT	1122Tetrclta	0.6995	0.6740	3.65	104	0.00
86	T	123Triclproa	0.7713	0.8010	-3.85	107	0.00
87	T	14dichloro2butene	0.1523	0.1433	5.91	104	0.00
88	T	n-Propylbenz	2.7758	3.0581	-10.17	105	0.00
89	T	2chlorotolue	1.7877	1.8828	-5.32	105	0.00
90	T	4chlorotolue	2.0616	2.1790	-5.69	105	0.00
91	T	135Trimebenz	1.9838	2.2170	-11.76	106	0.00
92	T	tbutylbenzen	1.6891	1.9404	-14.88	106	0.00
93	T	124Trimetben	1.9794	2.2314	-12.73	105	0.00
94	T	sbutylbenzen	2.2429	2.6872	-19.81	105	0.00
95	PT	13Diclorbenz	1.2897	1.3691	-6.16	106	0.00
96	T	pIsopropylto	1.9817	2.3370	-17.93	107	0.00
97	PT	14dichlorobe	1.3968	1.4287	-2.28	106	0.00
98	PT	12dichlorobe	1.2337	1.3004	-5.41	106	0.00
99	T	nButylbenzen	1.7566	2.0420	-16.25	107	0.00
100	PT	12dibromo3cl	0.1110	0.1212	-9.19	118	-0.01
101	T	135Trichlorobenzene	0.8738	0.9689	-10.88	108	0.00
102	PT	124Trichlobe	0.7481	0.8019	-7.19	102	0.00
103	T	Hexachlorobu	0.3327	0.3781	-13.65	109	0.00
104	T	Naphthalene	1.6255	1.7988	-10.66	106	0.00
105	T	123Trichlben	0.6667	0.7258	-8.86	106	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W072320.M Tue Aug 04 10:16:38 2020

Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV1.D Vial: 14
Acq On : 23 Jul 2020 22:55 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 24 09:22:56 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	102	0.00
2	PT	Dichlorodi	10.0000	11.8946	-18.95	118	0.00
3	PT	Chloromethan	10.0000	10.8607	-8.61	111	0.00
4	PT	VinylChlorid	10.0000	11.5963	-15.96	109	0.00
5	PT	Bromomethane	10.0000	13.3945	-33.95#	130	0.00
6	PT	Chloroethane	10.0000	10.5454	-5.45	107	0.00
7	T	Dichloroflmethane	10.0000	10.5146	-5.15	104	0.00
8	PT	Trichlorofma	10.0000	11.9919	-19.92	106	0.00
9	T	Ethylether	10.0000	10.2391	-2.39	106	0.00
10	T	dichlorotfluoroethan	10.0000	11.5770	-15.77	106	0.00
11	T	propyleneoxide	100.0000	106.5773	-6.58	109	0.00
12	T	Acrolein	50.0000	46.0608	7.88	96	0.00
13	PT	11dichlorthe	10.0000	11.5198	-15.20	106	0.00
14	PT	Trichlorotfluoroeth	20.0000	20.9446	-4.72	104	0.00
15	PT	Acetone	100.0000	102.9575	-2.96	106	0.00
16	T	Iodomethane	20.0000	17.5834	12.08	112	0.00
17	PT	Carbon Dislf	20.0000	22.0665	-10.33	108	0.00
18	T	allylchloride	20.0000	22.6109	-13.05	112	0.00
19	PT	methylacetate	10.0000	9.9958	0.04	106	0.00
20	PT	Methylchlorid	10.0000	10.3500	-3.50	105	0.00
21	T	tbutylalcohol	500.0000	519.2332	-3.85	112	0.00
22	T	Acrylonitrile	50.0000	52.2625	-4.53	107	0.00
23	PT	t12dichlorte	10.0000	10.4770	-4.77	106	0.00
24	PT	MtBE	10.0000	10.7478	-7.48	109	0.00
25	T	Hexane	20.0000	21.7809	-8.90	108	0.00
26	PT	11dichlorota	10.0000	10.3517	-3.52	105	0.00
27	T	Vinylacetate	100.0000	108.7959	-8.80	110	0.00
28	T	chloroprene	20.0000	23.1940	-15.97	106	0.00
29	T	Diisopether	10.0000	10.6629	-6.63	104	0.00
30	T	ETBE	10.0000	11.0149	-10.15	110	0.00
31	T	22dichloropr	10.0000	11.3278	-13.28	111	0.00
32	PT	c12dichlorte	10.0000	10.2760	-2.76	105	0.00
33	PT	2Butanone	100.0000	102.7402	-2.74	107	0.00
34	T	propionitrile	100.0000	102.7148	-2.71	108	0.00
35	T	Ethylacetate	50.0000	52.4905	-4.98	110	0.00
36	T	methacrylonitrile	20.0000	21.5929	-7.96	108	0.00
37	T	Bromochlorma	10.0000	10.0761	-0.76	110	0.00
38	T	Tetrahydofur	100.0000	102.2984	-2.30	107	0.00
39	PT	Chloroform	10.0000	10.5202	-5.20	106	0.00
40	PT	111trichlota	10.0000	11.5628	-15.63	111	0.00
41	S	SURRDibrflma	20.0000	19.8258	0.87	104	0.00
42	PT	Cyclohexane	10.0000	10.8896	-8.90	109	0.00
43	PT	Carbtetraclo	10.0000	10.4401	-4.40	114	0.00
44	T	11dicloprope	10.0000	11.4598	-14.60	109	0.00
45	S	SURR12DCAd4	20.0000	19.2487	3.76	99	0.00
46	PT	Benzene	10.0000	10.3849	-3.85	106	0.00
47	PT	12dichlorota	10.0000	10.4058	-4.06	108	0.00
48	T	TAME	10.0000	10.8920	-8.92	112	0.00

49	PT	trichloroete	10.0000	10.8085	-8.09	106	0.00
50	PT	methylcyclohexane	10.0000	10.6826	-6.83	107	0.00
51	PT	12dicloropra	10.0000	10.5299	-5.30	109	0.00
52	T	23Dicl1propene	10.0000	11.0149	-10.15	110	0.00
53	T	Dibromometha	10.0000	10.4016	-4.02	110	0.00
54	T	methylmethacrylate	10.0000	11.4209	-14.21	116	0.00
55	T	14dioxane	500.0000	427.4422	14.51	136	0.00
56	PT	Bromodiclrma	10.0000	10.8817	-8.82	113	0.00
57	T	2Nitropropane	100.0000	98.0838	1.92	113	0.00
58	T	2CLEVE	50.0000	56.8460	-13.69	110	0.00
59	PT	c13dicloproe	10.0000	10.6721	-6.72	110	0.00
60	PT	4Meth2Pentan	100.0000	105.0218	-5.02	104	0.00
61	S	SURRd8Tolule	20.0000	19.3806	3.10	100	0.00
62	PT	Toluene	10.0000	10.5171	-5.17	104	0.00
63	PT	t13Dicloprop	10.0000	10.9232	-9.23	110	0.00
64	T	ethylmethacrylate	20.0000	23.3386	-16.69	113	0.00
65	PT	112Triclotha	10.0000	10.0817	-0.82	101	0.00
66	PT	Tetrachlorte	10.0000	11.1326	-11.33	106	0.00
67	T	13Diclorpropa	10.0000	9.8887	1.11	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	102	0.00
69	PT	2Hexanone	100.0000	106.0414	-6.04	104	0.00
70	PT	Clorodibrmta	10.0000	10.8626	-8.63	112	0.00
71	PT	12Dibrometha	10.0000	10.7000	-7.00	108	0.00
72	PT	Chlorobenzen	10.0000	9.9709	0.29	105	0.00
73	T	1Clhexane	10.0000	11.3461	-13.46	109	0.00
74	T	1112Tetclota	10.0000	10.8597	-8.60	115	0.00
75	PT	Ethylbenzene	10.0000	10.4962	-4.96	105	0.00
76	PT	m p-Xylene	20.0000	22.1406	-10.70	107	0.00
77	PT	o-Xylene	10.0000	10.8514	-8.51	108	0.00
78	PT	Styrene	10.0000	10.8410	-8.41	105	0.00
79	PT	Bromoform	10.0000	10.2240	-2.24	117	0.00
80	PT	Isopropylben	10.0000	11.3845	-13.84	105	0.00
81	T	cyclohexanone	200.0000	208.5238	-4.26	122	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	102	0.00
83	S	SURR4BrFBenz	20.0000	20.1499	-0.75	103	0.00
84	T	Bromobenzene	10.0000	10.4632	-4.63	105	0.00
85	PT	1122Tetrclta	10.0000	10.1007	-1.01	104	0.00
86	T	123Triclproa	10.0000	10.3846	-3.85	107	0.00
87	T	14dichloro2butene	10.0000	9.4066	5.93	104	0.00
88	T	n-Propylbenz	10.0000	11.0170	-10.17	105	0.00
89	T	2chlorotolue	10.0000	10.5321	-5.32	105	0.00
90	T	4chlorotolue	10.0000	10.5699	-5.70	105	0.00
91	T	135Trimebenz	10.0000	11.1755	-11.75	106	0.00
92	T	tbutylbenzen	10.0000	11.4876	-14.88	106	0.00
93	T	124Trimetben	10.0000	11.2732	-12.73	105	0.00
94	T	sbutylbenzen	10.0000	11.9808	-19.81	105	0.00
95	PT	13Diclorbenz	10.0000	10.6153	-6.15	106	0.00
96	T	pIsopropylto	10.0000	11.7928	-17.93	107	0.00
97	PT	14dichlorobe	10.0000	10.2285	-2.29	106	0.00
98	PT	12dichlorobe	10.0000	10.5410	-5.41	106	0.00
99	T	nButylbenzen	10.0000	11.6248	-16.25	107	0.00
100	PT	12dibromo3cl	10.0000	10.4487	-4.49	118	-0.01
101	T	135Trichlorobenzene	10.0000	11.0880	-10.88	108	0.00
102	PT	124Trichlobe	10.0000	10.7186	-7.19	102	0.00
103	T	Hexachlorobu	10.0000	11.3657	-13.66	109	0.00
104	T	Naphthalene	10.0000	11.0658	-10.66	106	0.00
105	T	123Trichlben	10.0000	10.8861	-8.86	106	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W072320.M Tue Aug 04 10:16:57 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV1.D Vial: 14
Acq On : 23 Jul 2020 22:55 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:22:56 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1578074	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1267728	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	746794	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	430228	19.826	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	104122	19.249	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 96 %			
61) SURRd8Tolule	9.72	98	1532094	19.381	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 97 %			
83) SURR4BrFBenz	13.26	95	650689	20.150	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	274866	11.8946	ug/L	100
3) Chloromethan	2.10	50	203242	10.8607	ug/L	98
4) VinylChlorid	2.25	62	230268	11.5963	ug/L	100
5) Bromomethane	2.73	94	159607	13.3945	ug/L	97
6) Chloroethane	2.89	64	141284	10.5454	ug/L	94
7) Dichloroflmethane	3.20	67	345402	10.5146	ug/L	97
8) Trichlorofma	3.29	101	351026	11.9919	ug/L	100
9) Ethylether	3.73	59	154511	10.2391	ug/L	95
10) dichlorotfluoroethan	3.74	67	218331	11.5770	ug/L	99
11) propyleneoxide	3.78	58	367493	106.5773	ug/L	98
12) Acrolein	3.85	56	112150	46.0608	ug/L	99
13) 11dichlorthe	4.01	96	200042	11.5198	ug/L	98
14) Trichlorotfluoroeth	4.05	101	409246	20.9446	ug/L	98
15) Acetone	4.08	43	473889	102.9575	ug/L	99
16) Iodomethane	4.18	142	294856	17.5834	ug/L	99
17) Carbon Dislf	4.27	76	1120661	22.0665	ug/L	100
18) allylchloride	4.50	41	551934	22.6109	ug/L	98
19) methylacetate	4.55	74	42259	9.9958	ug/L	96
20) Methylchlorid	4.65	84	223671	10.3500	ug/L	99
21) tbutylalcohol	4.86	59	438343	519.2332	ug/L	97
22) Acrylonitrile	4.95	53	304069	52.2625	ug/L	99
23) t12dichlorte	5.03	96	217509	10.4770	ug/L	98
24) MtBE	5.06	73	561532	10.7478	ug/L	99
25) Hexane	5.42	57	715516	21.7809	ug/L	98
26) 11dichlorota	5.55	63	339288	10.3517	ug/L	100
27) Vinylacetate	5.64	43	2749968	108.7959	ug/L	99
28) chloroprene	5.68	53	594692	23.1940	ug/L	99
29) Diisopether	5.70	45	534349	10.6629	ug/L	95
30) ETBE	6.15	59	530825	11.0149	ug/L	98
31) 22dichloropr	6.29	77	267463	11.3278	ug/L	98
32) c12dichlorte	6.28	96	244607	10.2760	ug/L	97
33) 2Butanone	6.31	72	232171	102.7402	ug/L	100
34) propionitrile	6.34	54	215882	102.7148	ug/L	97
35) Ethylacetate	6.41	88	42133	52.4905	ug/L	95
36) methacrylonitrile	6.55	67	188225	21.5929	ug/L	99
37) Bromochlorma	6.57	128	117500	10.0761	ug/L	93
38) Tetrahydofur	6.66	42	474868	102.2984	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV1.D Vial: 14
Acq On : 23 Jul 2020 22:55 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:22:56 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	381076	10.5202	ug/L		100
40)	111trichlota	6.93	97	315516	11.5628	ug/L		98
42)	Cyclohexane	7.00	56	346570	10.8896	ug/L		100
43)	Carbtetraclo	7.14	119	229524	10.4401	ug/L		98
44)	11dicloprope	7.13	110	120343	11.4598	ug/L		94
46)	Benzene	7.38	78	857731	10.3849	ug/L		99
47)	12dichlorota	7.38	62	281789	10.4058	ug/L		100
48)	TAME	7.55	73	556913	10.8920	ug/L		98
49)	trichloroete	8.18	95	240572	10.8085	ug/L		100
50)	methylcyclohexane	8.45	83	404872	10.6826	ug/L		99
51)	12dicloropra	8.45	63	219211	10.5299	ug/L		90
52)	23Dicl1propene	8.51	75	338002	11.0149	ug/L		97
53)	Dibromometha	8.58	93	140008	10.4016	ug/L		98
54)	methylmethacrylate	8.61	69	150783	11.4209	ug/L		98
55)	14dioxane	8.64	88	24375	427.4422	ug/L	#	80
56)	Bromodiclrma	8.79	83	273181	10.8817	ug/L		99
57)	2Nitropropane	9.05	43	225983	98.0838	ug/L		93
58)	2CLEVE	9.18	63	596859	56.8460	ug/L		99
59)	c13dicloproe	9.36	75	324643	10.6721	ug/L		98
60)	4Meth2Pentan	9.57	43	1479488	105.0218	ug/L		100
62)	Toluene	9.81	92	556138	10.5171	ug/L		98
63)	t13Dicloprop	10.07	75	270447	10.9232	ug/L		99
64)	ethylmethacrylate	10.22	69	511754	23.3386	ug/L		99
65)	112Triclotha	10.30	83	161787	10.0817	ug/L		97
66)	Tetrachlorte	10.55	166	286244	11.1326	ug/L		97
67)	13Diclorpropa	10.53	76	323691	9.8887	ug/L		98
69)	2Hexanone	10.65	43	1111834	106.0414	ug/L		99
70)	Clorodibrmta	10.83	129	189611	10.8626	ug/L		98
71)	12Dibrometha	10.99	107	201443	10.7000	ug/L		100
72)	Chlorobenzen	11.67	112	619312	9.9709	ug/L		99
73)	1Clhexane	11.65	91	304111	11.3461	ug/L		99
74)	1112Tetclota	11.78	131	178083	10.8597	ug/L		99
75)	Ethylbenzene	11.84	91	1001882	10.4962	ug/L		100
76)	m p-Xylene	12.00	106	807851	22.1406	ug/L		97
77)	o-Xylene	12.55	106	406329	10.8514	ug/L		99
78)	Styrene	12.56	104	646829	10.8410	ug/L		99
79)	Bromoform	12.79	173	117984	10.2240	ug/L		98
80)	Isopropylben	13.07	105	986625	11.3845	ug/L		99
81)	cyclohexanone	13.17	55	101161	208.5238	ug/L		95
84)	Bromobenzene	13.48	156	282687	10.4632	ug/L		100
85)	1122Tetrclta	13.45	83	251682	10.1007	ug/L		99
86)	123Triclproa	13.51	75	299082	10.3846	ug/L		99
87)	14dichloro2butene	13.53	53	53505	9.4066	ug/L		94
88)	n-Propylbenz	13.65	91	1141891	11.0170	ug/L		99
89)	2chlorotolue	13.76	91	703021	10.5321	ug/L		98
90)	4chlorotolue	13.92	91	813649	10.5699	ug/L		99
91)	135Trimebenz	13.92	105	827804	11.1755	ug/L		100
92)	tbutylbenzen	14.38	119	724528	11.4876	ug/L		99
93)	124Trimetben	14.45	105	833205	11.2732	ug/L		98
94)	sbutylbenzen	14.70	105	1003401	11.9808	ug/L		99
95)	13Diclorbenz	14.84	146	511208	10.6153	ug/L		98
96)	pIsopropylto	14.91	119	872643	11.7928	ug/L		100
97)	14dichlorobe	14.97	146	533469	10.2285	ug/L		99
98)	12dichlorobe	15.50	146	485573	10.5410	ug/L		99
99)	nButylbenzen	15.51	91	762485	11.6248	ug/L		99
100)	12dibromo3cl	16.59	157	45257	10.4487	ug/L		97
101)	135Trichlorobenzene	16.93	180	361785	11.0880	ug/L		99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV1.D Vial: 14
Acq On : 23 Jul 2020 22:55 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:22:56 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	299420	10.7186	ug/L	97
103) Hexachlorobu	17.98	225	141176	11.3657	ug/L	99
104) Naphthalene	18.04	128	671651	11.0658	ug/L	100
105) 123Trichlben	18.35	180	270998	10.8861	ug/L	97

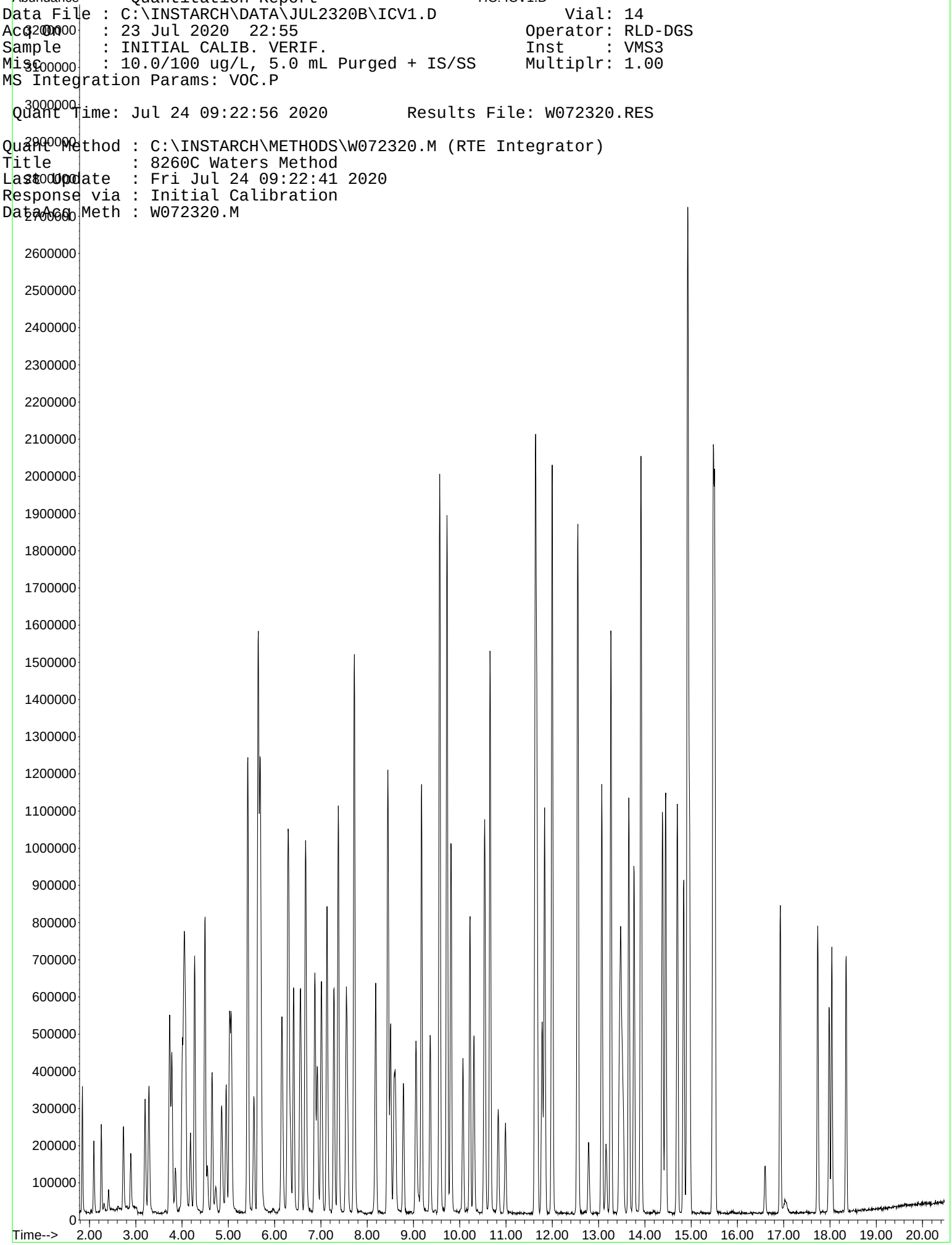
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICV1.D

Data File : C:\INSTARCH\DATA\JUL2320B\ICV1.D Vial: 14
Acq On : 23 Jul 2020 22:55 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:22:56 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Evaluate Continuing Calibration Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV2.D Vial: 15
Acq On : 23 Jul 2020 23:25 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 24 09:23:50 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	101	0.00
2	PT	Dichlorodi	30.0000	33.5062	-11.69	114	0.00
3	PT	Chloromethan	30.0000	31.2613	-4.20	110	0.00
4	PT	VinylChlorid	30.0000	32.9065	-9.69	106	0.00
5	PT	Bromomethane	30.0000	34.6652	-15.55	126	0.00
6	PT	Chloroethane	30.0000	30.5495	-1.83	103	0.00
7	T	Dichloroflmethane	30.0000	29.6708	1.10	106	0.00
8	PT	Trichlorofma	30.0000	33.2953	-10.98	105	0.00
9	T	Ethylether	30.0000	30.5330	-1.78	105	0.00
10	T	dichlorotfluoroethan	30.0000	33.8306	-12.77	108	0.00
11	T	propyleneoxide	300.0000	319.3445	-6.45	109	0.00
12	T	Acrolein	150.0000	144.8273	3.45	104	0.00
13	PT	11dichlorthe	30.0000	32.9954	-9.98	106	0.00
14	PT	Trichlorotfluoroeth	60.0000	61.8990	-3.17	105	0.00
15	PT	Acetone	300.0000	331.2111	-10.40	115	0.00
16	T	Iodomethane	60.0000	59.4588	0.90	101	0.00
17	PT	Carbon Dislf	60.0000	56.1550	6.41	106	0.00
18	T	allylchloride	60.0000	62.3796	-3.97	108	0.00
19	PT	methylacetate	30.0000	33.1138	-10.38	108	0.00
20	PT	Methylchlorid	30.0000	30.7179	-2.39	103	0.00
21	T	tbutylalcohol	1500.0000	1767.2924	-17.82	114	0.00
22	T	Acrylonitrile	150.0000	157.7737	-5.18	108	0.00
23	PT	t12dichlorte	30.0000	29.9265	0.24	104	0.00
24	PT	MtBE	30.0000	30.1116	-0.37	108	0.00
25	T	Hexane	60.0000	63.1559	-5.26	108	0.00
26	PT	11dichlorota	30.0000	29.5086	1.64	105	0.00
27	T	Vinylacetate	300.0000	296.7741	1.08	103	0.00
28	T	chloroprene	60.0000	64.5710	-7.62	106	0.00
29	T	Diisopether	30.0000	29.5912	1.36	103	0.00
30	T	ETBE	30.0000	29.9588	0.14	106	0.00
31	T	22dichloropr	30.0000	32.6277	-8.76	101	0.00
32	PT	c12dichlorte	30.0000	29.2111	2.63	105	0.00
33	PT	2Butanone	300.0000	317.4415	-5.81	110	0.00
34	T	propionitrile	300.0000	312.3012	-4.10	111	0.00
35	T	Ethylacetate	150.0000	166.6214	-11.08	110	0.00
36	T	methacrylonitrile	60.0000	63.5622	-5.94	109	0.00
37	T	Bromochlorma	30.0000	28.3541	5.49	101	0.00
38	T	Tetrahydofur	300.0000	293.4349	2.19	110	0.00
39	PT	Chloroform	30.0000	29.1964	2.68	105	0.00
40	PT	111trichlota	30.0000	33.4582	-11.53	105	0.00
41	S	SURRDibrflma	20.0000	20.2853	-1.43	101	0.00
42	PT	Cyclohexane	30.0000	31.6228	-5.41	108	0.00
43	PT	Carbtetraclo	30.0000	31.0604	-3.53	105	0.00
44	T	11dicloprope	30.0000	32.9183	-9.73	106	0.00
45	S	SURR12DCAd4	20.0000	20.5771	-2.89	103	0.00
46	PT	Benzene	30.0000	26.5397	11.53	103	0.00
47	PT	12dichlorota	30.0000	30.2127	-0.71	103	0.00
48	T	TAME	30.0000	30.1992	-0.66	107	0.00

49	PT	trichloroete	30.0000	30.9678	-3.23	106	0.00	
50	PT	methylcyclohexane	30.0000	30.9618	-3.21	105	0.00	
51	PT	12dicloropra	30.0000	30.4546	-1.52	103	0.00	
52	T	23Dicl1propene	30.0000	30.6643	-2.21	102	0.00	
53	T	Dibromometha	30.0000	29.8622	0.46	104	0.00	
54	T	methylmethacrylate	30.0000	34.9727	-16.58	110	0.00	
55	T	14dioxane	1500.0000	1065.8941	28.94#	103	-0.01	
56	PT	Bromodiclrma	30.0000	30.6776	-2.26	103	0.00	
57	T	2Nitropropane	300.0000	307.4667	-2.49	106	0.00	
58	T	2CLEVE	150.0000	158.4869	-5.66	108	0.00	
59	PT	c13dicloproe	30.0000	30.7979	-2.66	103	0.00	
60	PT	4Meth2Pentan	300.0000	313.1508	-4.38	106	0.00	
61	S	SURRd8Tolule	20.0000	19.9354	0.32	101	0.00	
62	PT	Toluene	30.0000	28.7075	4.31	103	0.00	
63	PT	t13Dicloprop	30.0000	32.6920	-8.97	104	0.00	
64	T	ethylmethacrylate	60.0000	69.0380	-15.06	108	0.00	
65	PT	112Triclotha	30.0000	30.0814	-0.27	105	0.00	
66	PT	Tetrachlorte	30.0000	31.9675	-6.56	105	0.00	
67	T	13Diclorpropa	30.0000	28.2984	5.67	103	0.00	
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	102	0.00	
69	PT	2Hexanone	300.0000	277.6817	7.44	107	0.00	
70	PT	Clorodibrmta	30.0000	33.6248	-12.08	105	0.00	
71	PT	12Dibrometha	30.0000	31.6467	-5.49	105	0.00	
72	PT	Chlorobenzen	30.0000	26.9585	10.14	104	0.00	
73	T	1Clhexane	30.0000	33.0890	-10.30	107	0.00	
74	T	1112Tetclota	30.0000	34.5120	-15.04	106	0.00	
75	PT	Ethylbenzene	30.0000	26.9607	10.13	103	0.00	
76	PT	m p-Xylene	60.0000	58.4807	2.53	103	0.00	
77	PT	o-Xylene	30.0000	30.1480	-0.49	104	0.00	
78	PT	Styrene	30.0000	29.7568	0.81	103	0.00	
79	PT	Bromoform	30.0000	30.5583	-1.86	107	0.00	
80	PT	Isopropylben	30.0000	29.6372	1.21	104	0.00	
81	T	cyclohexanone	600.0000	616.4681	-2.74	126	0.00	
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	100	0.00	
83	S	SURR4BrFBenz	20.0000	20.2239	-1.12	102	0.00	
84	T	Bromobenzene	30.0000	28.6630	4.46	105	0.00	
85	PT	1122Tetrclta	30.0000	30.7381	-2.46	104	0.00	
86	T	123Triclproa	30.0000	30.7445	-2.48	105	0.00	
87	T	14dichloro2butene	30.0000	30.8826	-2.94	105	0.00	
88	T	n-Propylbenz	30.0000	26.8187	10.60	103	0.00	
89	T	2chlorotolue	30.0000	27.3638	8.79	104	0.00	
90	T	4chlorotolue	30.0000	27.1115	9.63	103	0.00	
91	T	135Trimebenz	30.0000	29.1002	3.00	104	0.00	
92	T	tbutylbenzen	30.0000	30.3898	-1.30	105	0.00	
93	T	124Trimetben	30.0000	29.1742	2.75	103	0.00	
94	T	sbutylbenzen	30.0000	30.2089	-0.70	104	0.00	
95	PT	13Diclorbenz	30.0000	28.2796	5.73	103	0.00	
96	T	pIsopropylto	30.0000	30.1403	-0.47	104	0.00	
97	PT	14dichlorobe	30.0000	27.0006	10.00	103	0.00	
98	PT	12dichlorobe	30.0000	28.1449	6.18	102	0.00	
99	T	nButylbenzen	30.0000	30.0535	-0.18	104	0.00	
100	PT	12dibromo3cl	30.0000	32.4554	-8.18	109	0.00	
101	T	135Trichlorobenzene	30.0000	29.9149	0.28	104	0.00	
102	PT	124Trichlobe	30.0000	30.3757	-1.25	103	0.00	
103	T	Hexachlorobu	30.0000	32.1188	-7.06	103	0.00	
104	T	Naphthalene	30.0000	30.6408	-2.14	106	0.00	
105	T	123Trichlben	30.0000	31.0313	-3.44	104	0.00	

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W072320.M Tue Aug 04 10:17:36 2020

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV2.D Vial: 15
Acq On : 23 Jul 2020 23:25 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:23:50 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1600924	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1297239	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	788155	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	446573	20.285	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	112919	20.577	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103	%		
61) SURRd8Tolule	9.72	98	1598768	19.935	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100	%		
83) SURR4BrFBenz	13.26	95	689250	20.224	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	750075	33.5062	ug/L	95
3) Chloromethan	2.10	50	593480	31.2613	ug/L	99
4) VinylChlorid	2.25	62	662885	32.9065	ug/L	100
5) Bromomethane	2.73	94	419046	34.6652	ug/L	99
6) Chloroethane	2.89	64	415220	30.5495	ug/L	95
7) Dichloroflmethane	3.20	67	988796	29.6708	ug/L	96
8) Trichlorofma	3.29	101	988730	33.2953	ug/L	99
9) Ethylether	3.73	59	467425	30.5330	ug/L	96
10) dichlorotfluoroethan	3.74	67	647251	33.8306	ug/L	98
11) propyleneoxide	3.78	58	1117087	319.3445	ug/L	99
12) Acrolein	3.85	56	357735	144.8273	ug/L	96
13) 11dichlorthe	4.01	96	581265	32.9954	ug/L	98
14) Trichlorotfluoroeth	4.04	101	1197912	61.8990	ug/L	97
15) Acetone	4.08	43	1455005	331.2111	ug/L	96
16) Iodomethane	4.18	142	1208550	59.4588	ug/L	97
17) Carbon Dislf	4.27	76	2893166	56.1550	ug/L	96
18) allylchloride	4.50	41	1544741	62.3796	ug/L	97
19) methylacetate	4.55	74	142022	33.1138	ug/L	96
20) Methylchlorid	4.65	84	638756	30.7179	ug/L	99
21) tbutylalcohol	4.86	59	1513573	1767.2924	ug/L	99
22) Acrylonitrile	4.95	53	931236	157.7737	ug/L	99
23) t12dichlorte	5.03	96	630292	29.9265	ug/L	97
24) MtBE	5.06	73	1595997	30.1116	ug/L	96
25) Hexane	5.42	57	1977486	63.1559	ug/L	97
26) 11dichlorota	5.55	63	981181	29.5086	ug/L	98
27) Vinylacetate	5.65	43	6000993	296.7741	ug/L	88
28) chloroprene	5.68	53	1679570	64.5710	ug/L	99
29) Diisopether	5.70	45	1504371	29.5912	ug/L	99
30) ETBE	6.15	59	1464666	29.9588	ug/L	94
31) 22dichloropr	6.29	77	781532	32.6277	ug/L	97
32) c12dichlorte	6.28	96	705400	29.2111	ug/L	97
33) 2Butanone	6.31	72	727737	317.4415	ug/L	99
34) propionitrile	6.35	54	665887	312.3012	ug/L	99
35) Ethylacetate	6.41	88	135680	166.6214	ug/L	95
36) methacrylonitrile	6.55	67	562093	63.5622	ug/L	99
37) Bromochlorma	6.57	128	335432	28.3541	ug/L	94
38) Tetrahydofur	6.66	42	1381844	293.4349	ug/L	96

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV2.D Vial: 15
Acq On : 23 Jul 2020 23:25 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:23:50 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit		Qvalue
39)	Chloroform	6.68	83	1072898	29.1964	ug/L		100
40)	111trichlota	6.93	97	926201	33.4582	ug/L		97
42)	Cyclohexane	7.01	56	1004726	31.6228	ug/L		99
43)	Carbtetraclo	7.14	119	724369	31.0604	ug/L		99
44)	11dicloprope	7.13	110	350691	32.9183	ug/L		95
46)	Benzene	7.38	78	2223756	26.5397	ug/L		96
47)	12dichlorota	7.38	62	797992	30.2127	ug/L		98
48)	TAME	7.55	73	1566450	30.1992	ug/L		98
49)	trichloroete	8.19	95	699254	30.9678	ug/L		99
50)	methylcyclohexane	8.45	83	1171284	30.9618	ug/L		98
51)	12dicloropra	8.44	63	625249	30.4546	ug/L		100
52)	23Dicl1propene	8.51	75	954583	30.6643	ug/L		94
53)	Dibromometha	8.58	93	407774	29.8622	ug/L		99
54)	methylmethacrylate	8.61	69	468410	34.9727	ug/L		97
55)	14dioxane	8.63	88	61663	1065.8941	ug/L		84
56)	Bromodiclrma	8.79	83	781304	30.6776	ug/L		97
57)	2Nitropropane	9.05	43	804025	307.4667	ug/L		93
58)	2CLEVE	9.18	63	1688141	158.4869	ug/L		95
59)	c13dicloproe	9.36	75	950432	30.7979	ug/L		97
60)	4Meth2Pentan	9.57	43	3740863	313.1508	ug/L		90
62)	Toluene	9.82	92	1540019	28.7075	ug/L		94
63)	t13Dicloprop	10.07	75	821141	32.6920	ug/L		99
64)	ethylmethacrylate	10.22	69	1535743	69.0380	ug/L		96
65)	112Triclotha	10.30	83	489721	30.0814	ug/L		99
66)	Tetrachlorte	10.55	166	833862	31.9675	ug/L		99
67)	13Diclorpropa	10.53	76	939717	28.2984	ug/L		96
69)	2Hexanone	10.65	43	2979241	277.6817	ug/L		92
70)	Clorodibrmta	10.83	129	600595	33.6248	ug/L		99
71)	12Dibrometha	10.99	107	609664	31.6467	ug/L		98
72)	Chlorobenzen	11.67	112	1713421	26.9585	ug/L		99
73)	1Clhexane	11.65	91	907536	33.0890	ug/L		96
74)	1112Tetclota	11.78	131	579121	34.5120	ug/L		99
75)	Ethylbenzene	11.84	91	2633364	26.9607	ug/L		93
76)	m p-Xylene	12.00	106	2183482	58.4807	ug/L	#	86
77)	o-Xylene	12.55	106	1155163	30.1480	ug/L		91
78)	Styrene	12.56	104	1816773	29.7568	ug/L		96
79)	Bromoform	12.78	173	400542	30.5583	ug/L		96
80)	Isopropylben	13.07	105	2628277	29.6372	ug/L		92
81)	cyclohexanone	13.16	55	337799	616.4681	ug/L		99
84)	Bromobenzene	13.48	156	817284	28.6630	ug/L		99
85)	1122Tetrclta	13.45	83	768777	30.7381	ug/L		99
86)	123Triclproa	13.51	75	934504	30.7445	ug/L		99
87)	14dichloro2butene	13.54	53	185390	30.8826	ug/L		89
88)	n-Propylbenz	13.65	91	2933660	26.8187	ug/L		92
89)	2chlorotolue	13.77	91	1927711	27.3638	ug/L		93
90)	4chlorotolue	13.92	91	2202571	27.1115	ug/L		94
91)	135Trimebenz	13.91	105	2274915	29.1002	ug/L		95
92)	tbutylbenzen	14.38	119	2022860	30.3898	ug/L		97
93)	124Trimetben	14.45	105	2275696	29.1742	ug/L		93
94)	sbutylbenzen	14.70	105	2670139	30.2089	ug/L		93
95)	13Diclorbenz	14.84	146	1437301	28.2796	ug/L		98
96)	pIsopropylto	14.92	119	2353843	30.1403	ug/L		93
97)	14dichlorobe	14.97	146	1486207	27.0006	ug/L		97
98)	12dichlorobe	15.50	146	1368311	28.1449	ug/L		99
99)	nButylbenzen	15.51	91	2080417	30.0535	ug/L		95
100)	12dibromo3cl	16.60	157	165247	32.4554	ug/L		97
101)	135Trichlorobenzene	16.93	180	1030142	29.9149	ug/L		97

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICV2.D Vial: 15
Acq On : 23 Jul 2020 23:25 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:23:50 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

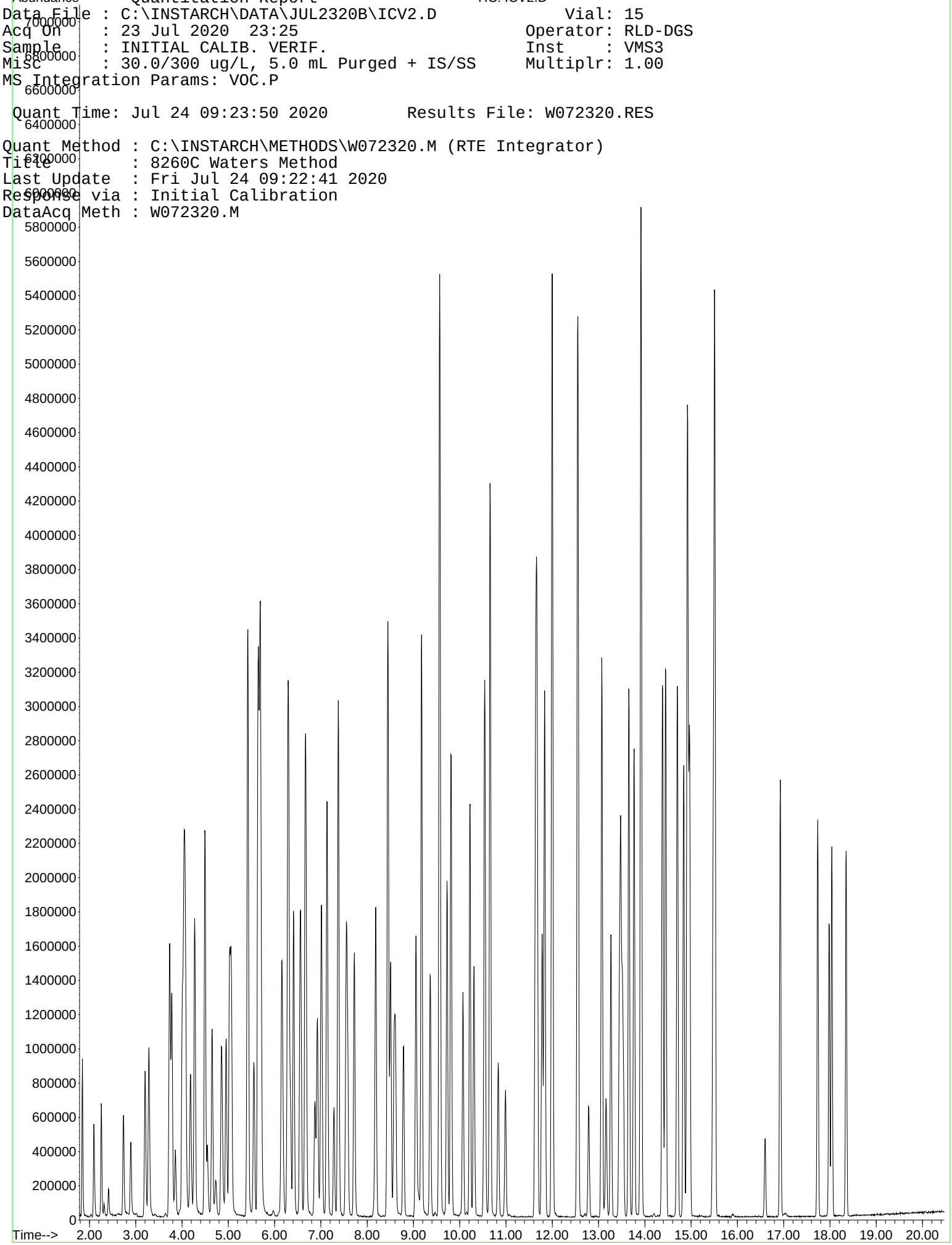
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	895529	30.3757	ug/L	97
103) Hexachlorobu	17.99	225	421051	32.1188	ug/L	98
104) Naphthalene	18.04	128	1962786	30.6408	ug/L	96
105) 123Trichlben	18.35	180	815272	31.0313	ug/L	100

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2320B\ICV2.D Vial: 15
Acq On : 23 Jul 2020 23:25 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 30.0/300 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:23:50 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICB1.D Vial: 18
Acq On : 24 Jul 2020 00:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:24:27 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1487842	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1219921	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	705651	20.00 ug/L	0.00 NA%

System Monitoring Compounds						
41) SURRDibrflma		6.87	113	409113	19.996 ug/L	0.00
Spiked Amount	20.000	Range 90 - 110		Recovery = 100 %		
45) SURR12DCAd4		7.28	102	104252	20.442 ug/L	0.00
Spiked Amount	20.000	Range 89 - 111		Recovery = 102 %		
61) SURRd8Tolule		9.72	98	1489372	19.983 ug/L	0.00
Spiked Amount	20.000	Range 93 - 107		Recovery = 100 %		
83) SURR4BrFBenz		13.26	95	610227	19.999 ug/L	0.00
Spiked Amount	20.000	Range 83 - 111		Recovery = 100 %		

Target Compounds				Qvalue
2) Dichlorodi	0.00	85	0	N.D.
3) Chloromethan	0.00	50	0	N.D.
4) VinylChlorid	0.00	62	0	N.D.
5) Bromomethane	2.73	94	2747	N.D.
6) Chloroethane	0.00	64	0	N.D.
7) Dichloroflmethane	0.00	67	0	N.D.
8) Trichlorofma	0.00	101	0	N.D.
9) Ethylether	0.00	59	0	N.D.
10) dichlorotfluoroethan	0.00	67	0	N.D.
11) propyleneoxide	0.00	58	0	N.D.
12) Acrolein	0.00	56	0	N.D.
13) 11dichlorthe	0.00	96	0	N.D.
14) Trichlorotfluoroeth	0.00	101	0	N.D.
15) Acetone	4.08	43	5256	N.D.
16) Iodomethane	0.00	142	0	N.D.
17) Carbon Dislf	4.26	76	8554	N.D.
18) allylchloride	0.00	41	0	N.D.
19) methylacetate	0.00	74	0	N.D.
20) Methylchlorid	4.64	84	4618	N.D.
21) tbutylalcohol	0.00	59	0	N.D.
22) Acrylonitrile	0.00	53	0	N.D.
23) t12dichlorte	0.00	96	0	N.D.
24) MtBE	0.00	73	0	N.D.
25) Hexane	0.00	57	0	N.D.
26) 11dichlorota	0.00	63	0	N.D.
27) Vinylacetate	5.65	43	2924	Below Cal # 66
28) chloroprene	0.00	53	0	N.D.
29) Diisopether	0.00	45	0	N.D.
30) ETBE	0.00	59	0	N.D.
31) 22dichloropr	0.00	77	0	N.D.
32) c12dichlorte	0.00	96	0	N.D.
33) 2Butanone	0.00	72	0	N.D.
34) propionitrile	0.00	54	0	N.D.
35) Ethylacetate	0.00	88	0	N.D.
36) methacrylonitrile	0.00	67	0	N.D.
37) Bromochlorma	0.00	128	0	N.D.
38) Tetrahydofur	0.00	42	0	N.D.

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICB1.D Vial: 18
Acq On : 24 Jul 2020 00:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:24:27 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	0.00	95	0	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.64	91	3852	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	14.83	146	2706	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	14.97	146	2754	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.46	91	3025	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2320B\ICB1.D Vial: 18
Acq On : 24 Jul 2020 00:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:24:27 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

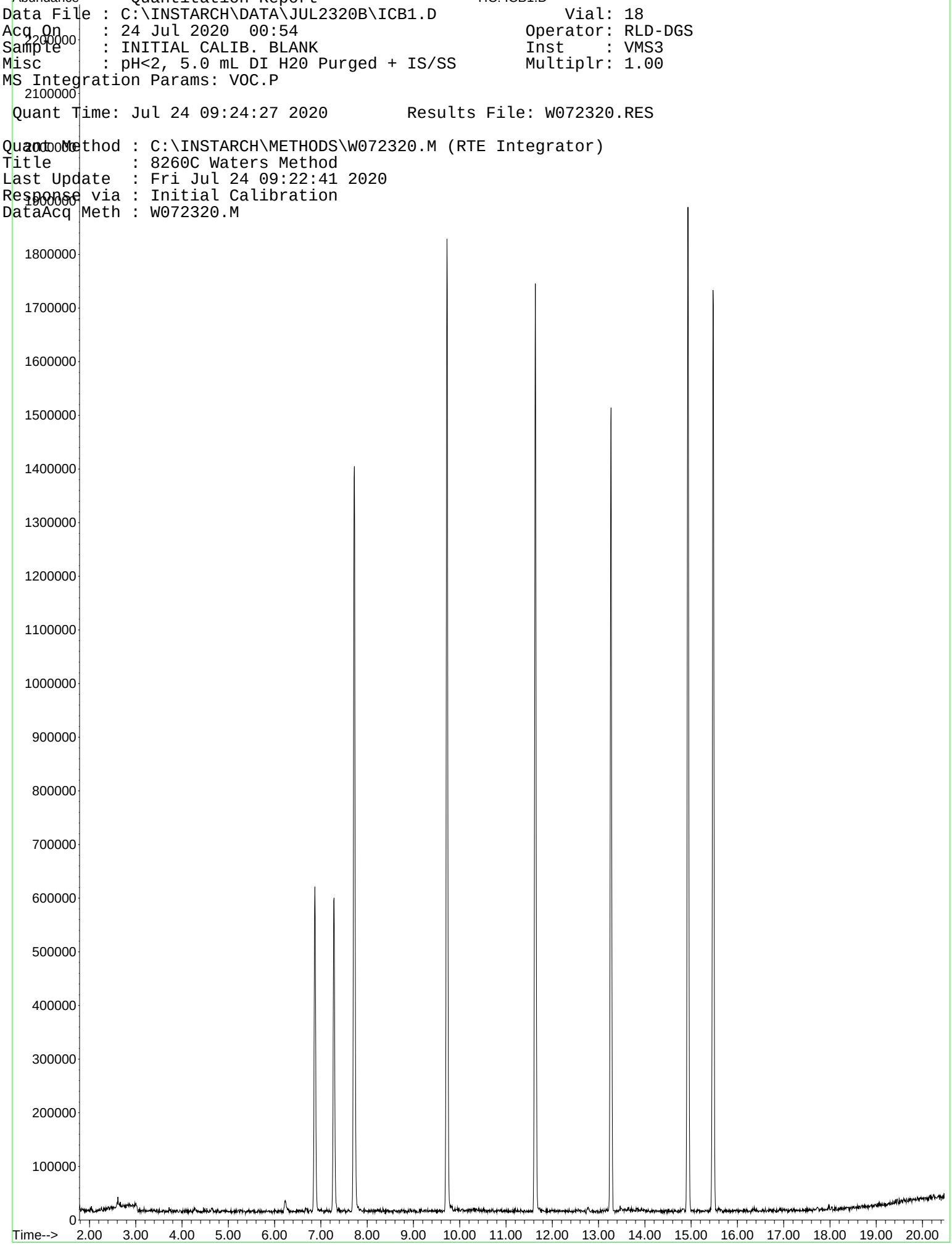
Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	18.04	128	3596	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

(#) = qualifier out of range (m) = manual integration

Data File : C:\INSTARCH\DATA\JUL2320B\ICB1.D Vial: 18
Acq On : 24 Jul 2020 00:54 Operator: RLD-DGS
Sample : INITIAL CALIB. BLANK Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 09:24:27 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 09:22:41 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



BFB

Data File : C:\Instarch\Data\JUL2420\BFB1.D Vial: 1
Acq On : 24 Jul 2020 11:17 Operator: RLD-DGS
Sample : 173277,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.681 to 4.693 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.4	14496	PASS
75	95	30	60	49.0	40896	PASS
95	95	100	100	100.0	83536	PASS
96	95	5	9	7.2	6023	PASS
173	174	0.00	2	0.4	274	PASS
174	95	50	100	93.4	78016	PASS
175	174	5	9	7.3	5702	PASS
176	174	95	101	99.6	77691	PASS
177	176	5	9	6.3	4902	PASS

W072320.M Mon Aug 10 14:41:10 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\JUL2420\ICVR.D Vial: 3
Acq On : 24 Jul 2020 11:59 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 24 12:22:29 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	105	0.00
2	PT	Dichlorodi	0.2573	0.3180	-23.59#	111	0.00
3	PT	Chloromethan	0.2372	0.2473	-4.26	109	0.00
4	PT	VinylChlorid	0.2517	0.2753	-9.38	105	0.00
5	PT	Bromomethane	0.1510	0.1805	-19.54	119	0.00
6	PT	Chloroethane	0.1698	0.1730	-1.88	106	0.00
7	T	Dichloroflmethane	0.4163	0.4138	0.60	101	0.00
8	PT	Trichlorofma	0.3710	0.4142	-11.64	101	0.00
9	T	Ethylether	0.1913	0.1795	6.17	100	0.00
10	T	dichlorotfluoroethan	0.2390	0.2582	-8.03	101	0.00
11	T	propyleneoxide	0.0437	0.0444	-1.60	107	0.00
12	T	Acrolein	0.0309	0.0356	-15.21	123	0.00
13	PT	11dichlorthe	0.2201	0.2307	-4.82	99	0.00
14	PT	Trichlorotfluoroeth	0.2113	0.2461	-16.47	101	0.00
15	PT	Acetone	0.0606	0.0531#	12.38	96	0.00
16	T	Iodomethane	0.1851	0.1518	17.99	93	0.00
17	PT	Carbon Dislf	0.6436	0.6704	-4.16	104	0.00
18	T	allylchloride	0.3094	0.3079	0.48	101	0.00
19	PT	methylacetate	0.0536	0.0504#	5.97	102	0.00
20	PT	Methylchlorid	0.2897	0.3117	-7.59	119	0.00
21	T	tbutylalcohol	0.0107	0.0086#	19.63	89	0.00
22	T	Acrylonitrile	0.0737	0.0731	0.81	104	0.00
23	PT	t12dichlorte	0.2631	0.2540	3.46	100	0.00
24	PT	MtBE	0.6622	0.6531	1.37	102	0.00
25	T	Hexane	0.3451	0.4521	-31.01#	111	0.00
26	PT	11dichlorota	0.4154	0.4091	1.52	103	0.00
27	T	Vinylacetate	0.3166	0.3298	-4.17	107	0.00
28	T	chloroprene	0.3250	0.3681	-13.26	107	0.00
29	T	Diisopether	0.6351	0.6485	-2.11	103	0.00
30	T	ETBE	0.6108	0.5818	4.75	98	0.00
31	T	22dichloropr	0.2992	0.3025	-1.10	102	0.00
32	PT	c12dichlorte	0.3017	0.2824	6.40	98	0.00
33	PT	2Butanone	0.0286	0.0290#	-1.40	108	0.00
34	T	propionitrile	0.0266	0.0272#	-2.26	110	-0.01
35	T	Ethylacetate	0.0102	0.0098#	3.92	104	0.00
36	T	methacrylonitrile	0.1105	0.1148	-3.89	107	0.00
37	T	Bromochlorma	0.1478	0.1317	10.89	100	0.00
38	T	Tetrahydofur	0.0588	0.0593	-0.85	108	0.00
39	PT	Chloroform	0.4591	0.4393	4.31	99	0.00
40	PT	111trichlota	0.3458	0.3488	-0.87	99	0.00
41	S	SURRDibrflma	0.2750	0.2717	1.20	106	0.00
42	PT	Cyclohexane	0.3483	0.4106	-17.89	105	0.00
43	PT	Carbtetraclo	0.2465	0.2459	0.24	99	0.00
44	T	11dicloprope	0.1331	0.1372	-3.08	101	0.00
45	S	SURR12DCAd4	0.0686	0.0694	-1.17	107	0.00
46	PT	Benzene	1.0468	1.0009	4.38	100	0.00
47	PT	12dichlorota	0.3589	0.3275	8.75	101	0.00
48	T	TAME	0.6480	0.6358	1.88	104	0.00

49	PT	trichloroete	0.2821	0.2802	0.67	100	0.00
50	PT	methylcyclohexane	0.4076	0.4812	-18.06	103	0.00
51	PT	12dicloropra	0.2759	0.2539	7.97	102	0.00
52	T	23Dicl1propene	0.3889	0.3870	0.49	102	0.00
53	T	Dibromometha	0.1706	0.1660	2.70	105	0.00
54	T	methylmethacrylate	0.1673	0.1607	3.95	100	0.00
55	T	14dioxane	0.0007	0.0006#	14.29	131	0.00
56	PT	Bromodiclrma	0.3182	0.3011	5.37	101	0.00
57	T	2Nitropropane	0.0296	0.0271#	8.45	109	0.00
58	T	2CLEVE	0.1331	0.1413	-6.16	105	0.00
59	PT	c13dicloproe	0.3855	0.3748	2.78	102	0.00
60	PT	4Meth2Pentan	0.1820	0.1829	-0.49	104	0.00
61	S	SURRd8Tolule	1.0019	0.9952	0.67	105	0.00
62	PT	Toluene	0.6702	0.6624	1.16	100	0.00
63	PT	t13Dicloprop	0.3138	0.3015	3.92	99	0.00
64	T	ethylmethacrylate	0.2779	0.2744	1.26	98	0.00
65	PT	112Triclotha	0.2034	0.2023	0.54	102	0.00
66	PT	Tetrachlorte	0.3259	0.3417	-4.85	102	0.00
67	T	13Diclorpropa	0.4149	0.3965	4.43	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	107	0.00
69	PT	2Hexanone	0.1654	0.1680	-1.57	104	0.00
70	PT	Clorodibrmta	0.2754	0.2493	9.48	97	0.00
71	PT	12Dibrometha	0.2970	0.2925	1.52	103	0.00
72	PT	Chlorobenzen	0.9799	0.9145	6.67	102	0.00
73	T	1Clhexane	0.4229	0.4553	-7.66	108	0.00
74	T	1112Tetclota	0.2587	0.2386	7.77	102	0.00
75	PT	Ethylbenzene	1.5059	1.4768	1.93	102	0.00
76	PT	m p-Xylene	0.5756	0.5892	-2.36	103	0.00
77	PT	o-Xylene	0.5907	0.5740	2.83	100	0.00
78	PT	Styrene	0.9413	0.9509	-1.02	102	0.00
79	PT	Bromoform	0.1770	0.1549	12.49	101	-0.01
80	PT	Isopropylben	1.3672	1.4551	-6.43	102	0.00
81	T	cyclohexanone	0.0078	0.0056#	28.21#	90	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	107	0.00
83	S	SURR4BrFBenz	0.8648	0.8716	-0.79	108	0.00
84	T	Bromobenzene	0.7236	0.6782	6.27	98	0.00
85	PT	1122Tetrclta	0.6995	0.6598	5.68	107	0.00
86	T	123Triclproa	0.7713	0.7361	4.56	103	0.00
87	T	14dichloro2butene	0.1523	0.1510	0.85	114	0.00
88	T	n-Propylbenz	2.7758	2.8640	-3.18	103	0.00
89	T	2chlorotolue	1.7877	1.7355	2.92	101	0.00
90	T	4chlorotolue	2.0616	2.0051	2.74	101	0.00
91	T	135Trimebenz	1.9838	2.0784	-4.77	104	0.00
92	T	tbutylbenzen	1.6891	1.7951	-6.28	102	0.00
93	T	124Trimetben	1.9794	2.0700	-4.58	102	0.00
94	T	sbutylbenzen	2.2429	2.4768	-10.43	102	0.00
95	PT	13Diclorbenz	1.2897	1.2583	2.43	102	0.00
96	T	pIsopropylto	1.9817	2.1808	-10.05	104	0.00
97	PT	14dichlorobe	1.3968	1.2854	7.98	99	0.00
98	PT	12dichlorobe	1.2337	1.2018	2.59	103	0.00
99	T	nButylbenzen	1.7566	1.9034	-8.36	104	0.00
100	PT	12dibromo3cl	0.1110	0.1059	4.59	108	0.00
101	T	135Trichlorobenzene	0.8738	0.8844	-1.21	103	0.00
102	PT	124Trichlobe	0.7481	0.7396	1.14	98	0.00
103	T	Hexachlorobu	0.3327	0.3536	-6.28	106	0.00
104	T	Naphthalene	1.6255	1.6761	-3.11	103	0.00
105	T	123Trichlben	0.6667	0.6532	2.02	100	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W072320.M Mon Aug 10 14:39:46 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\JUL2420\ICVR.D Vial: 3
Acq On : 24 Jul 2020 11:59 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 24 12:22:29 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	105	0.00
2	PT	Dichlorodi	10.0000	10.8579	-8.58	111	0.00
3	PT	Chloromethan	10.0000	10.4283	-4.28	109	0.00
4	PT	VinylChlorid	10.0000	10.9383	-9.38	105	0.00
5	PT	Bromomethane	10.0000	11.9504	-19.50	119	0.00
6	PT	Chloroethane	10.0000	10.1868	-1.87	106	0.00
7	T	Dichloroflmethane	10.0000	9.9394	0.61	101	0.00
8	PT	Trichlorofma	10.0000	11.1637	-11.64	101	0.00
9	T	Ethylether	10.0000	9.3855	6.14	100	0.00
10	T	dichlorotfluoroethan	10.0000	10.8046	-8.05	101	0.00
11	T	propyleneoxide	100.0000	101.5351	-1.54	107	0.00
12	T	Acrolein	50.0000	57.7142	-15.43	123	0.00
13	PT	11dichlorthe	10.0000	10.4833	-4.83	99	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.8966	0.52	101	0.00
15	PT	Acetone	100.0000	90.7150	9.28	96	0.00
16	T	Iodomethane	20.0000	15.0967	24.52#	93	0.00
17	PT	Carbon Dislf	20.0000	20.8308	-4.15	104	0.00
18	T	allylchloride	20.0000	19.9031	0.48	101	0.00
19	PT	methylacetate	10.0000	9.4027	5.97	102	0.00
20	PT	Methylchlorid	10.0000	11.4228	-14.23	119	0.00
21	T	tbutylalcohol	500.0000	400.8578	19.83	89	0.00
22	T	Acrylonitrile	50.0000	49.5808	0.84	104	0.00
23	PT	t12dichlorte	10.0000	9.6537	3.46	100	0.00
24	PT	MtBE	10.0000	9.8639	1.36	102	0.00
25	T	Hexane	20.0000	21.7165	-8.58	111	0.00
26	PT	11dichlorota	10.0000	9.8476	1.52	103	0.00
27	T	Vinylacetate	100.0000	102.1514	-2.15	107	0.00
28	T	chloroprene	20.0000	22.6587	-13.29	107	0.00
29	T	Diisopether	10.0000	10.2111	-2.11	103	0.00
30	T	ETBE	10.0000	9.5261	4.74	98	0.00
31	T	22dichloropr	10.0000	10.1083	-1.08	102	0.00
32	PT	c12dichlorte	10.0000	9.3615	6.39	98	0.00
33	PT	2Butanone	100.0000	101.2609	-1.26	108	0.00
34	T	propionitrile	100.0000	102.1239	-2.12	110	-0.01
35	T	Ethylacetate	50.0000	48.1205	3.76	104	0.00
36	T	methacrylonitrile	20.0000	20.7818	-3.91	107	0.00
37	T	Bromochlorma	10.0000	8.9083	10.92	100	0.00
38	T	Tetrahydofur	100.0000	100.7165	-0.72	108	0.00
39	PT	Chloroform	10.0000	9.5688	4.31	99	0.00
40	PT	111trichlota	10.0000	10.0845	-0.85	99	0.00
41	S	SURRDibrflma	20.0000	19.7557	1.22	106	0.00
42	PT	Cyclohexane	10.0000	10.1937	-1.94	105	0.00
43	PT	Carbtetraclo	10.0000	8.9439	10.56	99	0.00
44	T	11dicloprope	10.0000	10.3084	-3.08	101	0.00
45	S	SURR12DCAd4	20.0000	20.2583	-1.29	107	0.00
46	PT	Benzene	10.0000	9.5621	4.38	100	0.00
47	PT	12dichlorota	10.0000	9.5212	4.79	101	0.00
48	T	TAME	10.0000	9.8112	1.89	104	0.00

49	PT	trichloroete	10.0000	9.9346	0.65	100	0.00
50	PT	methylcyclohexane	10.0000	10.0374	-0.37	103	0.00
51	PT	12dicloropra	10.0000	9.6062	3.94	102	0.00
52	T	23Dicl1propene	10.0000	9.9515	0.49	102	0.00
53	T	Dibromometha	10.0000	9.7311	2.69	105	0.00
54	T	methylmethacrylate	10.0000	9.6038	3.96	100	0.00
55	T	14dioxane	500.0000	399.0316	20.19#	131	0.00
56	PT	Bromodiclrma	10.0000	9.4640	5.36	101	0.00
57	T	2Nitropropane	100.0000	93.1724	6.83	109	0.00
58	T	2CLEVE	50.0000	53.1034	-6.21	105	0.00
59	PT	c13dicloproe	10.0000	9.7205	2.80	102	0.00
60	PT	4Meth2Pentan	100.0000	102.1775	-2.18	104	0.00
61	S	SURRd8Tolule	20.0000	19.8659	0.67	105	0.00
62	PT	Toluene	10.0000	9.8836	1.16	100	0.00
63	PT	t13Dicloprop	10.0000	9.6079	3.92	99	0.00
64	T	ethylmethacrylate	20.0000	19.7496	1.25	98	0.00
65	PT	112Triclotha	10.0000	9.9475	0.53	102	0.00
66	PT	Tetrachlorte	10.0000	10.4852	-4.85	102	0.00
67	T	13Diclorpropa	10.0000	9.5583	4.42	101	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	107	0.00
69	PT	2Hexanone	100.0000	101.5664	-1.57	104	0.00
70	PT	Clorodibrmta	10.0000	9.0522	9.48	97	0.00
71	PT	12Dibrometha	10.0000	9.8475	1.52	103	0.00
72	PT	Chlorobenzen	10.0000	9.3324	6.68	102	0.00
73	T	1Clhexane	10.0000	10.7682	-7.68	108	0.00
74	T	1112Tetclota	10.0000	9.2242	7.76	102	0.00
75	PT	Ethylbenzene	10.0000	9.8070	1.93	102	0.00
76	PT	m p-Xylene	20.0000	20.4699	-2.35	103	0.00
77	PT	o-Xylene	10.0000	9.7171	2.83	100	0.00
78	PT	Styrene	10.0000	10.1025	-1.02	102	0.00
79	PT	Bromoform	10.0000	8.7069	12.93	101	-0.01
80	PT	Isopropylben	10.0000	10.6429	-6.43	102	0.00
81	T	cyclohexanone	200.0000	153.1590	23.42#	90	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	107	0.00
83	S	SURR4BrFBenz	20.0000	20.1577	-0.79	108	0.00
84	T	Bromobenzene	10.0000	9.3733	6.27	98	0.00
85	PT	1122Tetrclta	10.0000	9.8787	1.21	107	0.00
86	T	123Triclproa	10.0000	9.5428	4.57	103	0.00
87	T	14dichloro2butene	10.0000	9.9147	0.85	114	0.00
88	T	n-Propylbenz	10.0000	10.3177	-3.18	103	0.00
89	T	2chlorotolue	10.0000	9.7082	2.92	101	0.00
90	T	4chlorotolue	10.0000	9.7261	2.74	101	0.00
91	T	135Trimebenz	10.0000	10.4769	-4.77	104	0.00
92	T	tbutylbenzen	10.0000	10.6274	-6.27	102	0.00
93	T	124Trimetben	10.0000	10.4576	-4.58	102	0.00
94	T	sbutylbenzen	10.0000	11.0425	-10.43	102	0.00
95	PT	13Diclorbenz	10.0000	9.7566	2.43	102	0.00
96	T	pIsopropylto	10.0000	11.0043	-10.04	104	0.00
97	PT	14dichlorobe	10.0000	9.2028	7.97	99	0.00
98	PT	12dichlorobe	10.0000	9.7413	2.59	103	0.00
99	T	nButylbenzen	10.0000	10.8355	-8.35	104	0.00
100	PT	12dibromo3cl	10.0000	9.2828	7.17	108	0.00
101	T	135Trichlorobenzene	10.0000	10.1205	-1.20	103	0.00
102	PT	124Trichlobe	10.0000	9.8867	1.13	98	0.00
103	T	Hexachlorobu	10.0000	10.6310	-6.31	106	0.00
104	T	Naphthalene	10.0000	10.3113	-3.11	103	0.00
105	T	123Trichlben	10.0000	9.7972	2.03	100	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W072320.M Mon Aug 10 14:40:21 2020

Quantitation Report

Data File : C:\Instarch\Data\JUL2420\ICVR.D Vial: 3
Acq On : 24 Jul 2020 11:59 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 12:22:29 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 12:22:23 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1619693	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1319330	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	781299	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	440012	19.756	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	112473	20.258	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 101 %			
61) SURRd8Tolule	9.72	98	1611878	19.866	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99 %			
83) SURR4BrFBenz	13.26	95	681017	20.158	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	257553	10.8579	ug/L	98
3) Chloromethan	2.10	50	200298	10.4283	ug/L	99
4) VinylChlorid	2.25	62	222929	10.9383	ug/L	99
5) Bromomethane	2.73	94	146154	11.9504	ug/L	96
6) Chloroethane	2.89	64	140080	10.1868	ug/L	94
7) Dichloroflmethane	3.20	67	335118	9.9394	ug/L	99
8) Trichlorofma	3.28	101	335402	11.1637	ug/L	98
9) Ethylether	3.72	59	145366	9.3855	ug/L	94
10) dichlorotfluoroethan	3.73	67	209139	10.8046	ug/L	96
11) propyleneoxide	3.78	58	359340	101.5351	ug/L	100
12) Acrolein	3.85	56	144230	57.7142	ug/L	94
13) 11dichlorthe	4.01	96	186844	10.4833	ug/L	93
14) Trichlorotfluoroeth	4.04	101	398597	19.8966	ug/L	99
15) Acetone	4.07	43	430185	90.7150	ug/L	98
16) Iodomethane	4.18	142	245913	15.0967	ug/L	98
17) Carbon Dislf	4.27	76	1085806	20.8308	ug/L	100
18) allylchloride	4.49	41	498651	19.9031	ug/L	97
19) methylacetate	4.55	74	40800	9.4027	ug/L	99
20) Methylchlorid	4.64	84	252444	11.4228	ug/L	99
21) tbutylalcohol	4.85	59	347334	400.8578	ug/L	99
22) Acrylonitrile	4.95	53	296074	49.5808	ug/L	98
23) t12dichlorte	5.02	96	205704	9.6537	ug/L	99
24) MtBE	5.06	73	528941	9.8639	ug/L	98
25) Hexane	5.42	57	732229	21.7165	ug/L	99
26) 11dichlorota	5.55	63	331280	9.8476	ug/L	100
27) Vinylacetate	5.64	43	2670663	102.1514	ug/L	99
28) chloroprene	5.68	53	596289	22.6587	ug/L	98
29) Diisopether	5.70	45	525204	10.2111	ug/L	99
30) ETBE	6.15	59	471186	9.5261	ug/L	97
31) 22dichloropr	6.29	77	244962	10.1083	ug/L	98
32) c12dichlorte	6.28	96	228716	9.3615	ug/L	97
33) 2Butanone	6.31	72	234863	101.2609	ug/L	98
34) propionitrile	6.34	54	220301	102.1239	ug/L	99
35) Ethylacetate	6.41	88	39644	48.1205	ug/L	97
36) methacrylonitrile	6.55	67	185932	20.7818	ug/L	98
37) Bromochlorma	6.57	128	106622	8.9083	ug/L	97
38) Tetrahydofur	6.66	42	479855	100.7165	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2420\ICVR.D Vial: 3
Acq On : 24 Jul 2020 11:59 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 12:22:29 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 12:22:23 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	355753	9.5688	ug/L	98
40)	111trichlota	6.92	97	282434	10.0845	ug/L	97
42)	Cyclohexane	7.01	56	332496	10.1937	ug/L	99
43)	Carbtetraclo	7.14	119	199117	8.9439	ug/L	100
44)	11dicloprope	7.13	110	111107	10.3084	ug/L	100
46)	Benzene	7.38	78	810603	9.5621	ug/L	99
47)	12dichlorota	7.38	62	265185	9.5212	ug/L	100
48)	TAME	7.55	73	514881	9.8112	ug/L	97
49)	trichloroete	8.18	95	226953	9.9346	ug/L	97
50)	methylcyclohexane	8.45	83	389722	10.0374	ug/L	99
51)	12dicloropra	8.44	63	205608	9.6062	ug/L	100
52)	23Dicl1propene	8.50	75	313422	9.9515	ug/L	97
53)	Dibromometha	8.58	93	134438	9.7311	ug/L	96
54)	methylmethacrylate	8.61	69	130137	9.6038	ug/L	98
55)	14dioxane	8.64	88	23355	399.0316	ug/L	87
56)	Bromodiclrma	8.78	83	243858	9.4640	ug/L	99
57)	2Nitropropane	9.05	43	219187	93.1724	ug/L	97
58)	2CLEVE	9.17	63	572268	53.1034	ug/L	99
59)	c13dicloproe	9.36	75	303493	9.7205	ug/L	98
60)	4Meth2Pentan	9.57	43	1481226	102.1775	ug/L	99
62)	Toluene	9.81	92	536426	9.8836	ug/L	98
63)	t13Dicloprop	10.07	75	244156	9.6079	ug/L	99
64)	ethylmethacrylate	10.22	69	444479	19.7496	ug/L	98
65)	112Triclotha	10.31	83	163842	9.9475	ug/L	98
66)	Tetrachlorte	10.55	166	276709	10.4852	ug/L	98
67)	13Diclorpropa	10.53	76	321128	9.5583	ug/L	99
69)	2Hexanone	10.65	43	1108261	101.5664	ug/L	100
70)	Clorodibrmta	10.83	129	164440	9.0522	ug/L	98
71)	12Dibrometha	10.98	107	192940	9.8475	ug/L	97
72)	Chlorobenzen	11.67	112	603247	9.3324	ug/L	99
73)	1Clhexane	11.65	91	300370	10.7682	ug/L	99
74)	1112Tetclota	11.78	131	157421	9.2242	ug/L	99
75)	Ethylbenzene	11.84	91	974203	9.8070	ug/L	99
76)	m p-Xylene	11.99	106	777296	20.4699	ug/L	98
77)	o-Xylene	12.54	106	378666	9.7171	ug/L	97
78)	Styrene	12.55	104	627303	10.1025	ug/L	100
79)	Bromoform	12.78	173	102156	8.7069	ug/L	98
80)	Isopropylben	13.07	105	959902	10.6429	ug/L	99
81)	cyclohexanone	13.16	55	74444	153.1590	ug/L	98
84)	Bromobenzene	13.48	156	264941	9.3733	ug/L	97
85)	1122Tetrclta	13.45	83	257746	9.8787	ug/L	99
86)	123Triclproa	13.51	75	287539	9.5428	ug/L	97
87)	14dichloro2butene	13.53	53	59001	9.9147	ug/L	96
88)	n-Propylbenz	13.65	91	1118823	10.3177	ug/L	99
89)	2chlorotolue	13.76	91	677968	9.7082	ug/L	98
90)	4chlorotolue	13.92	91	783289	9.7261	ug/L	99
91)	135Trimebenz	13.91	105	811911	10.4769	ug/L	100
92)	tbutylbenzen	14.38	119	701245	10.6274	ug/L	99
93)	124Trimetben	14.44	105	808637	10.4576	ug/L	99
94)	sbutylbenzen	14.70	105	967546	11.0425	ug/L	100
95)	13Diclorbenz	14.84	146	491564	9.7566	ug/L	99
96)	pIsopropylto	14.91	119	851916	11.0043	ug/L	99
97)	14dichlorobe	14.97	146	502149	9.2028	ug/L	98
98)	12dichlorobe	15.50	146	469471	9.7413	ug/L	98
99)	nButylbenzen	15.51	91	743553	10.8355	ug/L	100
100)	12dibromo3cl	16.60	157	41377	9.2828	ug/L	100
101)	135Trichlorobenzene	16.93	180	345475	10.1205	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2420\ICVR.D Vial: 3
Acq On : 24 Jul 2020 11:59 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 12:22:29 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 12:22:23 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	288942	9.8867	ug/L	98
103) Hexachlorobu	17.98	225	138151	10.6310	ug/L	97
104) Naphthalene	18.04	128	654776	10.3113	ug/L	99
105) 123Trichlben	18.34	180	255159	9.7972	ug/L	98

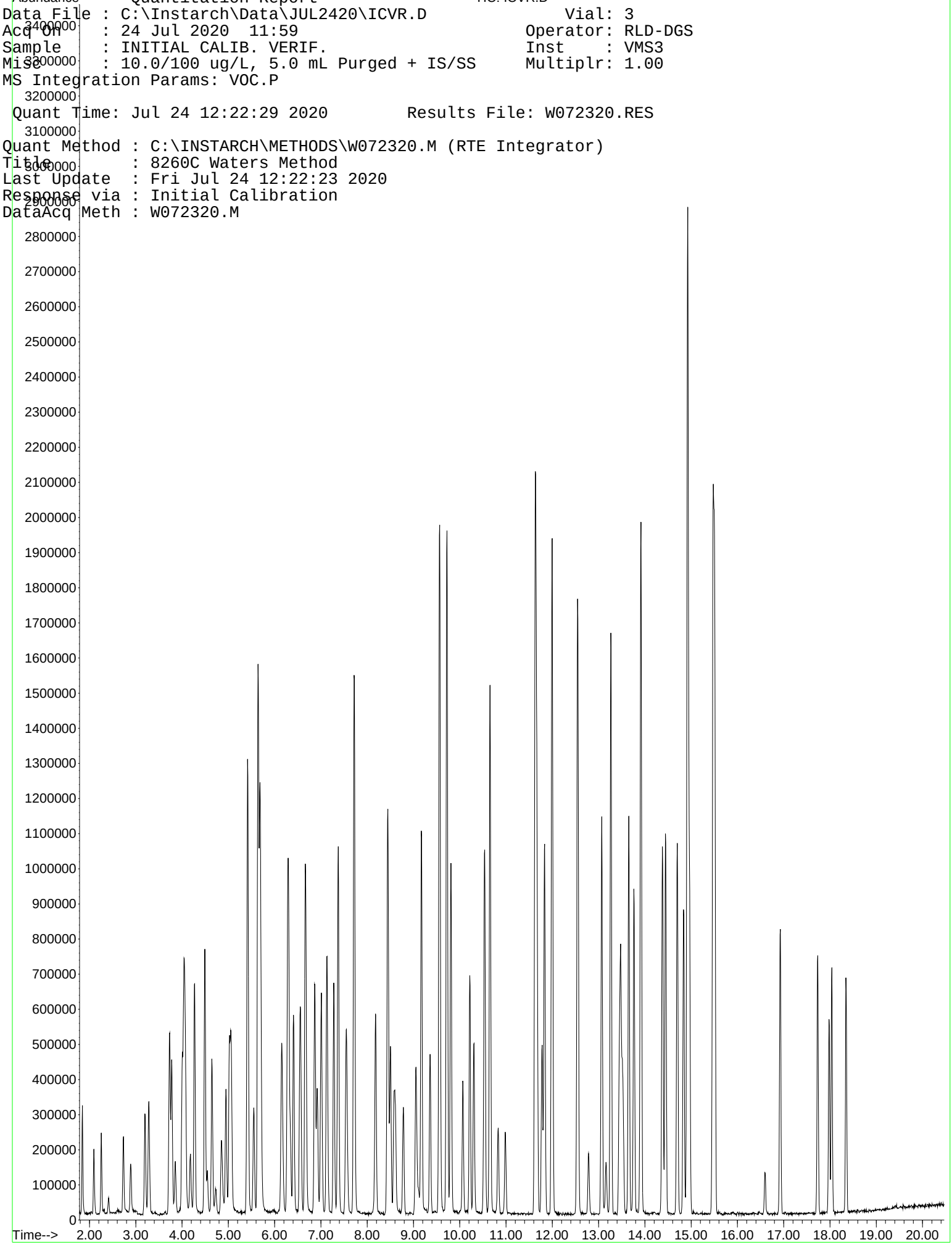
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: ICVR.D

Data File : C:\Instarch\Data\JUL2420\ICVR.D Vial: 3
Acq On : 24 Jul 2020 11:59 Operator: RLD-DGS
Sample : INITIAL CALIB. VERIF. Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 24 12:22:29 2020 Results File: W072320.RES

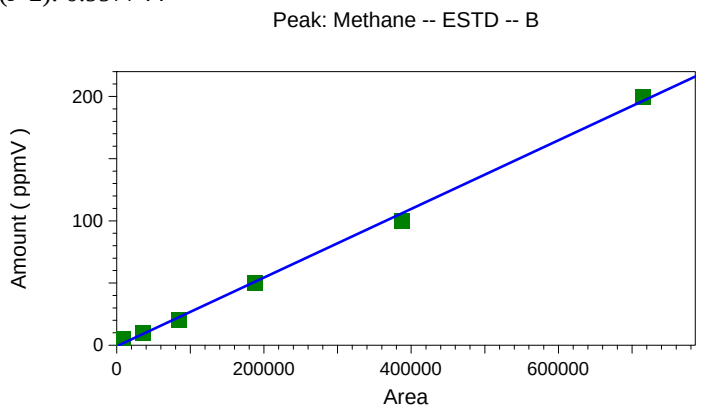
Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Fri Jul 24 12:22:23 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:30
User: AGK
Instrument: PVOC4

Methane (B)
Average RF: 0.000329987 RF StDev: 0.000126154 RF %RSD: 38.2302
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000275856x - 0.771544
Goodness of fit (r^2): 0.997744



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	5030	8460	35927	84034	187484
RF	0.000397614	0.00059101654	0.000278342193	0.000237998905	0.0002666894
	314115308	8463357	893172	205036	24164195
Last Area					
Residual	1.38399	3.4378	0.860857	-2.40976	-0.947087
Rep StDev					
Rep %RSD					
Rep 1 Area	5030	8460	35927	84034	187484
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\001.dat	C:\Instarch\PVOC4\Data\121319icdg\002.dat	C:\Instarch\PVOC4\Data\121319icdg\003.dat	C:\Instarch\PVOC4\Data\121319icdg\017.dat	C:\Instarch\PVOC4\Data\121319icdg\018.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Dec 13, 2019 11:03:20	Dec 13, 2019 11:08:54	Dec 13, 2019 11:12:33	Dec 13, 2019 12:20:46	Dec 13, 2019 12:24:12

	Level 6	Level 7
Amount	100	200
Area	387182	714366

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:30
User: AGK
Instrument: PVOC4

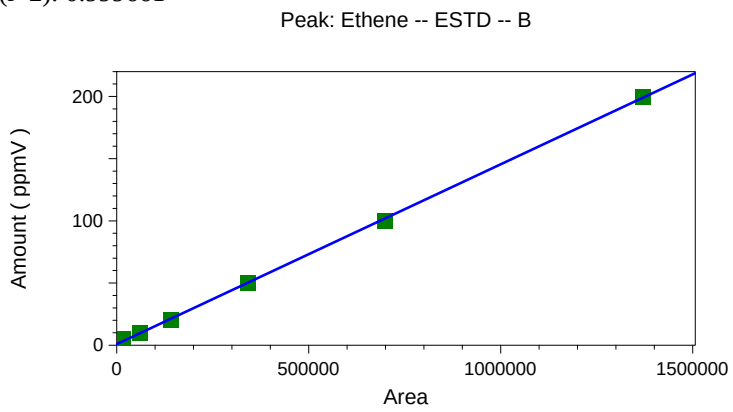
RF	0.000258276469463973	0.00027996853 1537055
Last Area Residual	-6.03503	3.70923
Rep StDev		
Rep %RSD		
Rep 1 Area	387182	714366
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121321 9icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:47
User: AGK
Instrument: PVOC4

Ethene (B)
Average RF: 0.000194500 RF StDev: 7.92626e-005 RF %RSD: 40.7519
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000144547x + 0.886235
Goodness of fit (r^2): 0.999661



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	6741	15526	60017	142264	341448
RF	0.000296691	0.00032204044	0.000166619457	0.000140583703	0.0001464351
	885476932	8280304	820284	537086	8193107
Last Area					
Residual	0.139376	1.86953	0.438507	-1.45002	-0.241407
Rep StDev					
Rep %RSD					
Rep 1 Area	6741	15526	60017	142264	341448
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\P	C:\Instarch\PV	C:\Instarch\PVO	C:\Instarch\PVO	C:\Instarch\PV
	VOC4\Data\1	OC4\Data\1213	C4\Data\121319	C4\Data\121319	OC4\Data\121
	21319icdg\00	19icdg\002.dat	icdg\003.dat	icdg\017.dat	319icdg\018.d
	1.dat				at
Rep 1 Sample ID	MEE PT1 - 2	MEE PT2 - 5	MEE PT3 - 10	MEE PT4 - 20	MEE PT5 - 50
	ppmV	ppmV	ppmV	ppmV	ppmV
Rep 1 Calib. Time	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019	Dec 13, 2019
	11:03:20	11:08:54	11:12:33	12:20:46	12:24:12

	Level 6	Level 7
Amount	100	200
Area	698761	1369661

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:06:47
User: AGK
Instrument: PVOC4

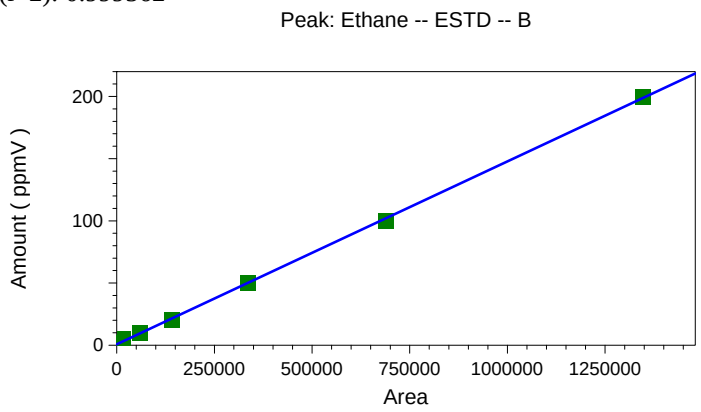
RF	0.000143110448350724	0.000146021533795589
Last Area Residual	-1.88981	1.13383
Rep StDev		
Rep %RSD		
Rep 1 Area	698761	1369661
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:07:05
User: AGK
Instrument: PVOC4

Ethane (B)
Average RF: 0.000201411 RF StDev: 8.94581e-005 RF %RSD: 44.4156
Scaling: None LSQ Weighting: None Force Through Zero: Off
Replicate Mode: Replace
Fit Type: Linear
y = 0.000147091x + 0.704169
Goodness of fit (r^2): 0.999562



	Level 1	Level 2	Level 3	Level 4	Level 5
Amount	2	5	10	20	50
Area	6087	14916	60913	142761	337378
RF	0.000328569 081649417	0.00033521051 2201663	0.000164168568 285916	0.000140094283 452764	0.0001482017 2032557
Last Area Residual	0.400487	2.10182	0.336069	-1.70305	-0.329479
Rep StDev					
Rep %RSD					
Rep 1 Area	6087	14916	60913	142761	337378
Rep 1 User	AGK	AGK	AGK	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\001.dat	C:\Instarch\PVOC4\Data\121319icdg\002.dat	C:\Instarch\PVOC4\Data\121319icdg\003.dat	C:\Instarch\PVOC4\Data\121319icdg\017.dat	C:\Instarch\PVOC4\Data\121319icdg\018.dat
Rep 1 Sample ID	MEE PT1 - 2 ppmV	MEE PT2 - 5 ppmV	MEE PT3 - 10 ppmV	MEE PT4 - 20 ppmV	MEE PT5 - 50 ppmV
Rep 1 Calib. Time	Dec 13, 2019 11:03:20	Dec 13, 2019 11:08:54	Dec 13, 2019 11:12:33	Dec 13, 2019 12:20:46	Dec 13, 2019 12:24:12

	Level 6	Level 7
Amount	100	200
Area	689400	1346056

Calibration Report

Method: C:\Instarch\PVOC4\Methods\P4DG121319.met
Print Time: Dec 19, 2019 14:07:05
User: AGK
Instrument: PVOC4

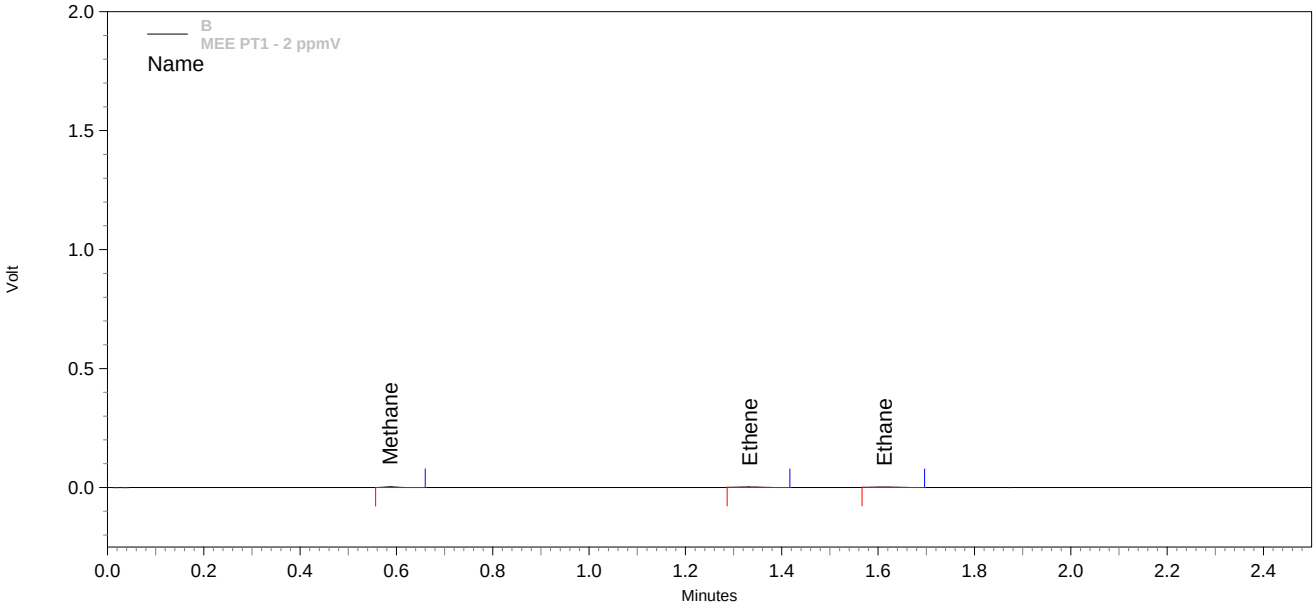
RF	0.000145053669857847	0.000148582228376828
Last Area Residual	-2.10879	1.30294
Rep StDev		
Rep %RSD		
Rep 1 Area	689400	1346056
Rep 1 User	AGK	AGK
Rep 1 Data File	C:\Instarch\PVOC4\Data\121319icdg\019.dat	C:\Instarch\PVOC4\Data\121319icdg\024.dat
Rep 1 Sample ID	MEE PT6 - 100 ppmV	MEE PT7 - 200 ppmV
Rep 1 Calib. Time	Dec 13, 2019 12:27:59	Dec 13, 2019 13:49:34

RJ 01/03/2020

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\001.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT1 - 2 ppmV
Acquired: Dec 13, 2019 10:58:16
File Desc. 0.01 mL injection (Methane, Ethene, Ethane)



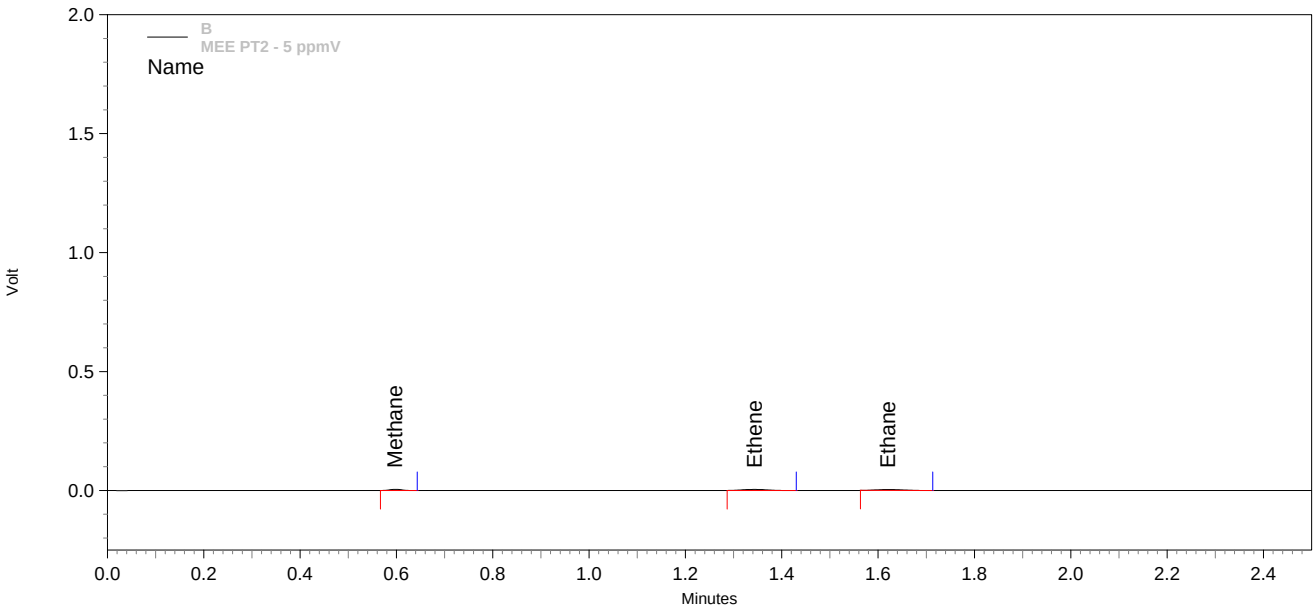
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.587**	**0.577**	**5030**	**2.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.310**	**6741**	**2.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.593**	**6087**	**2.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT2 - 5 ppmV
Acquired: Dec 13, 2019 11:06:00
File Desc. 0.025 mL injection (Methane, Ethene, Ethane)



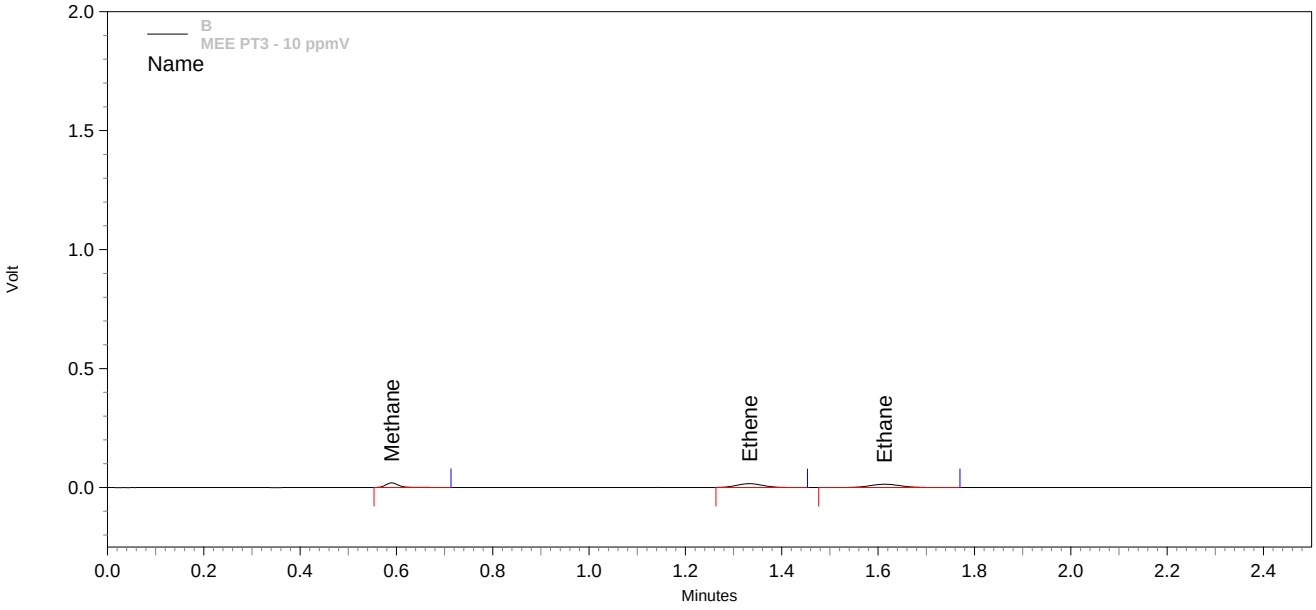
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.597**	**0.587**	**8460**	**5.000 CAL**	**ppmV**
2	**Ethene**	**1.343**	**1.333**	**15526**	**5.000 CAL**	**ppmV**
3	**Ethane**	**1.620**	**1.613**	**14916**	**5.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT3 - 10 ppmV
Acquired: Dec 13, 2019 11:09:45
File Desc. 0.05 mL injection (Methane, Ethene, Ethane)



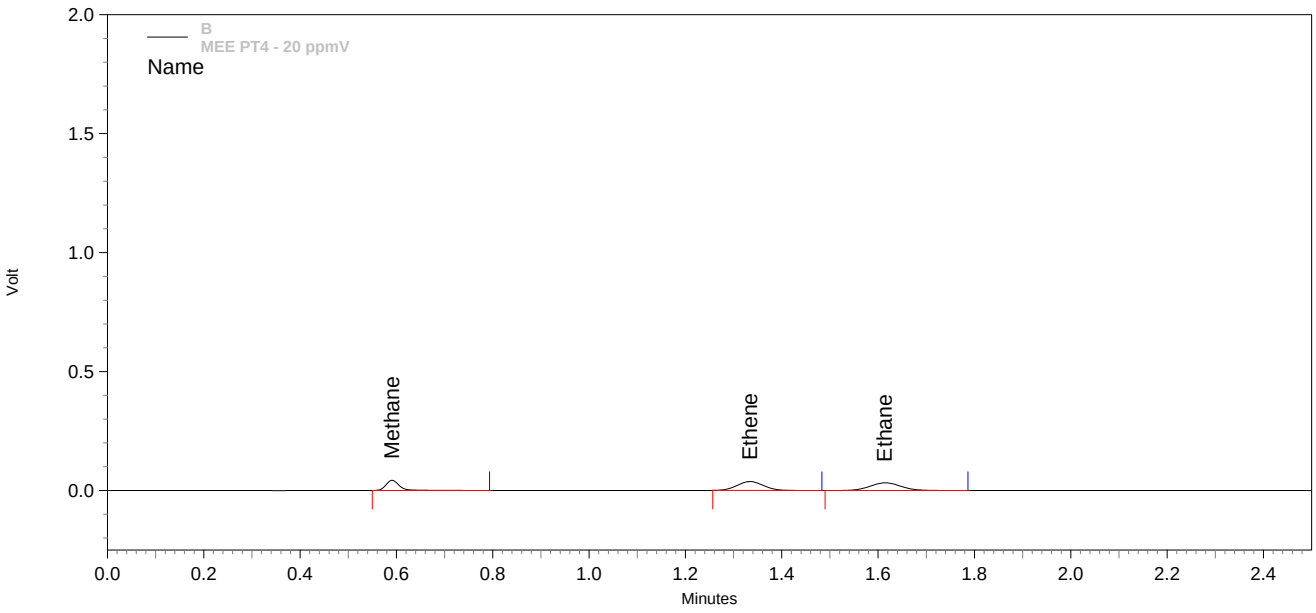
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.597**	**35927**	**10.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.343**	**60017**	**10.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.620**	**60913**	**10.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\017.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT4 - 20 ppmV
Acquired: Dec 13, 2019 12:18:01
File Desc. 0.1 mL injection (Methane, Ethene, Ethane)



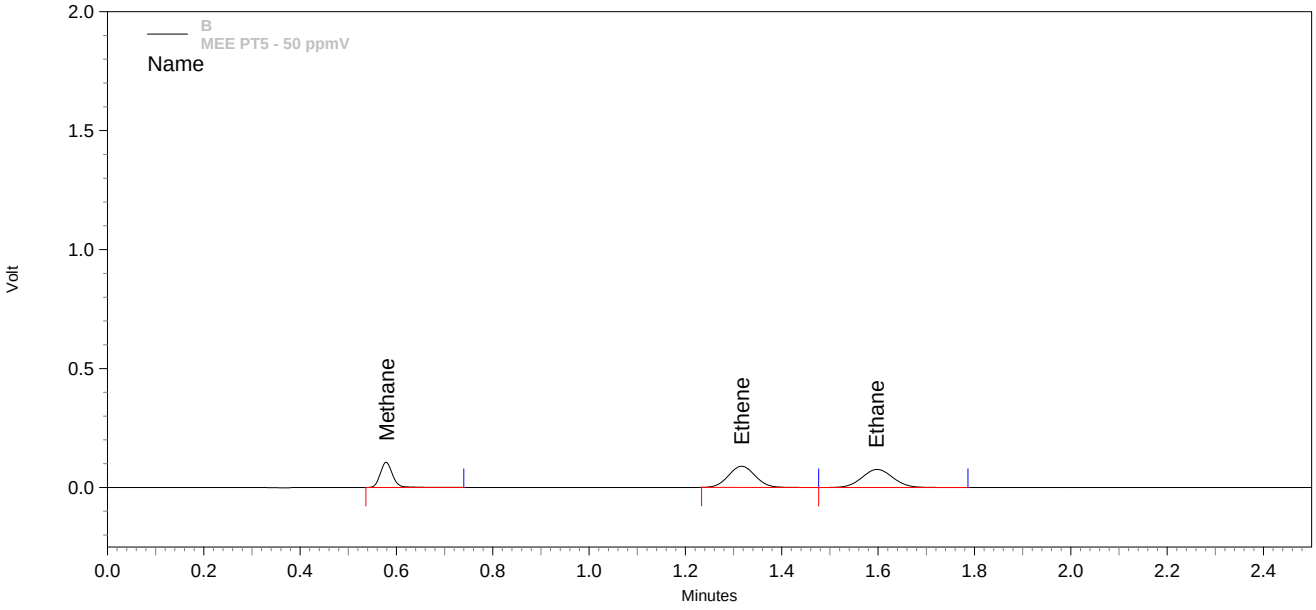
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.590**	**0.580**	**84034**	**20.000 CAL**	**ppmV**
2	**Ethene**	**1.333**	**1.320**	**142264**	**20.000 CAL**	**ppmV**
3	**Ethane**	**1.613**	**1.600**	**142761**	**20.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT5 - 50 ppmV
Acquired: Dec 13, 2019 12:21:29
File Desc. 0.25 mL injection (Methane, Ethene, Ethane)



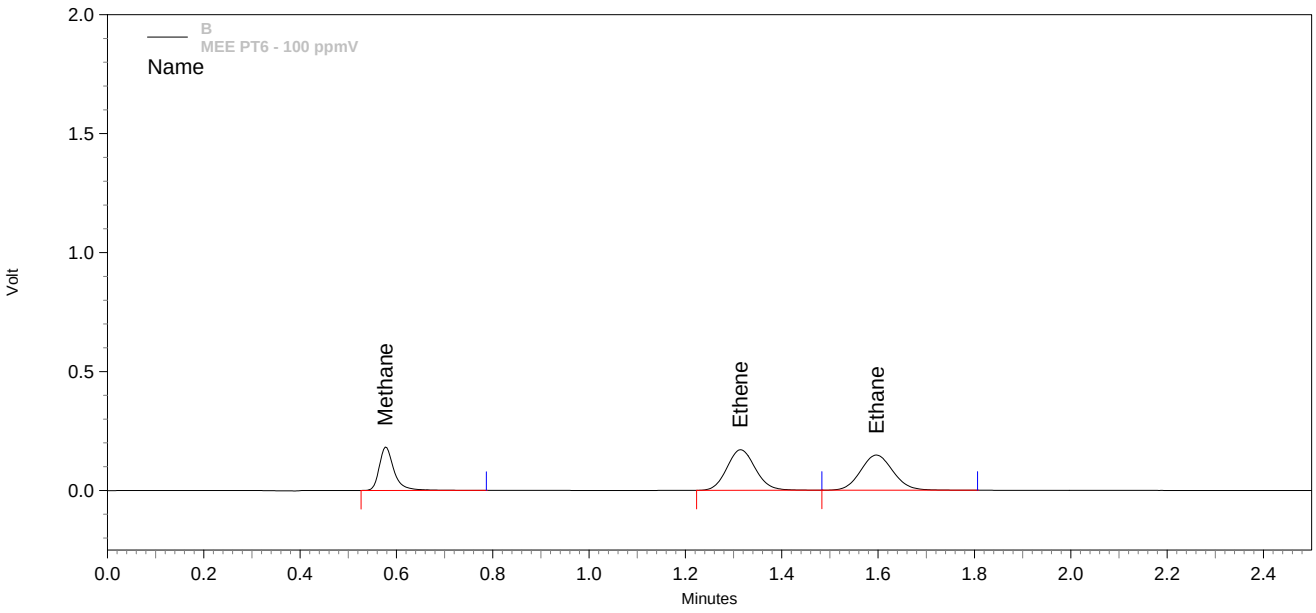
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	Methane	0.580	0.590	187484	50.000 CAL	ppmV
2	Ethene	1.317	1.333	341448	50.000 CAL	ppmV
3	Ethane	1.597	1.613	337378	50.000 CAL	ppmV

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT6 - 100 ppmV
Acquired: Dec 13, 2019 12:24:55
File Desc. 0.5 mL injection (Methane, Ethene, Ethane)



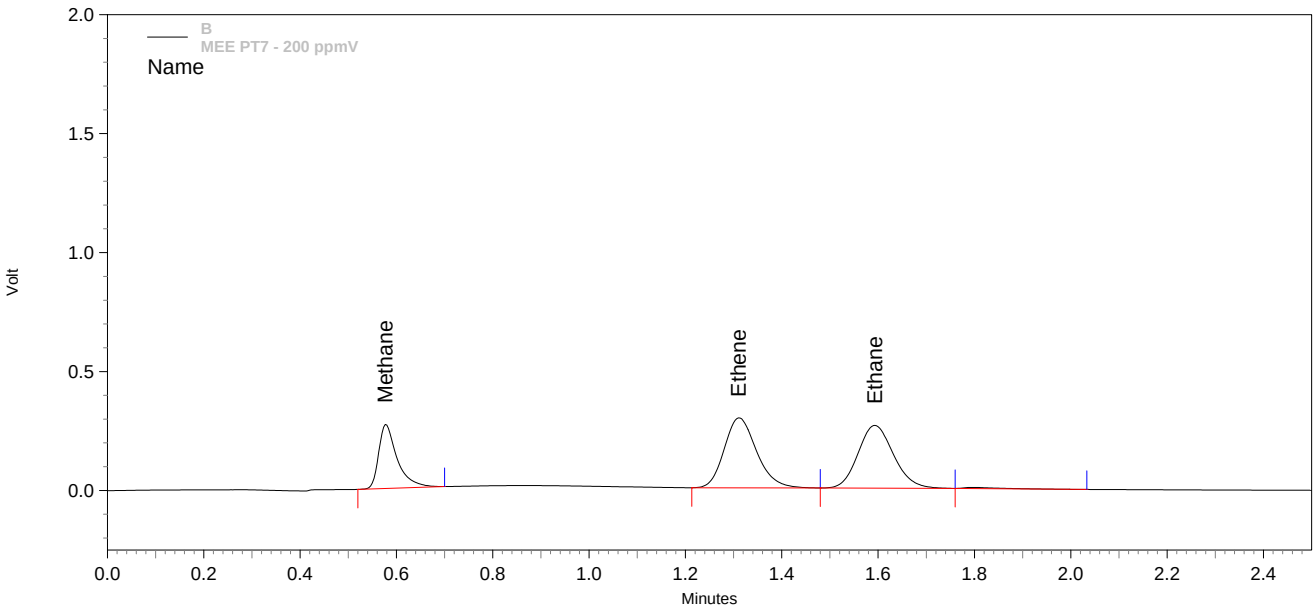
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.577**	**0.580**	**387182**	**100.000 CAL**	**ppmV**
2	**Ethene**	**1.313**	**1.317**	**698761**	**100.000 CAL**	**ppmV**
3	**Ethane**	**1.597**	**1.597**	**689400**	**100.000 CAL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: MEE PT7 - 200 ppmV
Acquired: Dec 13, 2019 13:46:48
File Desc. 1.0 mL injection (Methane, Ethene, Ethane)



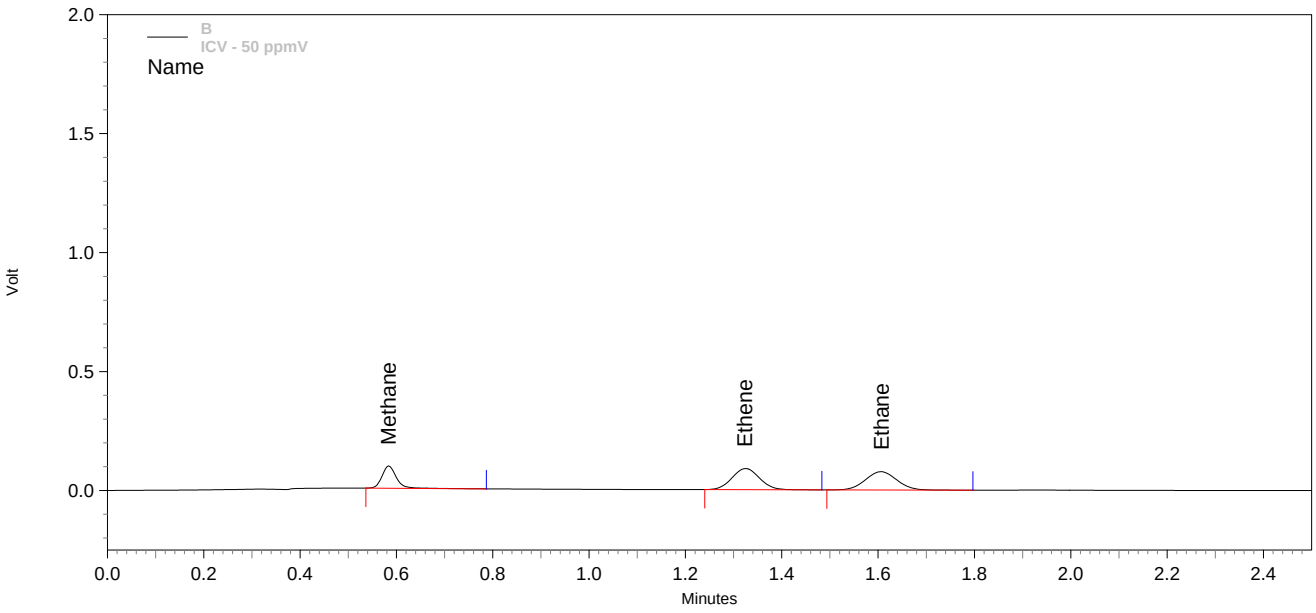
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.577**	**0.580**	**714366**	**200.000 CAL**	**ppmV**
2	**Ethene**	**1.310**	**1.317**	**1369661**	**200.000 CAL**	**ppmV**
3	**Ethane**	**1.593**	**1.600**	**1346056**	**200.000 CAL**	**ppmV**
4		**1.797**	**0.000**	**24582**	**0.000**	

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\025.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: ICV - 50 ppmV
Acquired: Dec 13, 2019 13:51:32
File Desc. INITIAL CALIB. VERIF. - 0.25 mL injection (Methane, Ethene, Ethane)



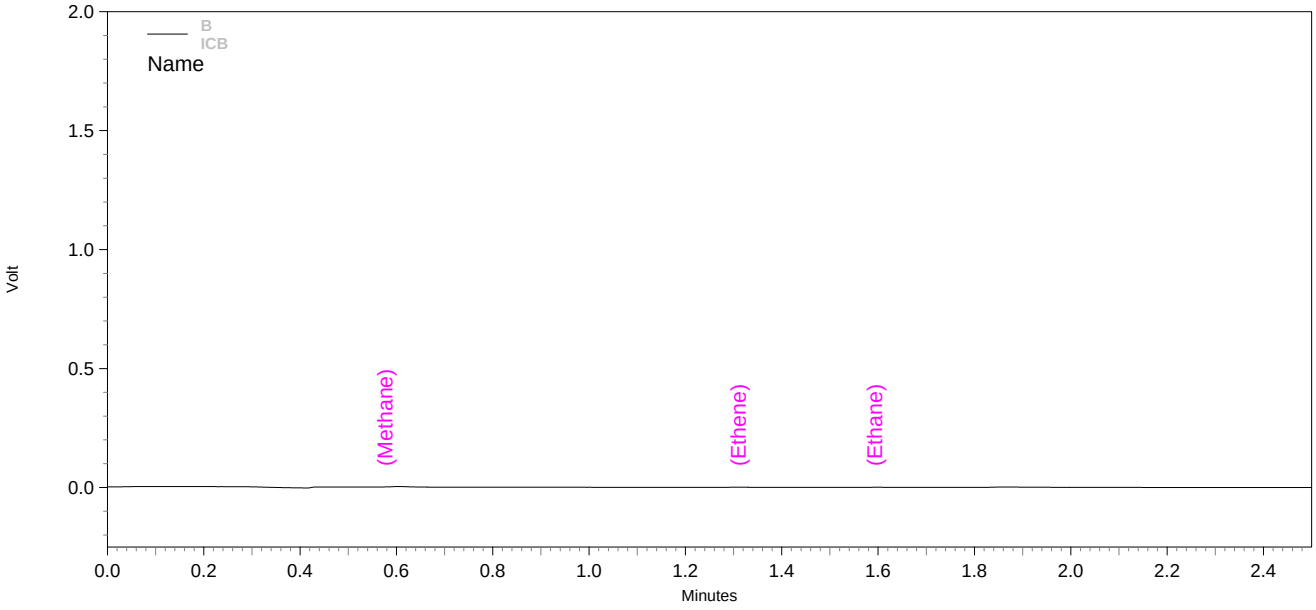
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.583**	**0.577**	**193552**	**52.621**	**ppmV**
2	**Ethene**	**1.323**	**1.310**	**352785**	**51.880**	**ppmV**
3	**Ethane**	**1.607**	**1.593**	**348500**	**51.965**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\Instarch\PVOC4\Data\121319icdg\026.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: ICB
Acquired: Dec 13, 2019 14:03:04
File Desc. INITIAL CALIB. BLANK



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.577**		**0.000 BDL**	**ppmV**
	Ethene		**1.310**		**0.000 BDL**	**ppmV**
	Ethane		**1.593**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
CONTINUING CALIBRATION
DOCUMENTS

BFB

Data File : C:\INSTARCH\DATA\JUL2820\BFB1.D Vial: 1
Acq On : 28 Jul 2020 12:07 Operator: RLD-DGS
Sample : 173473,BFB, Inst : VMS3
Misc : 50 ng Inj. Multiplr: 1.00
Integration File: VOC.P

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method

Spectrum Information: Average of 4.693 to 4.705 min.

Target Mass	Rel. to Mass	Lower Limit%	Upper Limit%	Rel. Abn%	Raw Abn	Result Pass/Fail
50	95	15	40	17.3	14105	PASS
75	95	30	60	53.6	43810	PASS
95	95	100	100	100.0	81754	PASS
96	95	5	9	6.4	5196	PASS
173	174	0.00	2	1.1	828	PASS
174	95	50	100	95.3	77888	PASS
175	174	5	9	7.4	5775	PASS
176	174	95	101	96.7	75301	PASS
177	176	5	9	7.4	5593	PASS

W072320.M Thu Jul 30 15:09:31 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 28 12:41:43 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	96	0.00
2	PT	Dichlorodi	0.2573	0.3220	-25.15#	103	0.00
3	PT	Chloromethan	0.2372	0.2491	-5.02	101	0.00
4	PT	VinylChlorid	0.2517	0.2732	-8.54	96	0.00
5	PT	Bromomethane	0.1510	0.1904	-26.09#	115	0.00
6	PT	Chloroethane	0.1698	0.1733	-2.06	97	0.00
7	T	Dichloroflmethane	0.4163	0.4116	1.13	92	0.00
8	PT	Trichlorofma	0.3710	0.4106	-10.67	92	0.00
9	T	Ethylether	0.1913	0.1833	4.18	93	0.00
10	T	dichlorotfluoroethan	0.2390	0.2554	-6.86	92	0.00
11	T	propyleneoxide	0.0437	0.0405	7.32	90	0.00
12	T	Acrolein	0.0309	0.0303	1.94	96	0.00
13	PT	11dichlorthe	0.2201	0.2276	-3.41	90	0.00
14	PT	Trichlorotfluoroeth	0.2113	0.2439	-15.43	92	0.00
15	PT	Acetone	0.0606	0.0509#	16.01	84	0.00
16	T	Iodomethane	0.1851	0.2786	-50.51#	157	0.00
17	PT	Carbon Dislf	0.6436	0.6723	-4.46	96	0.00
18	T	allylchloride	0.3094	0.3073	0.68	93	0.00
19	PT	methylacetate	0.0536	0.0464#	13.43	86	0.00
20	PT	Methylchlorid	0.2897	0.2556	11.77	89	0.00
21	T	tbutylalcohol	0.0107	0.0047#	56.07#	45#	0.00
22	T	Acrylonitrile	0.0737	0.0700	5.02	91	0.00
23	PT	t12dichlorte	0.2631	0.2541	3.42	92	0.00
24	PT	MtBE	0.6622	0.6133	7.38	88	0.00
25	T	Hexane	0.3451	0.4233	-22.66#	95	0.00
26	PT	11dichlorota	0.4154	0.4059	2.29	94	0.00
27	T	Vinylacetate	0.3166	0.3192	-0.82	95	0.00
28	T	chloroprene	0.3250	0.3600	-10.77	96	0.00
29	T	Diisopether	0.6351	0.6402	-0.80	93	0.00
30	T	ETBE	0.6108	0.5228	14.41	81	0.00
31	T	22dichloropr	0.2992	0.2640	11.76	81	0.00
32	PT	c12dichlorte	0.3017	0.2780	7.86	89	0.00
33	PT	2Butanone	0.0286	0.0249#	12.94	85	-0.01
34	T	propionitrile	0.0266	0.0230#	13.53	86	0.00
35	T	Ethylacetate	0.0102	0.0084#	17.65	82	0.00
36	T	methacrylonitrile	0.1105	0.1028	6.97	88	0.00
37	T	Bromochlorma	0.1478	0.1345	9.00	94	0.00
38	T	Tetrahydofur	0.0588	0.0514	12.59	86	-0.01
39	PT	Chloroform	0.4591	0.4410	3.94	91	0.00
40	PT	111trichlota	0.3458	0.3327	3.79	87	0.00
41	S	SURRDibrflma	0.2750	0.2711	1.42	97	0.00
42	PT	Cyclohexane	0.3483	0.3963	-13.78	93	0.00
43	PT	Carbtetraclo	0.2465	0.2325	5.68	86	0.00
44	T	11dicloprope	0.1331	0.1389	-4.36	94	0.00
45	S	SURR12DCAd4	0.0686	0.0680	0.87	96	0.00
46	PT	Benzene	1.0468	1.0068	3.82	92	0.00
47	PT	12dichlorota	0.3589	0.3374	5.99	96	0.00
48	T	TAME	0.6480	0.5721	11.71	86	0.00

49	PT	trichloroete	0.2821	0.2904	-2.94	95	0.00
50	PT	methylcyclohexane	0.4076	0.4724	-15.90	93	0.00
51	PT	12dicloropra	0.2759	0.2539	7.97	94	0.00
52	T	23Dicl1propene	0.3889	0.3802	2.24	92	0.00
53	T	Dibromometha	0.1706	0.1689	1.00	98	0.00
54	T	methylmethacrylate	0.1673	0.1463	12.55	84	0.00
55	T	14dioxane	0.0007	0.0003#	57.14#	56	0.00
56	PT	Bromodiclrma	0.3182	0.2945	7.45	91	0.00
57	T	2Nitropropane	0.0296	0.0259#	12.50	96	0.00
58	T	2CLEVE	0.1331	0.1297	2.55	89	0.00
59	PT	c13dicloproe	0.3855	0.3589	6.90	90	0.00
60	PT	4Meth2Pentan	0.1820	0.1686	7.36	88	0.00
61	S	SURRd8Tolule	1.0019	1.0119	-1.00	98	0.00
62	PT	Toluene	0.6702	0.6651	0.76	92	0.00
63	PT	t13Dicloprop	0.3138	0.2833	9.72	86	0.00
64	T	ethylmethacrylate	0.2779	0.2596	6.59	85	0.00
65	PT	112Triclotha	0.2034	0.1945	4.38	90	0.00
66	PT	Tetrachlorte	0.3259	0.3364	-3.22	92	0.00
67	T	13Diclorpropa	0.4149	0.3919	5.54	91	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	99	0.00
69	PT	2Hexanone	0.1654	0.1478	10.64	85	0.00
70	PT	Clorodibrmta	0.2754	0.2384	13.44	87	0.00
71	PT	12Dibrometha	0.2970	0.2710	8.75	89	0.00
72	PT	Chlorobenzen	0.9799	0.8936	8.81	93	0.00
73	T	1Clhexane	0.4229	0.4323	-2.22	95	0.00
74	T	1112Tetclota	0.2587	0.2257	12.76	89	0.00
75	PT	Ethylbenzene	1.5059	1.4376	4.54	92	0.00
76	PT	m p-Xylene	0.5756	0.5716	0.69	93	0.00
77	PT	o-Xylene	0.5907	0.5581	5.52	91	0.00
78	PT	Styrene	0.9413	0.9043	3.93	90	0.00
79	PT	Bromoform	0.1770	0.1544	12.77	94	0.00
80	PT	Isopropylben	1.3672	1.3678	-0.04	89	0.00
81	T	cyclohexanone	0.0078	0.0036#	53.85#	53	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	100	0.00
83	S	SURR4BrFBenz	0.8648	0.8590	0.67	99	0.00
84	T	Bromobenzene	0.7236	0.6706	7.32	91	0.00
85	PT	1122Tetrclta	0.6995	0.6111	12.64	93	0.00
86	T	123Triclproa	0.7713	0.6808	11.73	89	0.00
87	T	14dichloro2butene	0.1523	0.1302	14.51	92	0.00
88	T	n-Propylbenz	2.7758	2.7055	2.53	91	0.00
89	T	2chlorotolue	1.7877	1.6288	8.89	89	0.00
90	T	4chlorotolue	2.0616	1.9334	6.22	92	0.00
91	T	135Trimebenz	1.9838	1.9391	2.25	91	0.00
92	T	tbutylbenzen	1.6891	1.6460	2.55	88	0.00
93	T	124Trimetben	1.9794	1.9262	2.69	89	0.00
94	T	sbutylbenzen	2.2429	2.3132	-3.13	89	0.00
95	PT	13Diclorbenz	1.2897	1.1937	7.44	91	0.00
96	T	pIsopropylto	1.9817	1.9912	-0.48	89	0.00
97	PT	14dichlorobe	1.3968	1.2526	10.32	91	0.00
98	PT	12dichlorobe	1.2337	1.1376	7.79	91	0.00
99	T	nButylbenzen	1.7566	1.7521	0.26	90	0.00
100	PT	12dibromo3cl	0.1110	0.0856	22.88#	82	0.00
101	T	135Trichlorobenzene	0.8738	0.8240	5.70	90	0.00
102	PT	124Trichlobe	0.7481	0.6988	6.59	87	0.00
103	T	Hexachlorobu	0.3327	0.3392	-1.95	96	0.00
104	T	Naphthalene	1.6255	1.4442	11.15	83	0.00
105	T	123Trichlben	0.6667	0.6004	9.94	86	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W072320.M Thu Jul 30 12:43:06 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 28 12:41:43 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 20% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	96	0.00
2	PT	Dichlorodi	10.0000	10.9936	-9.94	103	0.00
3	PT	Chloromethan	10.0000	10.5044	-5.04	101	0.00
4	PT	VinylChlorid	10.0000	10.8569	-8.57	96	0.00
5	PT	Bromomethane	10.0000	12.6048	-26.05#	115	0.00
6	PT	Chloroethane	10.0000	10.2064	-2.06	97	0.00
7	T	Dichloroflmethane	10.0000	9.8875	1.13	92	0.00
8	PT	Trichlorofma	10.0000	11.0669	-10.67	92	0.00
9	T	Ethylether	10.0000	9.5854	4.15	93	0.00
10	T	dichlorotfluoroethan	10.0000	10.6863	-6.86	92	0.00
11	T	propyleneoxide	100.0000	92.6844	7.32	90	0.00
12	T	Acrolein	50.0000	49.0356	1.93	96	0.00
13	PT	11dichlorthe	10.0000	10.3406	-3.41	90	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.7267	1.37	92	0.00
15	PT	Acetone	100.0000	86.8014	13.20	84	0.00
16	T	Iodomethane	20.0000	24.1479	-20.74#	157	0.00
17	PT	Carbon Dislf	20.0000	20.8892	-4.45	96	0.00
18	T	allylchloride	20.0000	19.8695	0.65	93	0.00
19	PT	methylacetate	10.0000	8.6672	13.33	86	0.00
20	PT	Methylchlorid	10.0000	9.2974	7.03	89	0.00
21	T	tbutylalcohol	500.0000	220.4824	55.90#	45	0.00
22	T	Acrylonitrile	50.0000	47.4794	5.04	91	0.00
23	PT	t12dichlorte	10.0000	9.6586	3.41	92	0.00
24	PT	MtBE	10.0000	9.2618	7.38	88	0.00
25	T	Hexane	20.0000	20.3314	-1.66	95	0.00
26	PT	11dichlorota	10.0000	9.7717	2.28	94	0.00
27	T	Vinylacetate	100.0000	98.4691	1.53	95	0.00
28	T	chloroprene	20.0000	22.1566	-10.78	96	0.00
29	T	Diisopether	10.0000	10.0794	-0.79	93	0.00
30	T	ETBE	10.0000	8.5601	14.40	81	0.00
31	T	22dichloropr	10.0000	8.8220	11.78	81	0.00
32	PT	c12dichlorte	10.0000	9.2139	7.86	89	0.00
33	PT	2Butanone	100.0000	86.9591	13.04	85	-0.01
34	T	propionitrile	100.0000	86.4823	13.52	86	0.00
35	T	Ethylacetate	50.0000	41.4370	17.13	82	0.00
36	T	methacrylonitrile	20.0000	18.6032	6.98	88	0.00
37	T	Bromochlorma	10.0000	9.0987	9.01	94	0.00
38	T	Tetrahydofur	100.0000	87.2910	12.71	86	-0.01
39	PT	Chloroform	10.0000	9.6065	3.93	91	0.00
40	PT	111trichlota	10.0000	9.6218	3.78	87	0.00
41	S	SURRDibrflma	20.0000	19.7147	1.43	97	0.00
42	PT	Cyclohexane	10.0000	9.8492	1.51	93	0.00
43	PT	Carbtetraclo	10.0000	8.5011	14.99	86	0.00
44	T	11dicloprope	10.0000	10.4366	-4.37	94	0.00
45	S	SURR12DCAd4	20.0000	19.8338	0.83	96	0.00
46	PT	Benzene	10.0000	9.6180	3.82	92	0.00
47	PT	12dichlorota	10.0000	9.8167	1.83	96	0.00
48	T	TAME	10.0000	8.8291	11.71	86	0.00

49	PT	trichloroete	10.0000	10.2943	-2.94	95	0.00
50	PT	methylcyclohexane	10.0000	9.8598	1.40	93	0.00
51	PT	12dicloropra	10.0000	9.6074	3.93	94	0.00
52	T	23Dicl1propene	10.0000	9.7763	2.24	92	0.00
53	T	Dibromometha	10.0000	9.8982	1.02	98	0.00
54	T	methylmethacrylate	10.0000	8.7447	12.55	84	0.00
55	T	14dioxane	500.0000	187.6143	62.48#	56	0.00
56	PT	Bromodiclrma	10.0000	9.2556	7.44	91	0.00
57	T	2Nitropropane	100.0000	89.5299	10.47	96	0.00
58	T	2CLEVE	50.0000	48.7190	2.56	89	0.00
59	PT	c13dicloproe	10.0000	9.3085	6.91	90	0.00
60	PT	4Meth2Pentan	100.0000	93.3945	6.61	88	0.00
61	S	SURRd8Tolule	20.0000	20.2001	-1.00	98	0.00
62	PT	Toluene	10.0000	9.9246	0.75	92	0.00
63	PT	t13Dicloprop	10.0000	9.0292	9.71	86	0.00
64	T	ethylmethacrylate	20.0000	18.6832	6.58	85	0.00
65	PT	112Triclotha	10.0000	9.5614	4.39	90	0.00
66	PT	Tetrachlorte	10.0000	10.3245	-3.25	92	0.00
67	T	13Diclorpropa	10.0000	9.4465	5.53	91	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	99	0.00
69	PT	2Hexanone	100.0000	89.3234	10.68	85	0.00
70	PT	Clorodibrmta	10.0000	8.6569	13.43	87	0.00
71	PT	12Dibrometha	10.0000	9.1238	8.76	89	0.00
72	PT	Chlorobenzen	10.0000	9.1193	8.81	93	0.00
73	T	1Clhexane	10.0000	10.2235	-2.23	95	0.00
74	T	1112Tetclota	10.0000	8.7237	12.76	89	0.00
75	PT	Ethylbenzene	10.0000	9.5469	4.53	92	0.00
76	PT	m p-Xylene	20.0000	19.8587	0.71	93	0.00
77	PT	o-Xylene	10.0000	9.4482	5.52	91	0.00
78	PT	Styrene	10.0000	9.6070	3.93	90	0.00
79	PT	Bromoform	10.0000	8.6848	13.15	94	0.00
80	PT	Isopropylben	10.0000	10.0043	-0.04	89	0.00
81	T	cyclohexanone	200.0000	103.8797	48.06#	53	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	100	0.00
83	S	SURR4BrFBenz	20.0000	19.8644	0.68	99	0.00
84	T	Bromobenzene	10.0000	9.2684	7.32	91	0.00
85	PT	1122Tetrclta	10.0000	9.1222	8.78	93	0.00
86	T	123Triclproa	10.0000	8.8260	11.74	89	0.00
87	T	14dichloro2butene	10.0000	8.5450	14.55	92	0.00
88	T	n-Propylbenz	10.0000	9.7466	2.53	91	0.00
89	T	2chlorotolue	10.0000	9.1114	8.89	89	0.00
90	T	4chlorotolue	10.0000	9.3784	6.22	92	0.00
91	T	135Trimebenz	10.0000	9.7748	2.25	91	0.00
92	T	tbutylbenzen	10.0000	9.7451	2.55	88	0.00
93	T	124Trimetben	10.0000	9.7312	2.69	89	0.00
94	T	sbutylbenzen	10.0000	10.3132	-3.13	89	0.00
95	PT	13Diclorbenz	10.0000	9.2553	7.45	91	0.00
96	T	pIsopropylto	10.0000	10.0479	-0.48	89	0.00
97	PT	14dichlorobe	10.0000	8.9678	10.32	91	0.00
98	PT	12dichlorobe	10.0000	9.2210	7.79	91	0.00
99	T	nButylbenzen	10.0000	9.9744	0.26	90	0.00
100	PT	12dibromo3cl	10.0000	7.7302	22.70#	82	0.00
101	T	135Trichlorobenzene	10.0000	9.4301	5.70	90	0.00
102	PT	124Trichlobe	10.0000	9.3414	6.59	87	0.00
103	T	Hexachlorobu	10.0000	10.1979	-1.98	96	0.00
104	T	Naphthalene	10.0000	8.8847	11.15	83	0.00
105	T	123Trichlben	10.0000	9.0054	9.95	86	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W072320.M Thu Jul 30 12:43:43 2020

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1486807	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1226848	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	732658	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	403074	19.715	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	101082	19.834	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %			
61) SURRd8Tolule	9.72	98	1504521	20.200	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %			
83) SURR4BrFBenz	13.26	95	629326	19.864	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	239382	10.9936	ug/L	100
3) Chloromethan	2.10	50	185206	10.5044	ug/L	99
4) VinylChlorid	2.25	62	203117	10.8569	ug/L	97
5) Bromomethane	2.73	94	141510	12.6048	ug/L	98
6) Chloroethane	2.89	64	128834	10.2064	ug/L	92
7) Dichloroflmethane	3.20	67	306019	9.8875	ug/L	98
8) Trichlorofma	3.28	101	305214	11.0669	ug/L	97
9) Ethylether	3.73	59	136281	9.5854	ug/L	97
10) dichlorotfluoroethan	3.73	67	189878	10.6863	ug/L	97
11) propyleneoxide	3.77	58	301105	92.6844	ug/L	99
12) Acrolein	3.85	56	112488	49.0356	ug/L	98
13) 11dichlorthe	4.01	96	169181	10.3406	ug/L	96
14) Trichlorotfluoroeth	4.04	101	362700	19.7267	ug/L	99
15) Acetone	4.07	43	378333	86.8014	ug/L	100
16) Iodomethane	4.18	142	414218	24.1479	ug/L	99
17) Carbon Dislf	4.27	76	999516	20.8892	ug/L	99
18) allylchloride	4.49	41	456965	19.8695	ug/L	100
19) methylacetate	4.54	74	34523	8.6672	ug/L	97
20) Methylchlorid	4.64	84	190042	9.2974	ug/L	96
21) tbutylalcohol	4.85	59	175369	220.4824	ug/L	96
22) Acrylonitrile	4.95	53	260264	47.4794	ug/L	99
23) t12dichlorte	5.02	96	188923	9.6586	ug/L	99
24) MtBE	5.06	73	455907	9.2618	ug/L	97
25) Hexane	5.42	57	629383	20.3314	ug/L	99
26) 11dichlorota	5.55	63	301757	9.7717	ug/L	98
27) Vinylacetate	5.64	43	2373312	98.4691	ug/L	100
28) chloroprene	5.68	53	535239	22.1566	ug/L	98
29) Diisopether	5.70	45	475896	10.0794	ug/L	99
30) ETBE	6.15	59	388669	8.5601	ug/L	97
31) 22dichloropr	6.29	77	196250	8.8220	ug/L	98
32) c12dichlorte	6.28	96	206641	9.2139	ug/L	95
33) 2Butanone	6.30	72	185144	86.9591	ug/L	99
34) propionitrile	6.34	54	171253	86.4823	ug/L	99
35) Ethylacetate	6.41	88	31337	41.4370	ug/L	97
36) methacrylonitrile	6.55	67	152785	18.6032	ug/L	95
37) Bromochlorma	6.57	128	99966	9.0987	ug/L	96
38) Tetrahydofur	6.66	42	381769	87.2910	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	327854	9.6065	ug/L	99
40)	111trichlota	6.92	97	247367	9.6218	ug/L	98
42)	Cyclohexane	7.00	56	294645	9.8492	ug/L	99
43)	Carbtetraclo	7.14	119	172868	8.5011	ug/L	100
44)	11dicloprope	7.13	110	103259	10.4366	ug/L	96
46)	Benzene	7.38	78	748444	9.6180	ug/L	99
47)	12dichlorota	7.38	62	250806	9.8167	ug/L	100
48)	TAME	7.55	73	425325	8.8291	ug/L	97
49)	trichloroete	8.18	95	215876	10.2943	ug/L	98
50)	methylcyclohexane	8.45	83	351211	9.8598	ug/L	97
51)	12dicloropra	8.44	63	188762	9.6074	ug/L	91
52)	23Dicl1propene	8.50	75	282644	9.7763	ug/L	97
53)	Dibromometha	8.58	93	125527	9.8982	ug/L	95
54)	methylmethacrylate	8.60	69	108774	8.7447	ug/L	99
55)	14dioxane	8.64	88	10080	187.6143	ug/L	92
56)	Bromodiclrma	8.78	83	218921	9.2556	ug/L	98
57)	2Nitropropane	9.05	43	192544	89.5299	ug/L	95
58)	2CLEVE	9.17	63	481945	48.7190	ug/L	99
59)	c13dicloproe	9.36	75	266785	9.3085	ug/L	98
60)	4Meth2Pentan	9.57	43	1253038	93.3945	ug/L	98
62)	Toluene	9.81	92	494456	9.9246	ug/L	99
63)	t13Dicloprop	10.07	75	210625	9.0292	ug/L	99
64)	ethylmethacrylate	10.22	69	385980	18.6832	ug/L	99
65)	112Triclotha	10.30	83	144563	9.5614	ug/L	98
66)	Tetrachlorte	10.54	166	250113	10.3245	ug/L	98
67)	13Diclorpropa	10.53	76	291332	9.4465	ug/L	98
69)	2Hexanone	10.66	43	906347	89.3234	ug/L	100
70)	Clorodibrmta	10.83	129	146237	8.6569	ug/L	97
71)	12Dibrometha	10.98	107	166229	9.1238	ug/L	96
72)	Chlorobenzen	11.67	112	548153	9.1193	ug/L	99
73)	1Clhexane	11.65	91	265186	10.2235	ug/L	99
74)	1112Tetclota	11.77	131	138443	8.7237	ug/L	99
75)	Ethylbenzene	11.83	91	881889	9.5469	ug/L	99
76)	m p-Xylene	11.99	106	701227	19.8587	ug/L	100
77)	o-Xylene	12.54	106	342376	9.4482	ug/L	98
78)	Styrene	12.55	104	554719	9.6070	ug/L	98
79)	Bromoform	12.78	173	94716	8.6848	ug/L	98
80)	Isopropylben	13.07	105	839055	10.0043	ug/L	99
81)	cyclohexanone	13.16	55	43985	103.8797	ug/L	88
84)	Bromobenzene	13.48	156	245665	9.2684	ug/L	98
85)	1122Tetrclta	13.45	83	223881	9.1222	ug/L	100
86)	123Triclproa	13.51	75	249384	8.8260	ug/L	99
87)	14dichloro2butene	13.54	53	47684	8.5450	ug/L	94
88)	n-Propylbenz	13.65	91	991095	9.7466	ug/L	100
89)	2chlorotolue	13.76	91	596678	9.1114	ug/L	98
90)	4chlorotolue	13.92	91	708260	9.3784	ug/L	100
91)	135Trimebenz	13.91	105	710339	9.7748	ug/L	100
92)	tbutylbenzen	14.38	119	602994	9.7451	ug/L	99
93)	124Trimetben	14.45	105	705621	9.7312	ug/L	99
94)	sbutylbenzen	14.70	105	847390	10.3132	ug/L	100
95)	13Diclorbenz	14.84	146	437274	9.2553	ug/L	99
96)	pIsopropylto	14.91	119	729446	10.0479	ug/L	99
97)	14dichlorobe	14.96	146	458862	8.9678	ug/L	100
98)	12dichlorobe	15.50	146	416729	9.2210	ug/L	100
99)	nButylbenzen	15.51	91	641851	9.9744	ug/L	100
100)	12dibromo3cl	16.60	157	31374	7.7302	ug/L	95
101)	135Trichlorobenzene	16.93	180	301867	9.4301	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	256008	9.3414	ug/L	98
103) Hexachlorobu	17.98	225	124272	10.1979	ug/L	99
104) Naphthalene	18.04	128	529062	8.8847	ug/L	99
105) 123Trichlben	18.35	180	219936	9.0054	ug/L	97

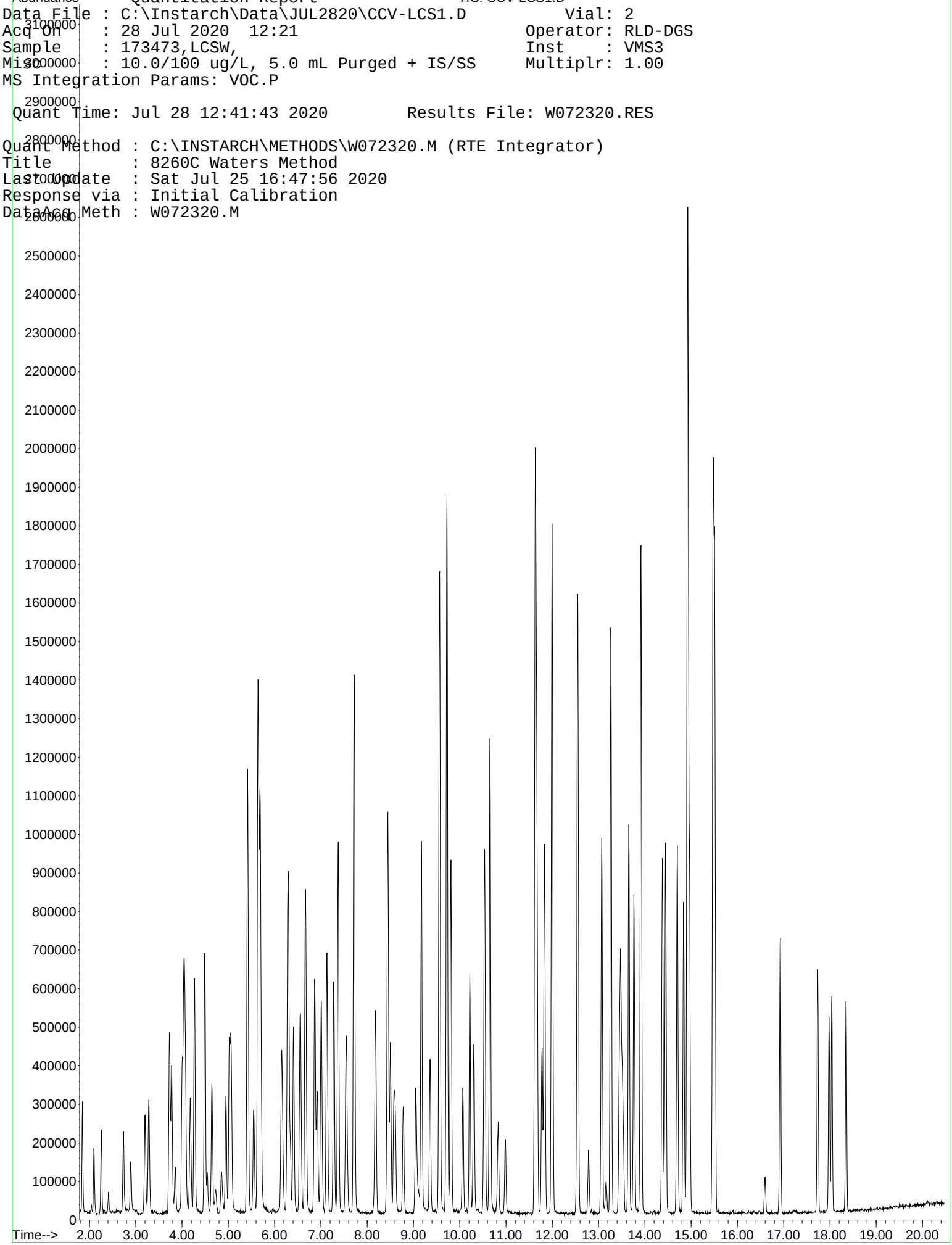
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCV-LCS1.D

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\JUL2820\CCVF1.D Vial: 24
Acq On : 28 Jul 2020 23:23 Operator: RLD-DGS
Sample : 173473,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 28 23:44:25 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	AvgRF	CCRF	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	1.0000	1.0000	0.00	98	0.00
2	PT	Dichlorodi	0.2573	0.3111	-20.91	101	0.00
3	PT	Chloromethan	0.2372	0.2594	-9.36	107	0.00
4	PT	VinylChlorid	0.2517	0.2804	-11.40	100	0.00
5	PT	Bromomethane	0.1510	0.1825	-20.86	112	0.00
6	PT	Chloroethane	0.1698	0.1747	-2.89	100	0.00
7	T	Dichloroflmethane	0.4163	0.4251	-2.11	96	0.00
8	PT	Trichlorofma	0.3710	0.4207	-13.40	96	0.00
9	T	Ethylether	0.1913	0.1859	2.82	96	0.00
10	T	dichlorotfluoroethan	0.2390	0.2690	-12.55	99	0.00
11	T	propyleneoxide	0.0437	0.0426	2.52	96	0.00
12	T	Acrolein	0.0309	0.0358	-15.86	115	0.00
13	PT	11dichlorthe	0.2201	0.2392	-8.68	96	0.00
14	PT	Trichlorotfluoroeth	0.2113	0.2408	-13.96	92	0.00
15	PT	Acetone	0.0606	0.0527#	13.04	89	0.00
16	T	Iodomethane	0.1851	0.3045	-64.51#	175	0.00
17	PT	Carbon Dislf	0.6436	0.6578	-2.21	96	0.00
18	T	allylchloride	0.3094	0.3110	-0.52	95	0.00
19	PT	methylacetate	0.0536	0.0465#	13.25	88	0.00
20	PT	Methylchlorid	0.2897	0.2660	8.18	94	0.00
21	T	tbutylalcohol	0.0107	0.0114#	-6.54	110	0.00
22	T	Acrylonitrile	0.0737	0.0751	-1.90	99	0.00
23	PT	t12dichlorte	0.2631	0.2614	0.65	96	0.00
24	PT	MtBE	0.6622	0.6667	-0.68	97	0.00
25	T	Hexane	0.3451	0.3882	-12.49	89	0.00
26	PT	11dichlorota	0.4154	0.4129	0.60	97	0.00
27	T	Vinylacetate	0.3166	0.2726	13.90	82	0.00
28	T	chloroprene	0.3250	0.3577	-10.06	97	0.00
29	T	Diisopether	0.6351	0.6459	-1.70	95	0.00
30	T	ETBE	0.6108	0.5931	2.90	93	0.00
31	T	22dichloropr	0.2992	0.2430	18.78	76	0.00
32	PT	c12dichlorte	0.3017	0.2941	2.52	95	0.00
33	PT	2Butanone	0.0286	0.0284#	0.70	99	0.00
34	T	propionitrile	0.0266	0.0279#	-4.89	105	0.00
35	T	Ethylacetate	0.0102	0.0100#	1.96	98	0.00
36	T	methacrylonitrile	0.1105	0.1117	-1.09	97	0.00
37	T	Bromochlorma	0.1478	0.1390	5.95	99	0.00
38	T	Tetrahydofur	0.0588	0.0590	-0.34	100	0.00
39	PT	Chloroform	0.4591	0.4555	0.78	95	0.00
40	PT	111trichlota	0.3458	0.3618	-4.63	96	0.00
41	S	SURRDibrflma	0.2750	0.2761	-0.40	101	0.00
42	PT	Cyclohexane	0.3483	0.4103	-17.80	98	0.00
43	PT	Carbtetraclo	0.2465	0.2560	-3.85	96	0.00
44	T	11dicloprope	0.1331	0.1357	-1.95	93	0.00
45	S	SURR12DCAd4	0.0686	0.0680	0.87	97	0.00
46	PT	Benzene	1.0468	1.0160	2.94	95	0.00
47	PT	12dichlorota	0.3589	0.3430	4.43	99	0.00
48	T	TAME	0.6480	0.6261	3.38	95	0.00

49	PT	trichloroete	0.2821	0.2891	-2.48	96	0.00
50	PT	methylcyclohexane	0.4076	0.4700	-15.31	94	0.00
51	PT	12dicloropra	0.2759	0.2576	6.63	96	0.00
52	T	23Dicl1propene	0.3889	0.4051	-4.17	100	0.00
53	T	Dibromometha	0.1706	0.1691	0.88	100	0.00
54	T	methylmethacrylate	0.1673	0.1764	-5.44	102	0.00
55	T	14dioxane	0.0007	0.0007#	0.00	156	0.00
56	PT	Bromodiclrma	0.3182	0.3056	3.96	96	0.00
57	T	2Nitropropane	0.0296	0.0277#	6.42	105	0.00
58	T	2CLEVE	0.1331	0.1421	-6.76	99	0.00
59	PT	c13dicloproe	0.3855	0.3635	5.71	93	0.00
60	PT	4Meth2Pentan	0.1820	0.1844	-1.32	98	0.00
61	S	SURRd8Tolule	1.0019	1.0093	-0.74	99	0.00
62	PT	Toluene	0.6702	0.6592	1.64	93	0.00
63	PT	t13Dicloprop	0.3138	0.2860	8.86	88	0.00
64	T	ethylmethacrylate	0.2779	0.2931	-5.47	98	0.00
65	PT	112Triclotha	0.2034	0.1949	4.18	92	0.00
66	PT	Tetrachlorte	0.3259	0.3419	-4.91	95	0.00
67	T	13Diclorpropa	0.4149	0.3967	4.39	94	0.00
68	I	d5-CHLOROBENZENE**ISTD**	1.0000	1.0000	0.00	100	0.00
69	PT	2Hexanone	0.1654	0.1664	-0.60	97	0.00
70	PT	Clorodibrmta	0.2754	0.2477	10.06	91	0.00
71	PT	12Dibrometha	0.2970	0.2851	4.01	95	0.00
72	PT	Chlorobenzen	0.9799	0.9063	7.51	95	0.00
73	T	1Clhexane	0.4229	0.4331	-2.41	96	0.00
74	T	1112Tetclota	0.2587	0.2444	5.53	98	0.00
75	PT	Ethylbenzene	1.5059	1.4524	3.55	94	0.00
76	PT	m p-Xylene	0.5756	0.5742	0.24	95	0.00
77	PT	o-Xylene	0.5907	0.5588	5.40	92	0.00
78	PT	Styrene	0.9413	0.9337	0.81	94	0.00
79	PT	Bromoform	0.1770	0.1431	19.15	88	0.00
80	PT	Isopropylben	1.3672	1.4233	-4.10	94	0.00
81	T	cyclohexanone	0.0078	0.0048#	38.46	73	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	1.0000	1.0000	0.00	104	0.00
83	S	SURR4BrFBenz	0.8648	0.8518	1.50	102	0.00
84	T	Bromobenzene	0.7236	0.6727	7.03	95	0.00
85	PT	1122Tetrclta	0.6995	0.6082	13.05	96	0.00
86	T	123Triclproa	0.7713	0.6943	9.98	94	0.00
87	T	14dichloro2butene	0.1523	0.1195	21.54	88	0.00
88	T	n-Propylbenz	2.7758	2.7086	2.42	95	0.00
89	T	2chlorotolue	1.7877	1.6635	6.95	94	0.00
90	T	4chlorotolue	2.0616	1.9194	6.90	94	0.00
91	T	135Trimebenz	1.9838	1.9647	0.96	95	0.00
92	T	tbutylbenzen	1.6891	1.7166	-1.63	95	0.00
93	T	124Trimetben	1.9794	1.9555	1.21	94	0.00
94	T	sbutylbenzen	2.2429	2.3635	-5.38	94	0.00
95	PT	13Diclorbenz	1.2897	1.2175	5.60	96	0.00
96	T	pIsopropylto	1.9817	2.0298	-2.43	94	0.00
97	PT	14dichlorobe	1.3968	1.2695	9.11	95	0.00
98	PT	12dichlorobe	1.2337	1.1722	4.99	97	0.00
99	T	nButylbenzen	1.7566	1.7377	1.08	92	0.00
100	PT	12dibromo3cl	0.1110	0.0992	10.63	98	0.00
101	T	135Trichlorobenzene	0.8738	0.8351	4.43	95	0.00
102	PT	124Trichlobe	0.7481	0.7208	3.65	93	0.00
103	T	Hexachlorobu	0.3327	0.3377	-1.50	99	0.00
104	T	Naphthalene	1.6255	1.5865	2.40	95	0.00
105	T	123Trichlben	0.6667	0.6222	6.67	93	0.00

(#) = Out of Range SPCC's out = 3 CCC's out = 0

W072320.M Thu Jul 30 12:44:28 2020

Evaluate Continuing Calibration Report

Data File : C:\Instarch\Data\JUL2820\CCVF1.D Vial: 24
Acq On : 28 Jul 2020 23:23 Operator: RLD-DGS
Sample : 173473,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
Integrator: RTE

Quant Time: Jul 28 23:44:25 2020

Quant Method : C:\INSTARCH\METHODS\W072320.M
Quant Title : 8260C Waters Method
Response via : Initial Calibration
DataAcq Meth:W072320.M

Min. RRF : 0.030 Min. Rel. Area : 50% Max. R.T. Dev 0.15min
Max. RRF Dev : 50% Max. Rel. Area : 200%

		Compound	Amount	Calc.	%Dev	Area%	Dev(min)
1	I	FLUOROBENZENE**ISTD**	20.0000	20.0000	0.00	98	0.00
2	PT	Dichlorodi	10.0000	10.6211	-6.21	101	0.00
3	PT	Chloromethan	10.0000	10.9368	-9.37	107	0.00
4	PT	VinylChlorid	10.0000	11.1409	-11.41	100	0.00
5	PT	Bromomethane	10.0000	12.0816	-20.82	112	0.00
6	PT	Chloroethane	10.0000	10.2903	-2.90	100	0.00
7	T	Dichloroflmethane	10.0000	10.2109	-2.11	96	0.00
8	PT	Trichlorofma	10.0000	11.3412	-13.41	96	0.00
9	T	Ethylether	10.0000	9.7185	2.81	96	0.00
10	T	dichlorotfluoroethan	10.0000	11.2526	-12.53	99	0.00
11	T	propyleneoxide	100.0000	97.5387	2.46	96	0.00
12	T	Acrolein	50.0000	58.0193	-16.04	115	0.00
13	PT	11dichlorthe	10.0000	10.8679	-8.68	96	0.00
14	PT	Trichlorotfluoroeth	20.0000	19.4754	2.62	92	0.00
15	PT	Acetone	100.0000	89.9756	10.02	89	0.00
16	T	Iodomethane	20.0000	26.0178	-30.09	175	0.00
17	PT	Carbon Dislf	20.0000	20.4414	-2.21	96	0.00
18	T	allylchloride	20.0000	20.1041	-0.52	95	0.00
19	PT	methylacetate	10.0000	8.6757	13.24	88	0.00
20	PT	Methylchlorid	10.0000	9.6890	3.11	94	0.00
21	T	tbutylalcohol	500.0000	533.3478	-6.67	110	0.00
22	T	Acrylonitrile	50.0000	50.9193	-1.84	99	0.00
23	PT	t12dichlorte	10.0000	9.9343	0.66	96	0.00
24	PT	MtBE	10.0000	10.0690	-0.69	97	0.00
25	T	Hexane	20.0000	18.6519	6.74	89	0.00
26	PT	11dichlorota	10.0000	9.9402	0.60	97	0.00
27	T	Vinylacetate	100.0000	82.5236	17.48	82	0.00
28	T	chloroprene	20.0000	22.0157	-10.08	97	0.00
29	T	Diisopether	10.0000	10.1695	-1.69	95	0.00
30	T	ETBE	10.0000	9.7114	2.89	93	0.00
31	T	22dichloropr	10.0000	8.1201	18.80	76	0.00
32	PT	c12dichlorte	10.0000	9.7490	2.51	95	0.00
33	PT	2Butanone	100.0000	99.2593	0.74	99	0.00
34	T	propionitrile	100.0000	104.6151	-4.62	105	0.00
35	T	Ethylacetate	50.0000	48.9733	2.05	98	0.00
36	T	methacrylonitrile	20.0000	20.2231	-1.12	97	0.00
37	T	Bromochlorma	10.0000	9.4057	5.94	99	0.00
38	T	Tetrahydofur	100.0000	100.3192	-0.32	100	0.00
39	PT	Chloroform	10.0000	9.9210	0.79	95	0.00
40	PT	111trichlota	10.0000	10.4624	-4.62	96	0.00
41	S	SURRDibrflma	20.0000	20.0814	-0.41	101	0.00
42	PT	Cyclohexane	10.0000	10.1865	-1.87	98	0.00
43	PT	Carbtetraclo	10.0000	9.2818	7.18	96	0.00
44	T	11dicloprope	10.0000	10.1957	-1.96	93	0.00
45	S	SURR12DCAd4	20.0000	19.8460	0.77	97	0.00
46	PT	Benzene	10.0000	9.7060	2.94	95	0.00
47	PT	12dichlorota	10.0000	9.9856	0.14	99	0.00
48	T	TAME	10.0000	9.6618	3.38	95	0.00

49	PT	trichloroete	10.0000	10.2497	-2.50	96	0.00
50	PT	methylcyclohexane	10.0000	9.8104	1.90	94	0.00
51	PT	12dicloropra	10.0000	9.7508	2.49	96	0.00
52	T	23Dicl1propene	10.0000	10.4161	-4.16	100	0.00
53	T	Dibromometha	10.0000	9.9097	0.90	100	0.00
54	T	methylmethacrylate	10.0000	10.5399	-5.40	102	0.00
55	T	14dioxane	500.0000	509.6379	-1.93	156	0.00
56	PT	Bromodiclrma	10.0000	9.6057	3.94	96	0.00
57	T	2Nitropropane	100.0000	95.3040	4.70	105	0.00
58	T	2CLEVE	50.0000	53.3853	-6.77	99	0.00
59	PT	c13dicloproe	10.0000	9.4294	5.71	93	0.00
60	PT	4Meth2Pentan	100.0000	103.0864	-3.09	98	0.00
61	S	SURRd8Tolule	20.0000	20.1474	-0.74	99	0.00
62	PT	Toluene	10.0000	9.8364	1.64	93	0.00
63	PT	t13Dicloprop	10.0000	9.1132	8.87	88	0.00
64	T	ethylmethacrylate	20.0000	21.0932	-5.47	98	0.00
65	PT	112Triclotha	10.0000	9.5816	4.18	92	0.00
66	PT	Tetrachlorte	10.0000	10.4927	-4.93	95	0.00
67	T	13Diclorpropa	10.0000	9.5614	4.39	94	0.00
68	I	d5-CHLOROBENZENE**ISTD**	20.0000	20.0000	0.00	100	0.00
69	PT	2Hexanone	100.0000	100.5871	-0.59	97	0.00
70	PT	Clorodibrmta	10.0000	8.9951	10.05	91	0.00
71	PT	12Dibrometha	10.0000	9.5980	4.02	95	0.00
72	PT	Chlorobenzen	10.0000	9.2495	7.51	95	0.00
73	T	1Clhexane	10.0000	10.2433	-2.43	96	0.00
74	T	1112Tetclota	10.0000	9.4457	5.54	98	0.00
75	PT	Ethylbenzene	10.0000	9.6446	3.55	94	0.00
76	PT	m p-Xylene	20.0000	19.9495	0.25	95	0.00
77	PT	o-Xylene	10.0000	9.4592	5.41	92	0.00
78	PT	Styrene	10.0000	9.9195	0.81	94	0.00
79	PT	Bromoform	10.0000	8.1361	18.64	88	0.00
80	PT	Isopropylben	10.0000	10.4098	-4.10	94	0.00
81	T	cyclohexanone	200.0000	134.0865	32.96	73	0.00
82	I	d4-1,4-DICHLOROBENZENE**IS	20.0000	20.0000	0.00	104	0.00
83	S	SURR4BrFBenz	20.0000	19.6983	1.51	102	0.00
84	T	Bromobenzene	10.0000	9.2970	7.03	95	0.00
85	PT	1122Tetrclta	10.0000	9.0769	9.23	96	0.00
86	T	123Triclproa	10.0000	9.0013	9.99	94	0.00
87	T	14dichloro2butene	10.0000	7.8415	21.59	88	0.00
88	T	n-Propylbenz	10.0000	9.7580	2.42	95	0.00
89	T	2chlorotolue	10.0000	9.3057	6.94	94	0.00
90	T	4chlorotolue	10.0000	9.3106	6.89	94	0.00
91	T	135Trimebenz	10.0000	9.9037	0.96	95	0.00
92	T	tbutylbenzen	10.0000	10.1629	-1.63	95	0.00
93	T	124Trimetben	10.0000	9.8791	1.21	94	0.00
94	T	sbutylbenzen	10.0000	10.5376	-5.38	94	0.00
95	PT	13Diclorbenz	10.0000	9.4400	5.60	96	0.00
96	T	pIsopropylto	10.0000	10.2423	-2.42	94	0.00
97	PT	14dichlorobe	10.0000	9.0887	9.11	95	0.00
98	PT	12dichlorobe	10.0000	9.5019	4.98	97	0.00
99	T	nButylbenzen	10.0000	9.8922	1.08	92	0.00
100	PT	12dibromo3cl	10.0000	8.7716	12.28	98	0.00
101	T	135Trichlorobenzene	10.0000	9.5570	4.43	95	0.00
102	PT	124Trichlobe	10.0000	9.6343	3.66	93	0.00
103	T	Hexachlorobu	10.0000	10.1523	-1.52	99	0.00
104	T	Naphthalene	10.0000	9.7601	2.40	95	0.00
105	T	123Trichlben	10.0000	9.3323	6.68	93	0.00

(#) = Out of Range SPCC's out = 0 CCC's out = 0

W072320.M Thu Jul 30 12:44:48 2020

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCVF1.D Vial: 24
Acq On : 28 Jul 2020 23:23 Operator: RLD-DGS
Sample : 173473,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:44:25 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1510078	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1242055	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	758557	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	416998	20.081	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	102727	19.846	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99	%		
61) SURRd8Tolule	9.72	98	1524081	20.147	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101	%		
83) SURR4BrFBenz	13.26	95	646126	19.698	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 98	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	234874	10.6211	ug/L	98
3) Chloromethan	2.10	50	195847	10.9368	ug/L	97
4) VinylChlorid	2.25	62	211692	11.1409	ug/L	97
5) Bromomethane	2.73	94	137759	12.0816	ug/L	94
6) Chloroethane	2.89	64	131926	10.2903	ug/L	91
7) Dichloroflmethane	3.20	67	320973	10.2109	ug/L	98
8) Trichlorofma	3.28	101	317675	11.3412	ug/L	99
9) Ethylether	3.73	59	140337	9.7185	ug/L	96
10) dichlorotfluoroethan	3.74	67	203069	11.2526	ug/L	99
11) propyleneoxide	3.78	58	321835	97.5387	ug/L	99
12) Acrolein	3.85	56	135180	58.0193	ug/L	96
13) 11dichlorthe	4.01	96	180591	10.8679	ug/L	97
14) Trichlorotfluoroeth	4.05	101	363572	19.4754	ug/L	96
15) Acetone	4.08	43	397897	89.9756	ug/L	99
16) Iodomethane	4.18	142	459891	26.0178	ug/L	100
17) Carbon Dislf	4.27	76	993398	20.4414	ug/L	99
18) allylchloride	4.50	41	469599	20.1041	ug/L	97
19) methylacetate	4.55	74	35098	8.6757	ug/L	88
20) Methylchlorid	4.65	84	200845	9.6890	ug/L	97
21) tbutylalcohol	4.86	59	430858	533.3478	ug/L	100
22) Acrylonitrile	4.95	53	283489	50.9193	ug/L	99
23) t12dichlorte	5.03	96	197356	9.9343	ug/L	98
24) MtBE	5.06	73	503401	10.0690	ug/L	100
25) Hexane	5.42	57	586221	18.6519	ug/L	99
26) 11dichlorota	5.56	63	311762	9.9402	ug/L	99
27) Vinylacetate	5.65	43	2058011	82.5236	ug/L	99
28) chloroprene	5.68	53	540158	22.0157	ug/L	99
29) Diisopether	5.70	45	487663	10.1695	ug/L	99
30) ETBE	6.16	59	447842	9.7114	ug/L	97
31) 22dichloropr	6.29	77	183465	8.1201	ug/L	98
32) c12dichlorte	6.29	96	222063	9.7490	ug/L	99
33) 2Butanone	6.31	72	214640	99.2593	ug/L	99
34) propionitrile	6.34	54	210402	104.6151	ug/L	99
35) Ethylacetate	6.41	88	37616	48.9733	ug/L	94
36) methacrylonitrile	6.55	67	168689	20.2231	ug/L	96
37) Bromochlorma	6.57	128	104956	9.4057	ug/L	95
38) Tetrahydofur	6.66	42	445615	100.3192	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCVF1.D Vial: 24
Acq On : 28 Jul 2020 23:23 Operator: RLD-DGS
Sample : 173473,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:44:25 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39) Chloroform	6.68	83	343886	9.9210	ug/L	99
40) 111trichlota	6.93	97	273189	10.4624	ug/L	99
42) Cyclohexane	7.01	56	309769	10.1865	ug/L	99
43) Carbtetraclo	7.14	119	193323	9.2818	ug/L	99
44) 11dicloprope	7.13	110	102455	10.1957	ug/L	98
46) Benzene	7.38	78	767117	9.7060	ug/L	99
47) 12dichlorota	7.38	62	259012	9.9856	ug/L	99
48) TAME	7.55	73	472724	9.6618	ug/L	97
49) trichloroete	8.19	95	218306	10.2497	ug/L	98
50) methylcyclohexane	8.45	83	354860	9.8104	ug/L	99
51) 12dicloropra	8.45	63	194525	9.7508	ug/L	92
52) 23Dicl1propene	8.50	75	305853	10.4161	ug/L	100
53) Dibromometha	8.58	93	127640	9.9097	ug/L	98
54) methylmethacrylate	8.61	69	133157	10.5399	ug/L	97
55) 14dioxane	8.64	88	27810	509.6379	ug/L	84
56) Bromodiclrma	8.78	83	230758	9.6057	ug/L	98
57) 2Nitropropane	9.05	43	209510	95.3040	ug/L	95
58) 2CLEVE	9.18	63	536372	53.3853	ug/L	99
59) c13dicloproe	9.37	75	274480	9.4294	ug/L	100
60) 4Meth2Pentan	9.57	43	1392106	103.0864	ug/L	99
62) Toluene	9.81	92	497732	9.8364	ug/L	97
63) t13Dicloprop	10.07	75	215911	9.1132	ug/L	100
64) ethylmethacrylate	10.22	69	442590	21.0932	ug/L	99
65) 112Triclotha	10.31	83	147135	9.5816	ug/L	98
66) Tetrachlorte	10.55	166	258167	10.4927	ug/L	98
67) 13Diclorpropa	10.53	76	299492	9.5614	ug/L	100
69) 2Hexanone	10.65	43	1033288	100.5871	ug/L	99
70) Clorodibrmta	10.84	129	153833	8.9951	ug/L	99
71) 12Dibrometha	10.99	107	177036	9.5980	ug/L	99
72) Chlorobenzen	11.68	112	562867	9.2495	ug/L	97
73) 1Clhexane	11.65	91	268994	10.2433	ug/L	99
74) 1112Tetclota	11.78	131	151759	9.4457	ug/L	97
75) Ethylbenzene	11.84	91	901955	9.6446	ug/L	100
76) m p-Xylene	12.00	106	713163	19.9495	ug/L	100
77) o-Xylene	12.55	106	347023	9.4592	ug/L	96
78) Styrene	12.56	104	579866	9.9195	ug/L	98
79) Bromoform	12.79	173	88885	8.1361	ug/L	95
80) Isopropylben	13.07	105	883887	10.4098	ug/L	100
81) cyclohexanone	13.16	55	60162	134.0865	ug/L	92
84) Bromobenzene	13.48	156	255134	9.2970	ug/L	98
85) 1122Tetrclta	13.45	83	230689	9.0769	ug/L	100
86) 123Triclproa	13.51	75	263327	9.0013	ug/L	97
87) 14dichloro2butene	13.53	53	45305	7.8415	ug/L	92
88) n-Propylbenz	13.65	91	1027325	9.7580	ug/L	100
89) 2chlorotolue	13.77	91	630941	9.3057	ug/L	97
90) 4chlorotolue	13.92	91	727996	9.3106	ug/L	100
91) 135Trimebenz	13.92	105	745151	9.9037	ug/L	98
92) tbutylbenzen	14.38	119	651076	10.1629	ug/L	99
93) 124Trimetben	14.45	105	741665	9.8791	ug/L	100
94) sbutylbenzen	14.70	105	896429	10.5376	ug/L	100
95) 13Diclorbenz	14.84	146	461766	9.4400	ug/L	97
96) pIsopropylto	14.91	119	769844	10.2423	ug/L	98
97) 14dichlorobe	14.97	146	481488	9.0887	ug/L	99
98) 12dichlorobe	15.50	146	444604	9.5019	ug/L	99
99) nButylbenzen	15.52	91	659059	9.8922	ug/L	100
100) 12dibromo3cl	16.60	157	37637	8.7716	ug/L	96
101) 135Trichlorobenzene	16.93	180	316744	9.5570	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCVF1.D Vial: 24
Acq On : 28 Jul 2020 23:23 Operator: RLD-DGS
Sample : 173473,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:44:25 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	273369	9.6343	ug/L	99
103) Hexachlorobu	17.99	225	128090	10.1523	ug/L	98
104) Naphthalene	18.04	128	601735	9.7601	ug/L	99
105) 123Trichlben	18.35	180	235976	9.3323	ug/L	99

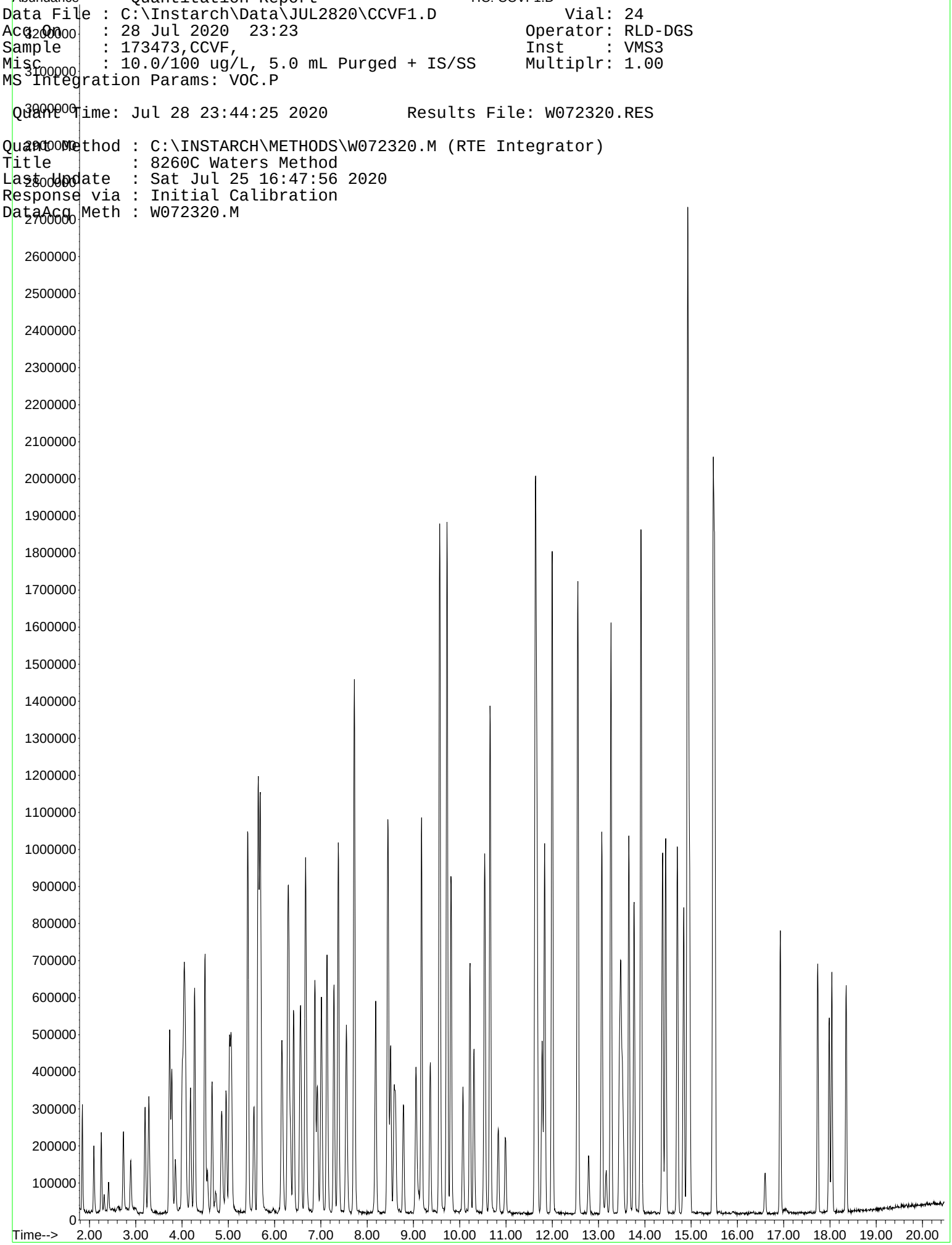
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: CCVF1.D

Data File : C:\Instarch\Data\JUL2820\CCVF1.D Vial: 24
Acq On : 28 Jul 2020 23:23 Operator: RLD-DGS
Sample : 173473,CCVF, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:44:25 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072720 - 173489 173490 173491.seq
User : KMT
Printed : Jul 27, 2020 11:50:35

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\072720 -\002.dat	173489,CCV,	Jul 27, 2020 11:50:35

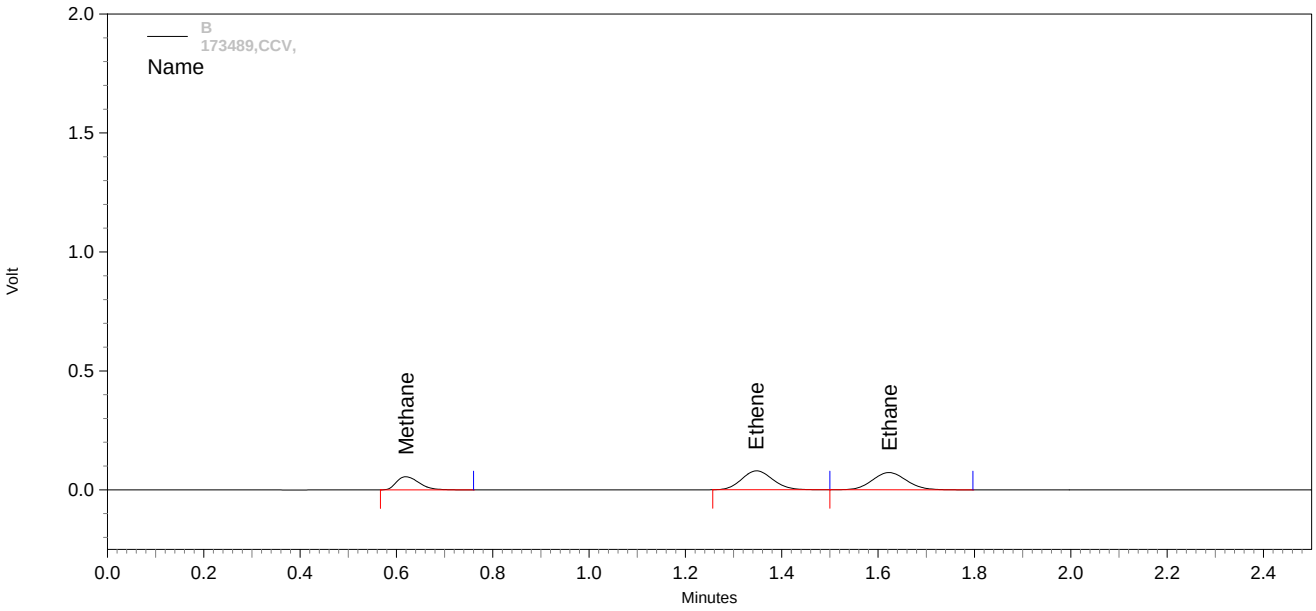
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	48.775	2.450	15.000	**Passed**
Ethene	50.000	52.443	4.887	15.000	**Passed**
Ethane	50.000	52.922	5.845	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173489,CCV,
Acquired: Jul 27, 2020 10:13:15
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	Methane	0.620	0.620	179610	48.775	ppmV
2	Ethene	1.347	1.347	356681	52.443	ppmV
3	Ethane	1.623	1.623	355005	52.922	ppmV

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072720 - 173489 173490 173491.seq
User : KMT
Printed : Jul 27, 2020 11:54:34

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\072720 -\020.dat	173489,CCV,	Jul 27, 2020 11:54:34

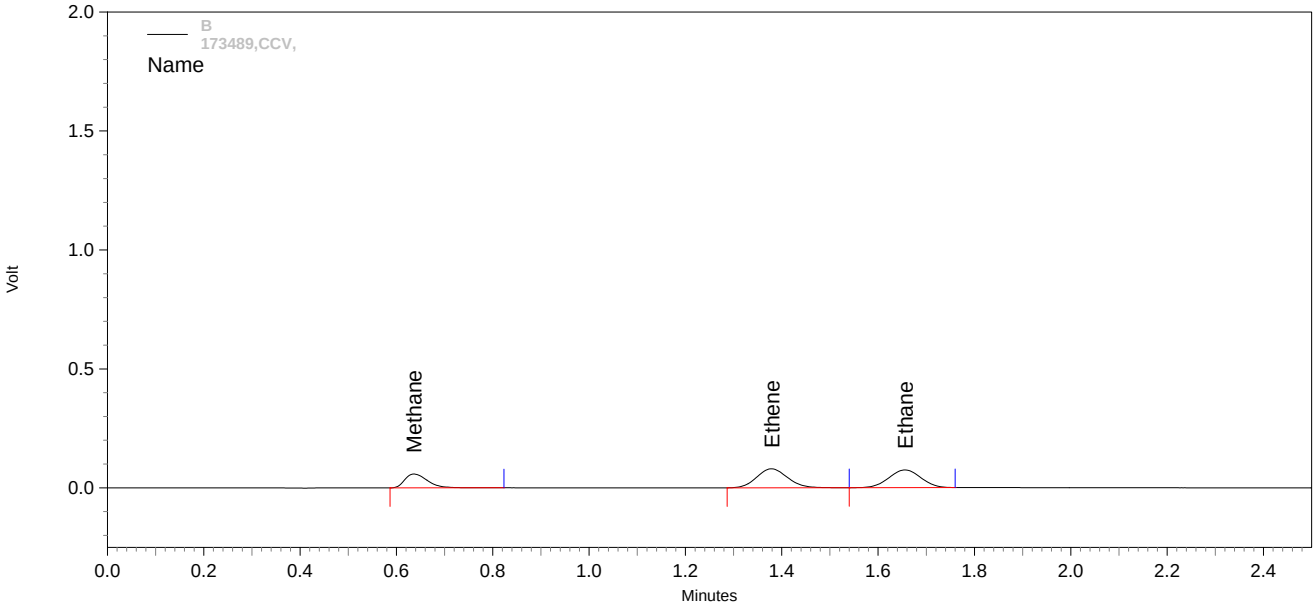
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	51.068	2.137	15.000	**Passed**
Ethene	50.000	51.791	3.582	15.000	**Passed**
Ethane	50.000	50.739	1.479	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\020.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173489,CCV,
Acquired: Jul 27, 2020 11:38:13
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.637**	**0.620**	**187924**	**51.068**	**ppmV**
2	**Ethene**	**1.380**	**1.347**	**352169**	**51.791**	**ppmV**
3	**Ethane**	**1.657**	**1.623**	**340164**	**50.739**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072920 - 173622 173623.seq
User : KMT
Printed : Jul 30, 2020 10:42:08

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\072920 -\002.dat	173622,CCV,	Jul 30, 2020 10:42:08

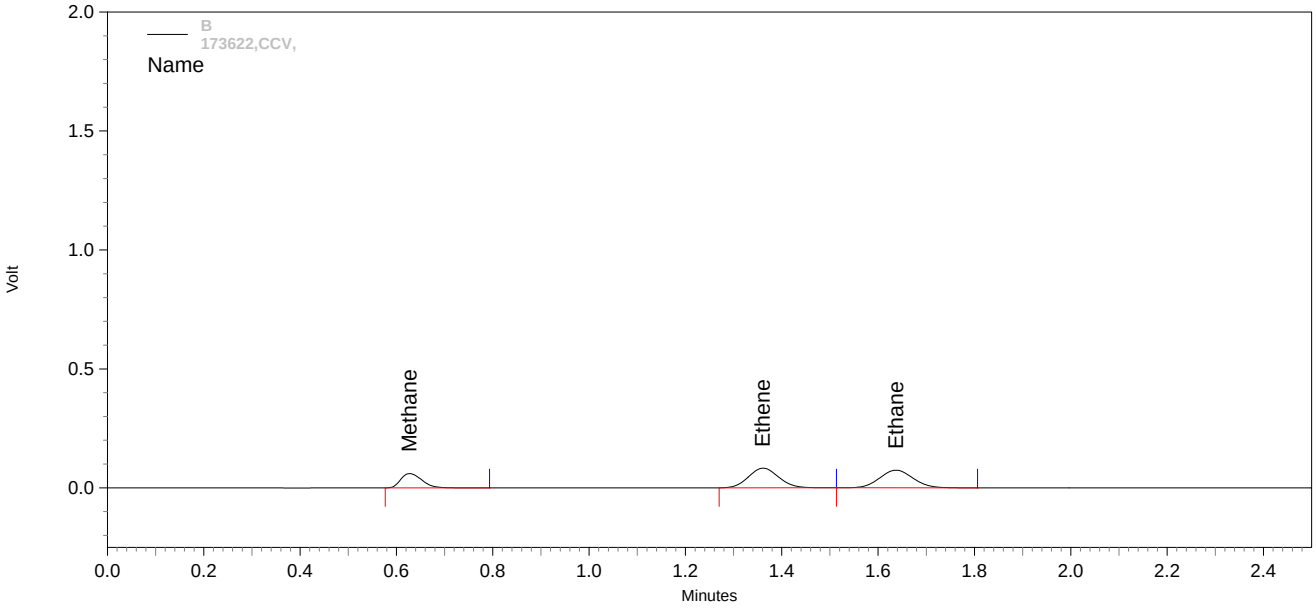
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	49.202	1.595	15.000	**Passed**
Ethene	50.000	52.698	5.397	15.000	**Passed**
Ethane	50.000	52.928	5.856	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\002.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173622,CCV,
Acquired: Jul 29, 2020 14:30:47
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	Methane	0.627	0.637	181159	49.202	ppmV
2	Ethene	1.360	1.383	358446	52.698	ppmV
3	Ethane	1.637	1.660	355045	52.928	ppmV

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072920 - 173622 173623.seq
User : KMT
Printed : Jul 30, 2020 11:30:16

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\072920 -\013.dat	173623,CCV,	Jul 30, 2020 11:30:16

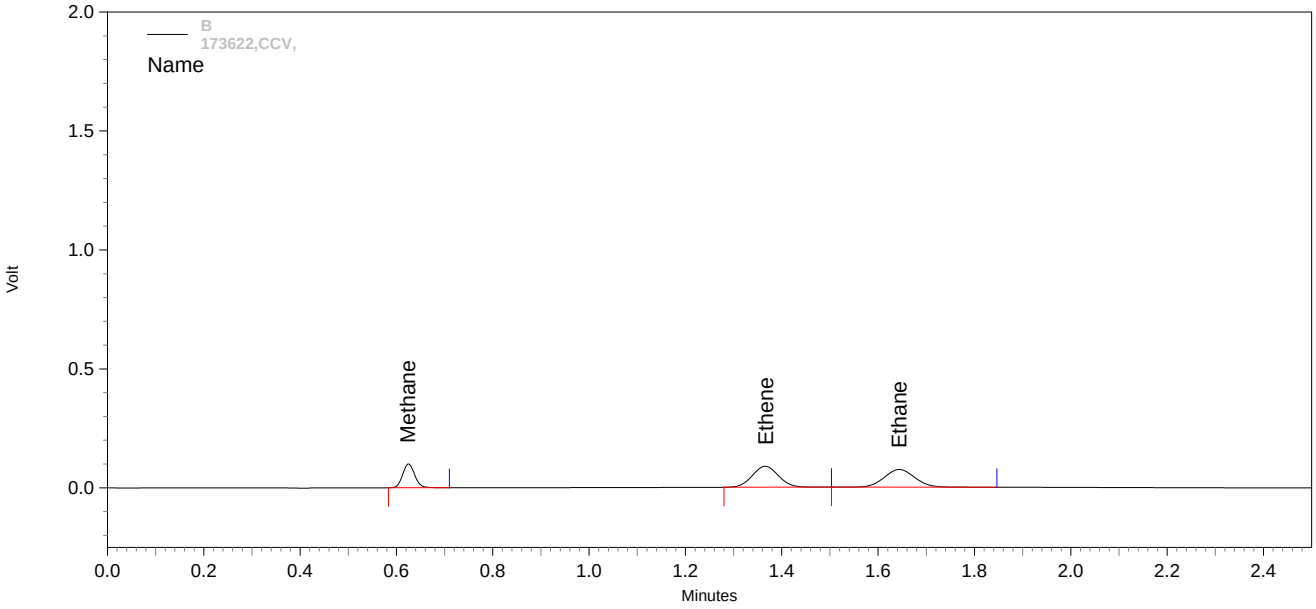
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	46.984	6.032	15.000	**Passed**
Ethene	50.000	48.981	2.038	15.000	**Passed**
Ethane	50.000	49.063	1.874	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\013.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173622,CCV,
Acquired: Jul 29, 2020 15:29:48
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



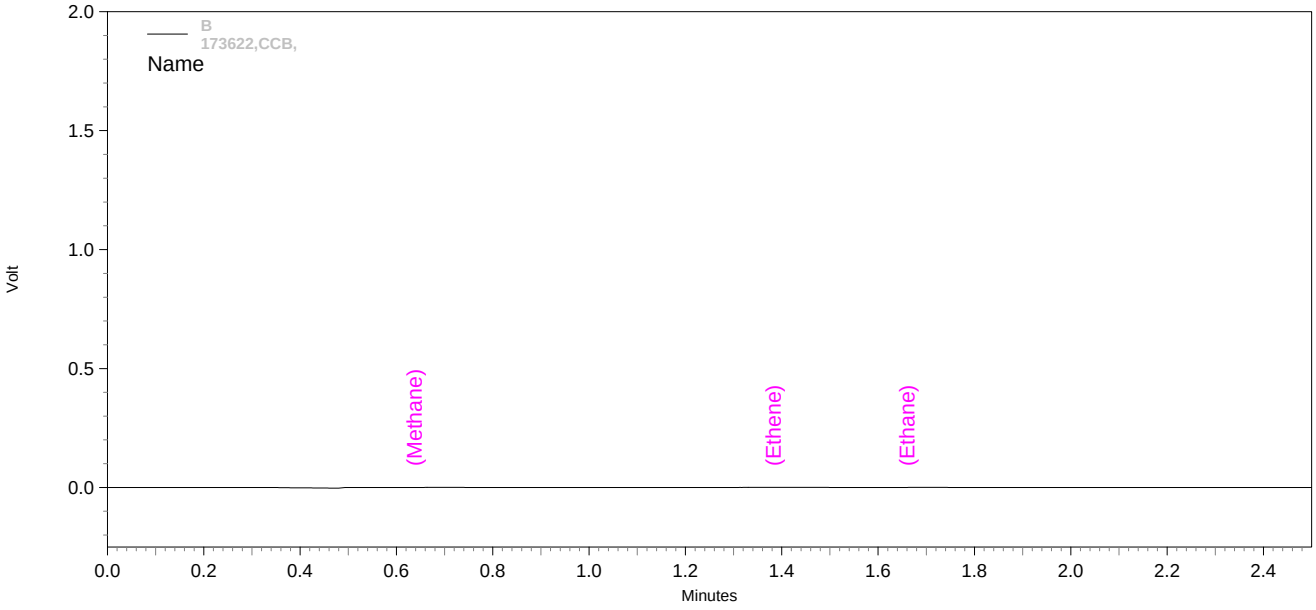
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	Methane	0.623	0.637	173117	46.984	ppmV
2	Ethene	1.367	1.383	332729	48.981	ppmV
3	Ethane	1.643	1.660	328769	49.063	ppmV

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\014.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173622,CCB,
Acquired: Jul 29, 2020 15:33:14
File Desc. MEE Continuing Calibration Blank - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072920 - 173622 173623.seq
User : KMT
Printed : Jul 30, 2020 10:44:55

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\072920 -\021.dat	173623,CCV,	Jul 30, 2020 10:44:53

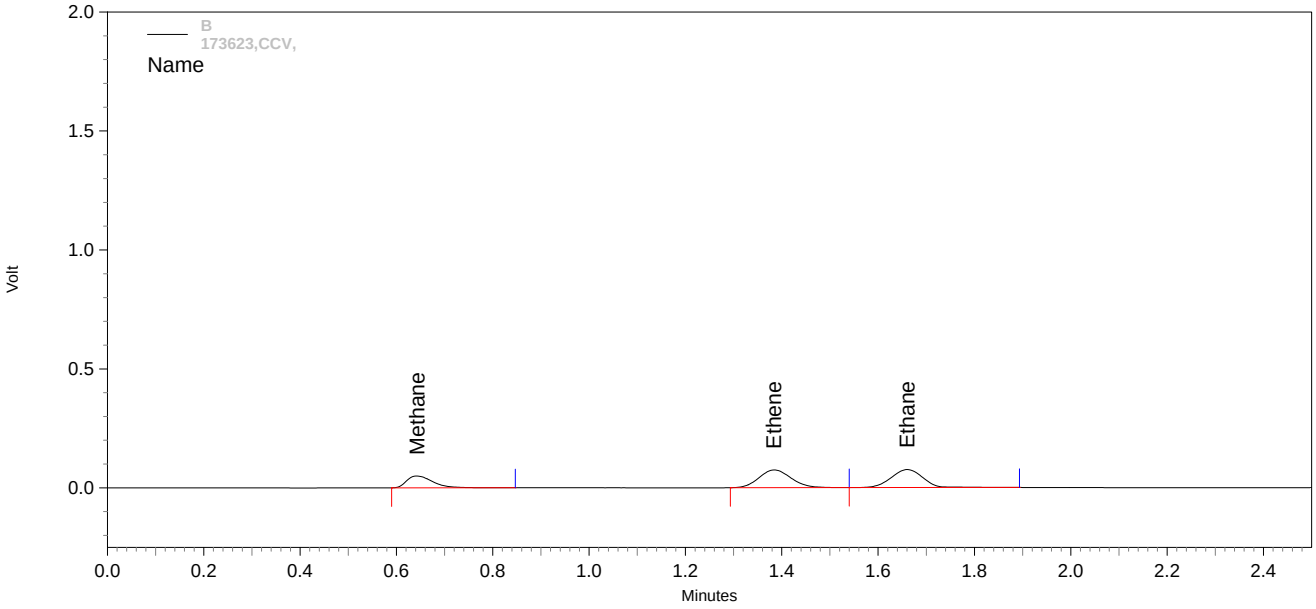
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	50.156	0.311	15.000	**Passed**
Ethene	50.000	50.625	1.249	15.000	**Passed**
Ethane	50.000	51.501	3.001	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\021.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,CCV,
Acquired: Jul 29, 2020 16:03:25
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



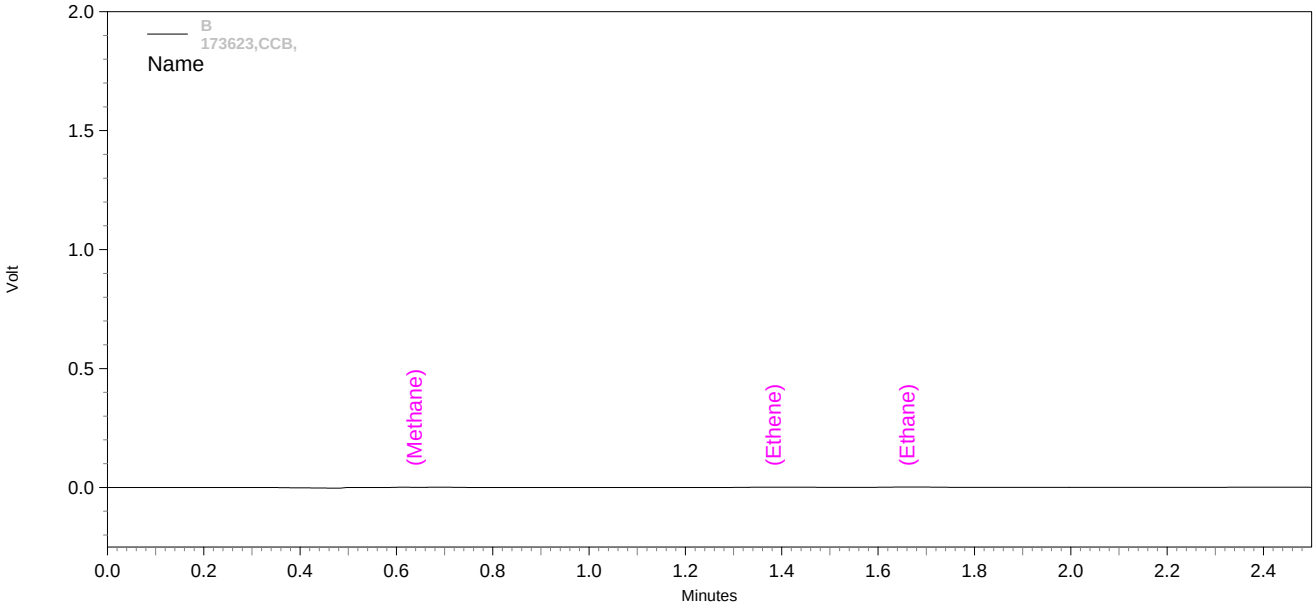
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	Methane	0.643	0.637	184615	50.156	ppmV
2	Ethene	1.383	1.383	344099	50.625	ppmV
3	Ethane	1.660	1.660	345340	51.501	ppmV

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\022.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,CCB,
Acquired: Jul 29, 2020 16:06:37
File Desc. MEE Continuing Calibration Blank - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072920 - 173622 173623.seq
User : KMT
Printed : Jul 30, 2020 10:45:38

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\072920 -\023.dat	173623,CCV,	Jul 30, 2020 10:45:38

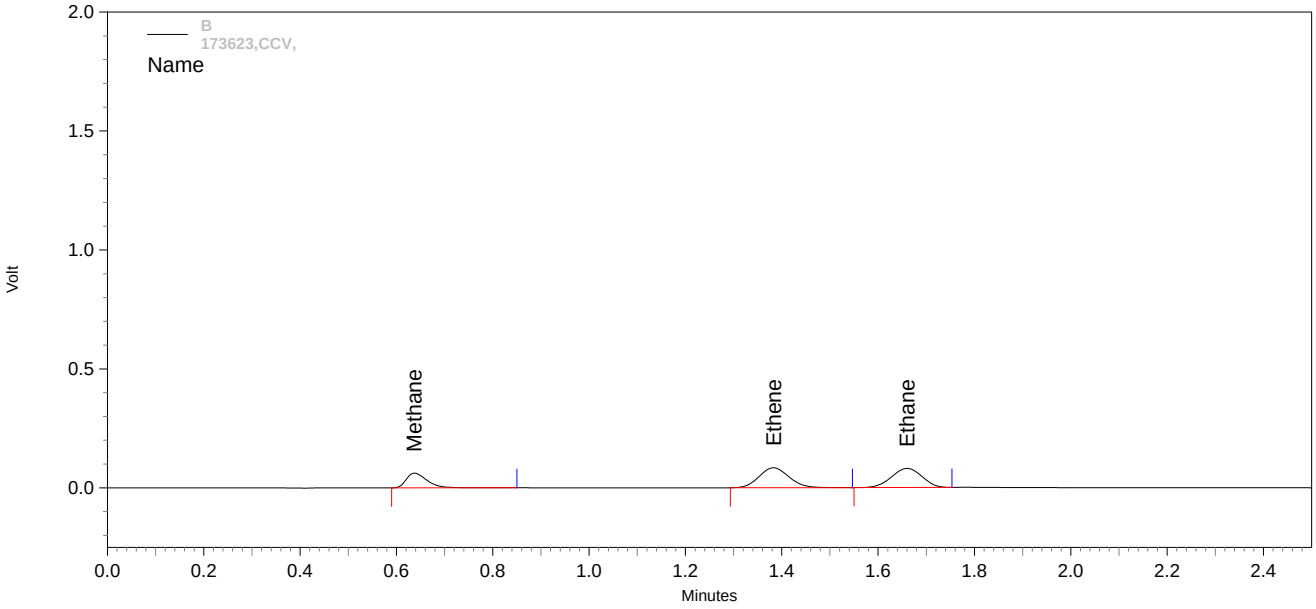
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	49.874	0.252	15.000	**Passed**
Ethene	50.000	53.194	6.388	15.000	**Passed**
Ethane	50.000	52.515	5.031	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\023.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,CCV,
Acquired: Jul 30, 2020 08:15:14
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



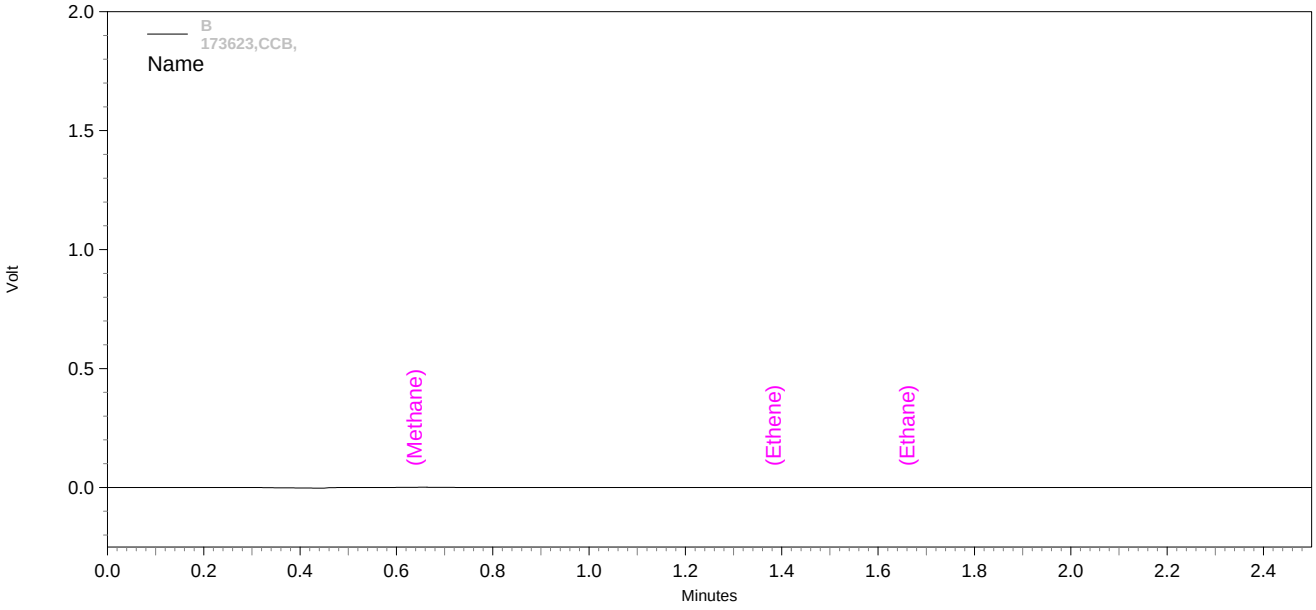
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.637**	**0.637**	**183594**	**49.874**	**ppmV**
2	**Ethene**	**1.383**	**1.383**	**361876**	**53.194**	**ppmV**
3	**Ethane**	**1.660**	**1.660**	**352239**	**52.515**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\024.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,CCB,
Acquired: Jul 30, 2020 08:46:42
File Desc. MEE Continuing Calibration Blank - 1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

QC Check Standard Report

Sequence : C:\InStarch\PVOC4\Sequence\072920 - 173622 173623.seq
User : KMT
Printed : Jul 30, 2020 10:46:17

File	Sample ID	Acquired
C:\InStarch\PVOC4\Data\072920 -\028.dat	173623,CCV,	Jul 30, 2020 10:46:16

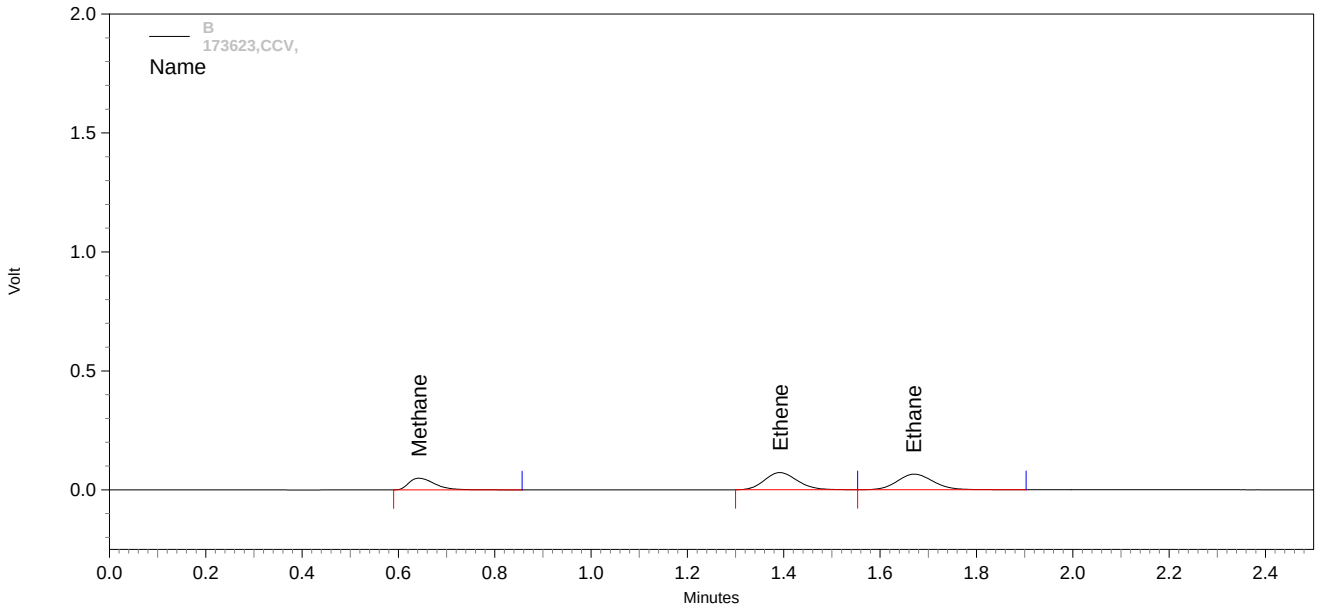
B

Compound	Expected Conc.	Actual Conc.	%RD Actual	%RD Limit	Status
Methane	50.000	49.125	1.750	15.000	**Passed**
Ethene	50.000	50.017	0.034	15.000	**Passed**
Ethane	50.000	49.963	0.073	15.000	**Passed**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\028.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173623,CCV,
Acquired: Jul 30, 2020 10:37:12
File Desc. MEE Continuing Calibration Verification - 50 ppmV - 250 uL of 200 ppmV Methane/Ethene/Ethane Gas Std Injected



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.643**	**0.637**	**180879**	**49.125**	**ppmV**
2	**Ethene**	**1.393**	**1.383**	**339894**	**50.017**	**ppmV**
3	**Ethane**	**1.670**	**1.660**	**334889**	**49.963**	**ppmV**

VOLATILE ORGANIC ANALYSIS
QUALITY CONTROL
DOCUMENTS

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1486807	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1226848	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	732658	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	403074	19.715	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 99 %			
45) SURR12DCAd4	7.28	102	101082	19.834	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %			
61) SURRd8Tolule	9.72	98	1504521	20.200	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 101 %			
83) SURR4BrFBenz	13.26	95	629326	19.864	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99 %			
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	239382	10.9936	ug/L	100
3) Chloromethan	2.10	50	185206	10.5044	ug/L	99
4) VinylChlorid	2.25	62	203117	10.8569	ug/L	97
5) Bromomethane	2.73	94	141510	12.6048	ug/L	98
6) Chloroethane	2.89	64	128834	10.2064	ug/L	92
7) Dichloroflmethane	3.20	67	306019	9.8875	ug/L	98
8) Trichlorofma	3.28	101	305214	11.0669	ug/L	97
9) Ethylether	3.73	59	136281	9.5854	ug/L	97
10) dichlorotfluoroethan	3.73	67	189878	10.6863	ug/L	97
11) propyleneoxide	3.77	58	301105	92.6844	ug/L	99
12) Acrolein	3.85	56	112488	49.0356	ug/L	98
13) 11dichlorthe	4.01	96	169181	10.3406	ug/L	96
14) Trichlorotfluoroeth	4.04	101	362700	19.7267	ug/L	99
15) Acetone	4.07	43	378333	86.8014	ug/L	100
16) Iodomethane	4.18	142	414218	24.1479	ug/L	99
17) Carbon Dislf	4.27	76	999516	20.8892	ug/L	99
18) allylchloride	4.49	41	456965	19.8695	ug/L	100
19) methylacetate	4.54	74	34523	8.6672	ug/L	97
20) Methylchlorid	4.64	84	190042	9.2974	ug/L	96
21) tbutylalcohol	4.85	59	175369	220.4824	ug/L	96
22) Acrylonitrile	4.95	53	260264	47.4794	ug/L	99
23) t12dichlorte	5.02	96	188923	9.6586	ug/L	99
24) MtBE	5.06	73	455907	9.2618	ug/L	97
25) Hexane	5.42	57	629383	20.3314	ug/L	99
26) 11dichlorota	5.55	63	301757	9.7717	ug/L	98
27) Vinylacetate	5.64	43	2373312	98.4691	ug/L	100
28) chloroprene	5.68	53	535239	22.1566	ug/L	98
29) Diisopether	5.70	45	475896	10.0794	ug/L	99
30) ETBE	6.15	59	388669	8.5601	ug/L	97
31) 22dichloropr	6.29	77	196250	8.8220	ug/L	98
32) c12dichlorte	6.28	96	206641	9.2139	ug/L	95
33) 2Butanone	6.30	72	185144	86.9591	ug/L	99
34) propionitrile	6.34	54	171253	86.4823	ug/L	99
35) Ethylacetate	6.41	88	31337	41.4370	ug/L	97
36) methacrylonitrile	6.55	67	152785	18.6032	ug/L	95
37) Bromochlorma	6.57	128	99966	9.0987	ug/L	96
38) Tetrahydofur	6.66	42	381769	87.2910	ug/L	100

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	327854	9.6065	ug/L	99
40)	111trichlota	6.92	97	247367	9.6218	ug/L	98
42)	Cyclohexane	7.00	56	294645	9.8492	ug/L	99
43)	Carbtetraclo	7.14	119	172868	8.5011	ug/L	100
44)	11dicloprope	7.13	110	103259	10.4366	ug/L	96
46)	Benzene	7.38	78	748444	9.6180	ug/L	99
47)	12dichlorota	7.38	62	250806	9.8167	ug/L	100
48)	TAME	7.55	73	425325	8.8291	ug/L	97
49)	trichloroete	8.18	95	215876	10.2943	ug/L	98
50)	methylcyclohexane	8.45	83	351211	9.8598	ug/L	97
51)	12dicloropra	8.44	63	188762	9.6074	ug/L	91
52)	23Dicl1propene	8.50	75	282644	9.7763	ug/L	97
53)	Dibromometha	8.58	93	125527	9.8982	ug/L	95
54)	methylmethacrylate	8.60	69	108774	8.7447	ug/L	99
55)	14dioxane	8.64	88	10080	187.6143	ug/L	92
56)	Bromodiclrma	8.78	83	218921	9.2556	ug/L	98
57)	2Nitropropane	9.05	43	192544	89.5299	ug/L	95
58)	2CLEVE	9.17	63	481945	48.7190	ug/L	99
59)	c13dicloproe	9.36	75	266785	9.3085	ug/L	98
60)	4Meth2Pentan	9.57	43	1253038	93.3945	ug/L	98
62)	Toluene	9.81	92	494456	9.9246	ug/L	99
63)	t13Dicloprop	10.07	75	210625	9.0292	ug/L	99
64)	ethylmethacrylate	10.22	69	385980	18.6832	ug/L	99
65)	112Triclotha	10.30	83	144563	9.5614	ug/L	98
66)	Tetrachlorte	10.54	166	250113	10.3245	ug/L	98
67)	13Diclorpropa	10.53	76	291332	9.4465	ug/L	98
69)	2Hexanone	10.66	43	906347	89.3234	ug/L	100
70)	Clorodibrmta	10.83	129	146237	8.6569	ug/L	97
71)	12Dibrometha	10.98	107	166229	9.1238	ug/L	96
72)	Chlorobenzen	11.67	112	548153	9.1193	ug/L	99
73)	1Clhexane	11.65	91	265186	10.2235	ug/L	99
74)	1112Tetclota	11.77	131	138443	8.7237	ug/L	99
75)	Ethylbenzene	11.83	91	881889	9.5469	ug/L	99
76)	m p-Xylene	11.99	106	701227	19.8587	ug/L	100
77)	o-Xylene	12.54	106	342376	9.4482	ug/L	98
78)	Styrene	12.55	104	554719	9.6070	ug/L	98
79)	Bromoform	12.78	173	94716	8.6848	ug/L	98
80)	Isopropylben	13.07	105	839055	10.0043	ug/L	99
81)	cyclohexanone	13.16	55	43985	103.8797	ug/L	88
84)	Bromobenzene	13.48	156	245665	9.2684	ug/L	98
85)	1122Tetrclta	13.45	83	223881	9.1222	ug/L	100
86)	123Triclproa	13.51	75	249384	8.8260	ug/L	99
87)	14dichloro2butene	13.54	53	47684	8.5450	ug/L	94
88)	n-Propylbenz	13.65	91	991095	9.7466	ug/L	100
89)	2chlorotolue	13.76	91	596678	9.1114	ug/L	98
90)	4chlorotolue	13.92	91	708260	9.3784	ug/L	100
91)	135Trimebenz	13.91	105	710339	9.7748	ug/L	100
92)	tbutylbenzen	14.38	119	602994	9.7451	ug/L	99
93)	124Trimetben	14.45	105	705621	9.7312	ug/L	99
94)	sbutylbenzen	14.70	105	847390	10.3132	ug/L	100
95)	13Diclorbenz	14.84	146	437274	9.2553	ug/L	99
96)	pIsopropylto	14.91	119	729446	10.0479	ug/L	99
97)	14dichlorobe	14.96	146	458862	8.9678	ug/L	100
98)	12dichlorobe	15.50	146	416729	9.2210	ug/L	100
99)	nButylbenzen	15.51	91	641851	9.9744	ug/L	100
100)	12dibromo3cl	16.60	157	31374	7.7302	ug/L	95
101)	135Trichlorobenzene	16.93	180	301867	9.4301	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	256008	9.3414	ug/L	98
103) Hexachlorobu	17.98	225	124272	10.1979	ug/L	99
104) Naphthalene	18.04	128	529062	8.8847	ug/L	99
105) 123Trichlben	18.35	180	219936	9.0054	ug/L	97

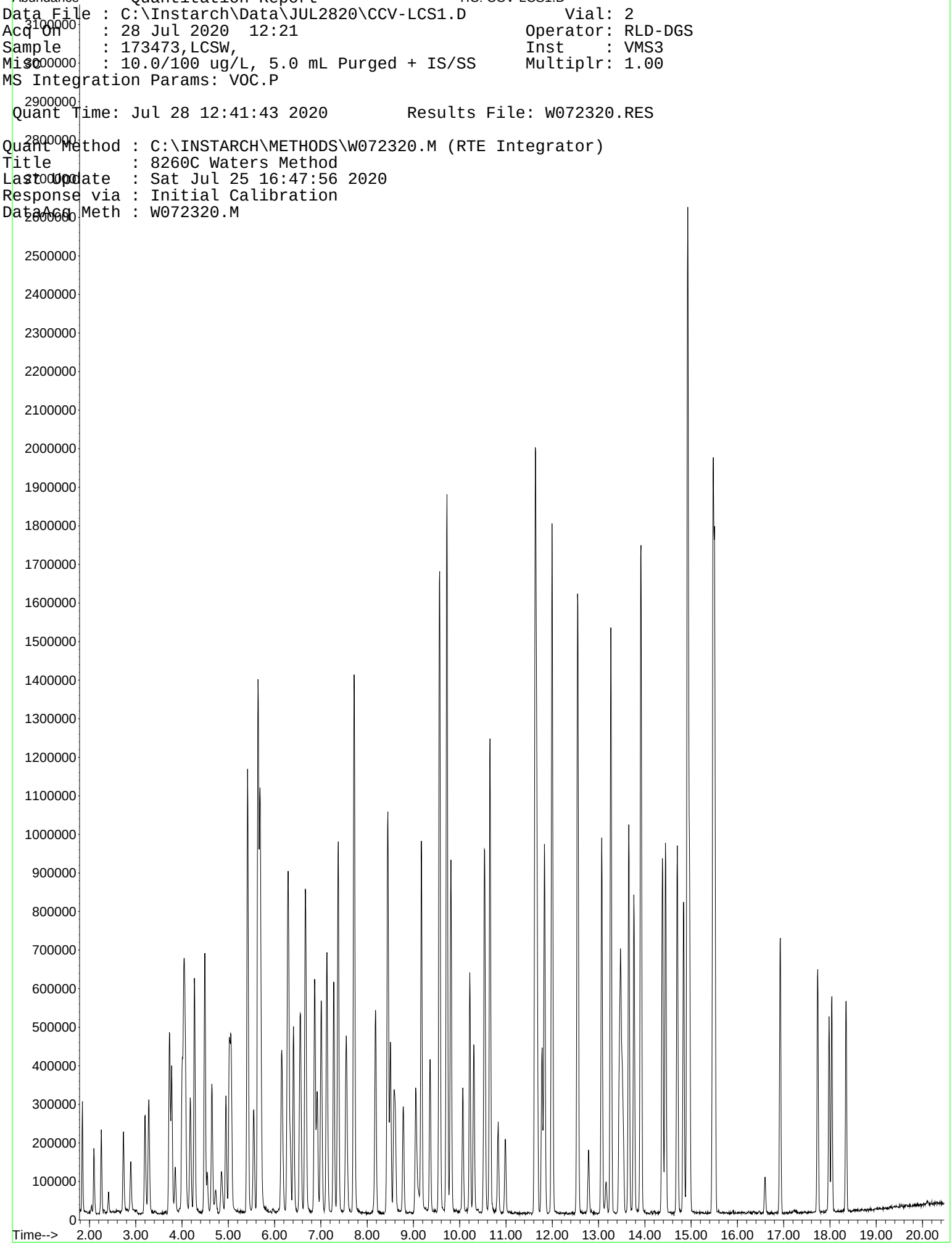
(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\Instarch\Data\JUL2820\CCV-LCS1.D Vial: 2
Acq On : 28 Jul 2020 12:21 Operator: RLD-DGS
Sample : 173473,LCSW, Inst : VMS3
Misc : 10.0/100 ug/L, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 12:41:43 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\MB1.D Vial: 4
Acq On : 28 Jul 2020 13:20 Operator: RLD-DGS
Sample : 173473,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 13:41:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1418989	20.00 ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1186704	20.00 ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	665896	20.00 ug/L	0.00 NA%
System Monitoring Compounds					
41) SURRDibrflma	6.87	113	395010	20.244 ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101 %		
45) SURR12DCAd4	7.28	102	96758	19.893 ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 99 %		
61) SURRd8Tolule	9.72	98	1417571	19.942 ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 100 %		
83) SURR4BrFBenz	13.26	95	584296	20.292 ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 101 %		

Target Compounds					Qvalue
2) Dichlorodi	0.00	85	0	N.D.	
3) Chloromethan	0.00	50	0	N.D.	
4) VinylChlorid	0.00	62	0	N.D.	
5) Bromomethane	0.00	94	0	N.D.	
6) Chloroethane	0.00	64	0	N.D.	
7) Dichloroflmethane	0.00	67	0	N.D.	
8) Trichlorofma	0.00	101	0	N.D.	
9) Ethylether	0.00	59	0	N.D.	
10) dichlorotfluoroethan	0.00	67	0	N.D.	
11) propyleneoxide	0.00	58	0	N.D.	
12) Acrolein	0.00	56	0	N.D.	
13) 11dichlorthe	0.00	96	0	N.D.	
14) Trichlorotfluoroeth	0.00	101	0	N.D.	
15) Acetone	4.09	43	3442	N.D.	
16) Iodomethane	0.00	142	0	N.D.	
17) Carbon Dislf	4.27	76	4712	N.D.	
18) allylchloride	0.00	41	0	N.D.	
19) methylacetate	0.00	74	0	N.D.	
20) Methylchlorid	4.65	84	3766	N.D.	
21) tbutylalcohol	0.00	59	0	N.D.	
22) Acrylonitrile	0.00	53	0	N.D.	
23) t12dichlorte	0.00	96	0	N.D.	
24) MtBE	0.00	73	0	N.D.	
25) Hexane	0.00	57	0	N.D.	
26) 11dichlorota	0.00	63	0	N.D.	
27) Vinylacetate	0.00	43	0	N.D.	
28) chloroprene	0.00	53	0	N.D.	
29) Diisopether	0.00	45	0	N.D.	
30) ETBE	0.00	59	0	N.D.	
31) 22dichloropr	0.00	77	0	N.D.	
32) c12dichlorte	0.00	96	0	N.D.	
33) 2Butanone	0.00	72	0	N.D.	
34) propionitrile	0.00	54	0	N.D.	
35) Ethylacetate	0.00	88	0	N.D.	
36) methacrylonitrile	0.00	67	0	N.D.	
37) Bromochlorma	0.00	128	0	N.D.	
38) Tetrahydofur	6.68	42	3711	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\MB1.D Vial: 4
Acq On : 28 Jul 2020 13:20 Operator: RLD-DGS
Sample : 173473,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 13:41:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc Unit	Qvalue
39)	Chloroform	0.00	83	0	N.D.	
40)	111trichlota	0.00	97	0	N.D.	
42)	Cyclohexane	0.00	56	0	N.D.	
43)	Carbtetraclo	0.00	119	0	N.D.	
44)	11dicloprope	0.00	110	0	N.D.	
46)	Benzene	0.00	78	0	N.D.	
47)	12dichlorota	0.00	62	0	N.D.	
48)	TAME	0.00	73	0	N.D.	
49)	trichloroete	8.19	95	2752	N.D.	
50)	methylcyclohexane	0.00	83	0	N.D.	
51)	12dicloropra	0.00	63	0	N.D.	
52)	23Dicl1propene	0.00	75	0	N.D.	
53)	Dibromometha	0.00	93	0	N.D.	
54)	methylmethacrylate	0.00	69	0	N.D.	
55)	14dioxane	0.00	88	0	N.D.	
56)	Bromodiclrma	0.00	83	0	N.D.	
57)	2Nitropropane	0.00	43	0	N.D.	
58)	2CLEVE	0.00	63	0	N.D.	
59)	c13dicloproe	0.00	75	0	N.D.	
60)	4Meth2Pentan	0.00	43	0	N.D.	
62)	Toluene	0.00	92	0	N.D.	
63)	t13Dicloprop	0.00	75	0	N.D.	
64)	ethylmethacrylate	0.00	69	0	N.D.	
65)	112Triclotha	0.00	83	0	N.D.	
66)	Tetrachlorte	0.00	166	0	N.D.	
67)	13Diclorpropa	0.00	76	0	N.D.	
69)	2Hexanone	0.00	43	0	N.D.	
70)	Clorodibrmta	0.00	129	0	N.D.	
71)	12Dibrometha	0.00	107	0	N.D.	
72)	Chlorobenzen	0.00	112	0	N.D.	
73)	1Clhexane	11.64	91	3572	N.D.	
74)	1112Tetclota	0.00	131	0	N.D.	
75)	Ethylbenzene	0.00	91	0	N.D.	
76)	m p-Xylene	0.00	106	0	N.D.	
77)	o-Xylene	0.00	106	0	N.D.	
78)	Styrene	0.00	104	0	N.D.	
79)	Bromoform	0.00	173	0	N.D.	
80)	Isopropylben	0.00	105	0	N.D.	
81)	cyclohexanone	0.00	55	0	N.D.	
84)	Bromobenzene	0.00	156	0	N.D.	
85)	1122Tetrclta	0.00	83	0	N.D.	
86)	123Triclproa	0.00	75	0	N.D.	
87)	14dichloro2butene	0.00	53	0	N.D.	
88)	n-Propylbenz	0.00	91	0	N.D.	
89)	2chlorotolue	0.00	91	0	N.D.	
90)	4chlorotolue	0.00	91	0	N.D.	
91)	135Trimebenz	0.00	105	0	N.D.	
92)	tbutylbenzen	0.00	119	0	N.D.	
93)	124Trimetben	0.00	105	0	N.D.	
94)	sbutylbenzen	0.00	105	0	N.D.	
95)	13Diclorbenz	0.00	146	0	N.D.	
96)	pIsopropylto	0.00	119	0	N.D.	
97)	14dichlorobe	0.00	146	0	N.D.	
98)	12dichlorobe	0.00	146	0	N.D.	
99)	nButylbenzen	15.46	91	3082	N.D.	
100)	12dibromo3cl	0.00	157	0	N.D.	
101)	135Trichlorobenzene	0.00	180	0	N.D.	

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\MB1.D Vial: 4
Acq On : 28 Jul 2020 13:20 Operator: RLD-DGS
Sample : 173473,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 13:41:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	0.00	180	0	N.D.		
103) Hexachlorobu	0.00	225	0	N.D.		
104) Naphthalene	0.00	128	0	N.D.		
105) 123Trichlben	0.00	180	0	N.D.		

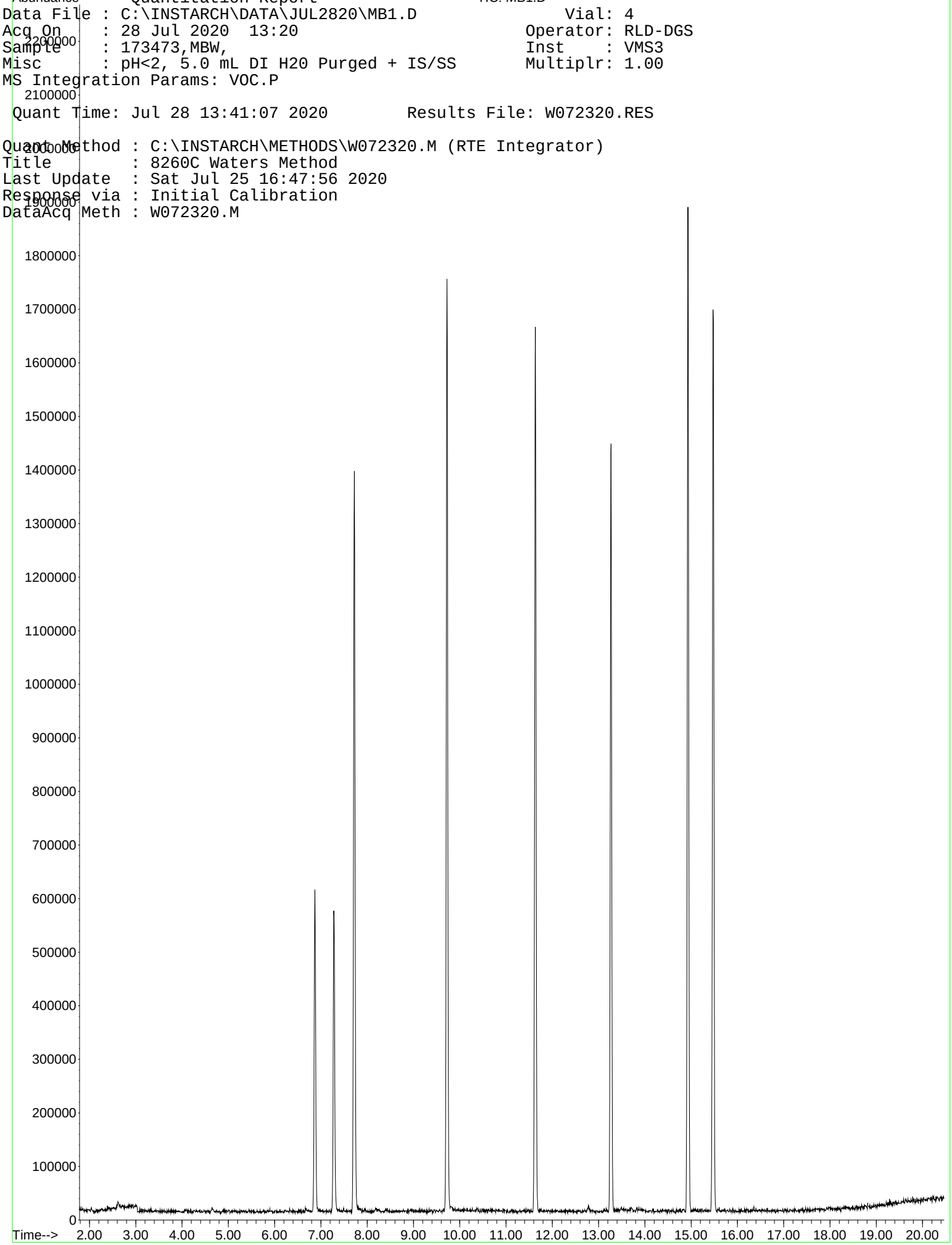
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: MB1.D

Data File : C:\INSTARCH\DATA\JUL2820\MB1.D Vial: 4
Acq On : 28 Jul 2020 13:20 Operator: RLD-DGS
Sample : 173473,MBW, Inst : VMS3
Misc : pH<2, 5.0 mL DI H20 Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 13:41:07 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447995MS.D Vial: 22
Acq On : 28 Jul 2020 22:23 Operator: RLD-DGS
Sample : 173473,MSW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:44:12 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1474473	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1236186	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	749286	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	407386	20.092	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 100	%		
45) SURR12DCAd4	7.28	102	103915	20.560	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 103	%		
61) SURRd8Tolule	9.72	98	1507861	20.414	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 102	%		
83) SURR4BrFBenz	13.27	95	639743	19.745	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 99	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	259788	12.0327	ug/L	100
3) Chloromethan	2.10	50	199933	11.4346	ug/L	100
4) VinylChlorid	2.25	62	223670	12.0555	ug/L	99
5) Bromomethane	2.73	94	146371	13.1468	ug/L	98
6) Chloroethane	2.89	64	135104	10.7926	ug/L	95
7) Dichloroflmethane	3.20	67	316622	10.3157	ug/L	97
8) Trichlorofma	3.28	101	333614	12.1978	ug/L	100
9) Ethylether	3.73	59	123284	8.7438	ug/L	91
10) dichlorotfluoroethan	3.74	67	209219	11.8733	ug/L	98
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	3.86	56	118380	52.0357	ug/L	97
13) 11dichlorthe	4.01	96	180826	11.1449	ug/L	94
14) Trichlorotfluoroeth	4.05	101	391586	21.4399	ug/L	98
15) Acetone	4.08	43	379496	87.8259	ug/L	97
16) Iodomethane	4.18	142	408682	24.0454	ug/L	98
17) Carbon Dislf	4.27	76	1038067	21.8763	ug/L	100
18) allylchloride	4.49	41	462142	20.2626	ug/L	97
19) methylacetate	4.55	74	31498	7.9739	ug/L	95
20) Methylchlorid	4.65	84	197006	9.7349	ug/L	98
21) tbutylalcohol	4.85	59	366921	465.1698	ug/L	98
22) Acrylonitrile	4.95	53	267111	49.1361	ug/L	98
23) t12dichlorte	5.03	96	202616	10.4453	ug/L	97
24) MtBE	5.06	73	468072	9.5885	ug/L	96
25) Hexane	5.42	57	643359	20.9573	ug/L	99
26) 11dichlorota	5.56	63	314743	10.2775	ug/L	99
27) Vinylacetate	5.65	43	2310314	96.4281	ug/L	100
28) chloroprene	5.68	53	577857	24.1209	ug/L	96
29) Diisopether	5.71	45	493092	10.5310	ug/L	100
30) ETBE	6.15	59	403299	8.9567	ug/L	98
31) 22dichloropr	6.29	77	178507	8.0915	ug/L	99
32) c12dichlorte	6.29	96	218055	9.8042	ug/L	97
33) 2Butanone	6.31	72	198431	93.9794	ug/L	98
34) propionitrile	6.34	54	199378	101.5276	ug/L	99
35) Ethylacetate	6.41	88	30079	40.1063	ug/L #	85
36) methacrylonitrile	6.55	67	162925	20.0038	ug/L	98
37) Bromochlorma	6.57	128	103870	9.5331	ug/L	94
38) Tetrahydofur	6.67	42	417283	96.2094	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447995MS.D Vial: 22
Acq On : 28 Jul 2020 22:23 Operator: RLD-DGS
Sample : 173473,MSW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:44:12 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	344360	10.1746	ug/L	98
40)	111trichlota	6.92	97	265980	10.4323	ug/L	96
42)	Cyclohexane	7.01	56	314970	10.5980	ug/L	99
43)	Carbtetraclo	7.14	119	189711	9.3244	ug/L	100
44)	11dicloprope	7.13	110	109860	11.1966	ug/L	99
46)	Benzene	7.38	78	767214	9.9417	ug/L	99
47)	12dichlorota	7.38	62	249104	9.8320	ug/L	99
48)	TAME	7.55	73	423407	8.8628	ug/L	98
49)	trichloroete	8.19	95	217290	10.4484	ug/L	97
50)	methylcyclohexane	8.45	83	369612	10.4442	ug/L	99
51)	12dicloropra	8.44	63	190498	9.7801	ug/L	93
52)	23Dicl1propene	8.51	75	284441	9.9208	ug/L	97
53)	Dibromometha	8.58	93	124604	9.9076	ug/L	98
54)	methylmethacrylate	8.61	69	117745	9.5451	ug/L	100
55)	14dioxane	8.63	88	28661	537.9162	ug/L	82
56)	Bromodiclrma	8.79	83	220021	9.3799	ug/L	98
57)	2Nitropropane	9.06	43	203868	95.0069	ug/L	94
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.37	75	261439	9.1982	ug/L	100
60)	4Meth2Pentan	9.57	43	1334696	101.0309	ug/L	99
62)	Toluene	9.81	92	522287	10.5709	ug/L	97
63)	t13Dicloprop	10.07	75	199080	8.6057	ug/L	100
64)	ethylmethacrylate	10.22	69	396902	19.3726	ug/L	98
65)	112Triclotha	10.31	83	150284	10.0229	ug/L	99
66)	Tetrachlorte	10.55	166	268347	11.1698	ug/L	98
67)	13Diclorpropa	10.53	76	291371	9.5268	ug/L	100
69)	2Hexanone	10.65	43	973828	95.2489	ug/L	99
70)	Clorodibrmta	10.83	129	143233	8.4151	ug/L	99
71)	12Dibrometha	10.98	107	165317	9.0052	ug/L	100
72)	Chlorobenzen	11.67	112	563768	9.3083	ug/L	98
73)	1Clhexane	11.65	91	281416	10.7673	ug/L	99
74)	1112Tetclota	11.79	131	140905	8.8118	ug/L	98
75)	Ethylbenzene	11.84	91	916716	9.8490	ug/L	99
76)	m p-Xylene	12.00	106	731972	20.5728	ug/L	98
77)	o-Xylene	12.55	106	350293	9.5936	ug/L	98
78)	Styrene	12.56	104	575482	9.8913	ug/L	100
79)	Bromoform	12.78	173	82314	7.6513	ug/L	98
80)	Isopropylben	13.07	105	899592	10.6451	ug/L	100
81)	cyclohexanone	13.17	55	50198	115.3156	ug/L	95
84)	Bromobenzene	13.48	156	251603	9.2817	ug/L	98
85)	1122Tetrclta	13.45	83	225011	8.9584	ug/L	99
86)	123Triclproa	13.51	75	245554	8.4976	ug/L	96
87)	14dichloro2butene	13.53	53	41491	7.2702	ug/L	87
88)	n-Propylbenz	13.65	91	1045555	10.0540	ug/L	100
89)	2chlorotolue	13.77	91	631934	9.4356	ug/L	99
90)	4chlorotolue	13.92	91	739693	9.5772	ug/L	100
91)	135Trimebenz	13.91	105	763430	10.2722	ug/L	98
92)	tbutylbenzen	14.38	119	659381	10.4199	ug/L	98
93)	124Trimetben	14.45	105	753771	10.1645	ug/L	100
94)	sbutylbenzen	14.70	105	917039	10.9132	ug/L	99
95)	13Diclorbenz	14.84	146	470348	9.7344	ug/L	97
96)	pIsopropylto	14.91	119	795011	10.7080	ug/L	99
97)	14dichlorobe	14.97	146	468643	8.9557	ug/L	99
98)	12dichlorobe	15.50	146	435945	9.4321	ug/L	99
99)	nButylbenzen	15.51	91	684266	10.3976	ug/L	99
100)	12dibromo3cl	16.60	157	29177	7.1338	ug/L	93
101)	135Trichlorobenzene	16.93	180	326789	9.9821	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447995MS.D Vial: 22
Acq On : 28 Jul 2020 22:23 Operator: RLD-DGS
Sample : 173473,MSW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:44:12 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	260801	9.3051	ug/L	97
103) Hexachlorobu	17.99	225	134294	10.7757	ug/L	97
104) Naphthalene	18.04	128	569952	9.3590	ug/L	99
105) 123Trichlben	18.35	180	229470	9.1873	ug/L	100

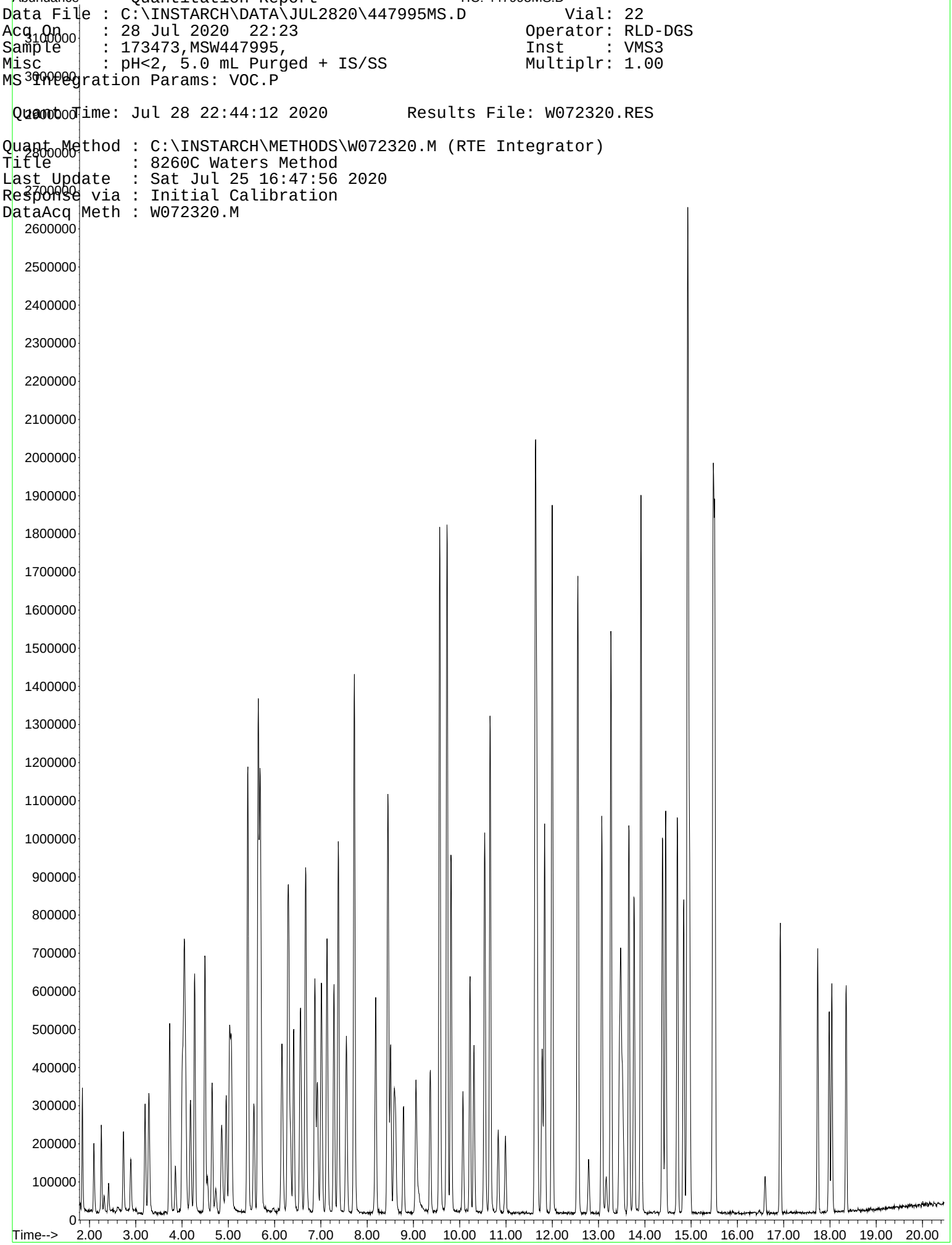
(#) = qualifier out of range (m) = manual integration

Abundance Quantitation Report TIC: 447995MS.D

Data File : C:\INSTARCH\DATA\JUL2820\447995MS.D Vial: 22
Acq On : 28 Jul 2020 22:23 Operator: RLD-DGS
Sample : 173473,MSW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 22:44:12 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M



Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447995SD.D Vial: 23
Acq On : 28 Jul 2020 22:53 Operator: RLD-DGS
Sample : 173473,MSDW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:14:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M
IS QA File : 50 level for IS QA unknown. No recoveries calculated.

Internal Standards	R.T.	QIon	Response	Conc	Units	Dev(Min) Rcv(Ar)
1) FLUOROBENZENE**ISTD**	7.72	96	1521361	20.00	ug/L	0.00 NA%
68) d5-CHLOROBENZENE**ISTD**	11.63	117	1251434	20.00	ug/L	0.00 NA%
82) d4-1,4-DICHLOROBENZENE**IS	14.93	152	756496	20.00	ug/L	0.00 NA%
System Monitoring Compounds						
41) SURRDibrflma	6.87	113	421596	20.152	ug/L	0.00
Spiked Amount 20.000	Range 90 - 110		Recovery = 101	%		
45) SURR12DCAd4	7.28	102	106488	20.420	ug/L	0.00
Spiked Amount 20.000	Range 89 - 111		Recovery = 102	%		
61) SURRd8Tolule	9.72	98	1510864	19.825	ug/L	0.00
Spiked Amount 20.000	Range 93 - 107		Recovery = 99	%		
83) SURR4BrFBenz	13.27	95	652947	19.961	ug/L	0.00
Spiked Amount 20.000	Range 83 - 111		Recovery = 100	%		
Target Compounds						Qvalue
2) Dichlorodi	1.85	85	261326	11.7296	ug/L	99
3) Chloromethan	2.10	50	207226	11.4864	ug/L	99
4) VinylChlorid	2.25	62	231659	12.1013	ug/L	97
5) Bromomethane	2.73	94	142381	12.3943	ug/L	92
6) Chloroethane	2.89	64	146774	11.3635	ug/L	93
7) Dichloroflmethane	3.20	67	335550	10.5954	ug/L	98
8) Trichlorofma	3.28	101	347118	12.3004	ug/L	100
9) Ethylether	3.73	59	131354	9.0290	ug/L	90
10) dichlorotfluoroethan	3.74	67	222896	12.2596	ug/L	99
11) propyleneoxide	0.00	58	0	N.D.		
12) Acrolein	3.86	56	124719	53.1325	ug/L	97
13) 11dichlorthe	4.01	96	189313	11.3083	ug/L	95
14) Trichlorotfluoroeth	4.05	101	393241	20.8770	ug/L	96
15) Acetone	4.08	43	367173	82.2022	ug/L	98
16) Iodomethane	4.18	142	468981	26.2861	ug/L	99
17) Carbon Dislf	4.27	76	1083903	22.1383	ug/L	100
18) allylchloride	4.50	41	493726	20.9803	ug/L	98
19) methylacetate	4.55	74	35651	8.7471	ug/L	93
20) Methylchlorid	4.65	84	207632	9.9517	ug/L	99
21) tbutylalcohol	4.86	59	394408	484.6065	ug/L	99
22) Acrylonitrile	4.95	53	281633	50.2108	ug/L	99
23) t12dichlorte	5.02	96	216007	10.7925	ug/L	96
24) MtBE	5.06	73	488676	9.7020	ug/L	96
25) Hexane	5.42	57	672797	21.2416	ug/L	99
26) 11dichlorota	5.56	63	332439	10.5208	ug/L	100
27) Vinylacetate	5.65	43	2506808	102.0720	ug/L	100
28) chloroprene	5.68	53	591773	23.9405	ug/L	99
29) Diisopether	5.70	45	493707	10.2192	ug/L	96
30) ETBE	6.16	59	445546	9.5899	ug/L	100
31) 22dichloropr	6.29	77	197292	8.6674	ug/L	96
32) c12dichlorte	6.28	96	227424	9.9103	ug/L	96
33) 2Butanone	6.31	72	205910	94.5159	ug/L	99
34) propionitrile	6.35	54	197459	97.4515	ug/L	99
35) Ethylacetate	6.41	88	34657	44.7862	ug/L	96
36) methacrylonitrile	6.55	67	166777	19.8456	ug/L	96
37) Bromochlorma	6.57	128	108520	9.6530	ug/L	97
38) Tetrahydofur	6.66	42	419860	93.8201	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report

Data File : C:\INSTARCH\DATA\JUL2820\447995SD.D Vial: 23
Acq On : 28 Jul 2020 22:53 Operator: RLD-DGS
Sample : 173473,MSDW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:14:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

	Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
39)	Chloroform	6.68	83	359863	10.3050	ug/L	99
40)	111trichlota	6.93	97	289613	11.0092	ug/L	99
42)	Cyclohexane	7.01	56	333128	10.8580	ug/L	99
43)	Carbtetraclo	7.14	119	203990	9.6847	ug/L	99
44)	11dicloprope	7.13	110	113565	11.2175	ug/L	98
46)	Benzene	7.38	78	813012	10.2104	ug/L	100
47)	12dichlorota	7.38	62	259862	9.9431	ug/L	99
48)	TAME	7.55	73	460101	9.3341	ug/L	97
49)	trichloroete	8.19	95	226674	10.5637	ug/L	98
50)	methylcyclohexane	8.45	83	388407	10.6316	ug/L	99
51)	12dicloropra	8.45	63	201352	10.0233	ug/L	93
52)	23Dicl1propene	8.51	75	305679	10.3329	ug/L	99
53)	Dibromometha	8.59	93	127180	9.8008	ug/L	99
54)	methylmethacrylate	8.61	69	123176	9.6776	ug/L	98
55)	14dioxane	8.64	88	28170	512.4066	ug/L	84
56)	Bromodiclrma	8.78	83	240669	9.9440	ug/L	99
57)	2Nitropropane	9.06	43	207692	93.9161	ug/L	98
58)	2CLEVE	0.00	63	0	N.D.		
59)	c13dicloproe	9.36	75	277245	9.4537	ug/L	100
60)	4Meth2Pentan	9.57	43	1354901	99.2347	ug/L	99
62)	Toluene	9.81	92	519347	10.1874	ug/L	98
63)	t13Dicloprop	10.07	75	224032	9.3858	ug/L	98
64)	ethylmethacrylate	10.22	69	432628	20.4655	ug/L	98
65)	112Triclotha	10.31	83	151428	9.7880	ug/L	98
66)	Tetrachlorte	10.55	166	276232	11.1436	ug/L	99
67)	13Diclorpropa	10.53	76	301807	9.5638	ug/L	98
69)	2Hexanone	10.66	43	1007466	97.3384	ug/L	99
70)	Clorodibrmta	10.83	129	153813	8.9265	ug/L	99
71)	12Dibrometha	10.99	107	178473	9.6034	ug/L	100
72)	Chlorobenzen	11.67	112	598490	9.7611	ug/L	98
73)	1Clhexane	11.65	91	289384	10.9372	ug/L	99
74)	1112Tetclota	11.78	131	154215	9.5266	ug/L	99
75)	Ethylbenzene	11.84	91	938761	9.9629	ug/L	100
76)	m p-Xylene	12.00	106	759803	21.0948	ug/L	97
77)	o-Xylene	12.55	106	362290	9.8013	ug/L	98
78)	Styrene	12.56	104	596035	10.1197	ug/L	99
79)	Bromoform	12.78	173	90582	8.2159	ug/L	100
80)	Isopropylben	13.07	105	927955	10.8469	ug/L	99
81)	cyclohexanone	13.17	55	49737	113.2418	ug/L	90
84)	Bromobenzene	13.48	156	257226	9.3987	ug/L	99
85)	1122Tetrclta	13.45	83	233758	9.2287	ug/L	96
86)	123Triclproa	13.51	75	256009	8.7750	ug/L	95
87)	14dichloro2butene	13.53	53	44224	7.6752	ug/L	90
88)	n-Propylbenz	13.66	91	1077607	10.2634	ug/L	100
89)	2chlorotolue	13.77	91	649343	9.6032	ug/L	98
90)	4chlorotolue	13.92	91	770332	9.8789	ug/L	99
91)	135Trimebenz	13.91	105	779483	10.3882	ug/L	98
92)	tbutylbenzen	14.38	119	680139	10.6455	ug/L	99
93)	124Trimetben	14.45	105	771971	10.3107	ug/L	97
94)	sbutylbenzen	14.70	105	953474	11.2387	ug/L	98
95)	13Diclorbenz	14.84	146	477063	9.7793	ug/L	98
96)	pIsopropylto	14.91	119	823295	10.9832	ug/L	100
97)	14dichlorobe	14.97	146	494410	9.3581	ug/L	98
98)	12dichlorobe	15.50	146	451905	9.6843	ug/L	99
99)	nButylbenzen	15.52	91	728892	10.9701	ug/L	99
100)	12dibromo3cl	16.60	157	36345	8.5309	ug/L	92
101)	135Trichlorobenzene	16.93	180	332750	10.0673	ug/L	99

(#) = qualifier out of range (m) = manual integration

Quantitation Report
Data File : C:\INSTARCH\DATA\JUL2820\447995SD.D Vial: 23
Acq On : 28 Jul 2020 22:53 Operator: RLD-DGS
Sample : 173473,MSDW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:14:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

Compound	R.T.	QIon	Response	Conc	Unit	Qvalue
102) 124Trichlobe	17.74	180	280384	9.9084	ug/L	98
103) Hexachlorobu	17.99	225	137317	10.9133	ug/L	100
104) Naphthalene	18.04	128	604501	9.8317	ug/L	100
105) 123Trichlben	18.35	180	247024	9.7958	ug/L	99

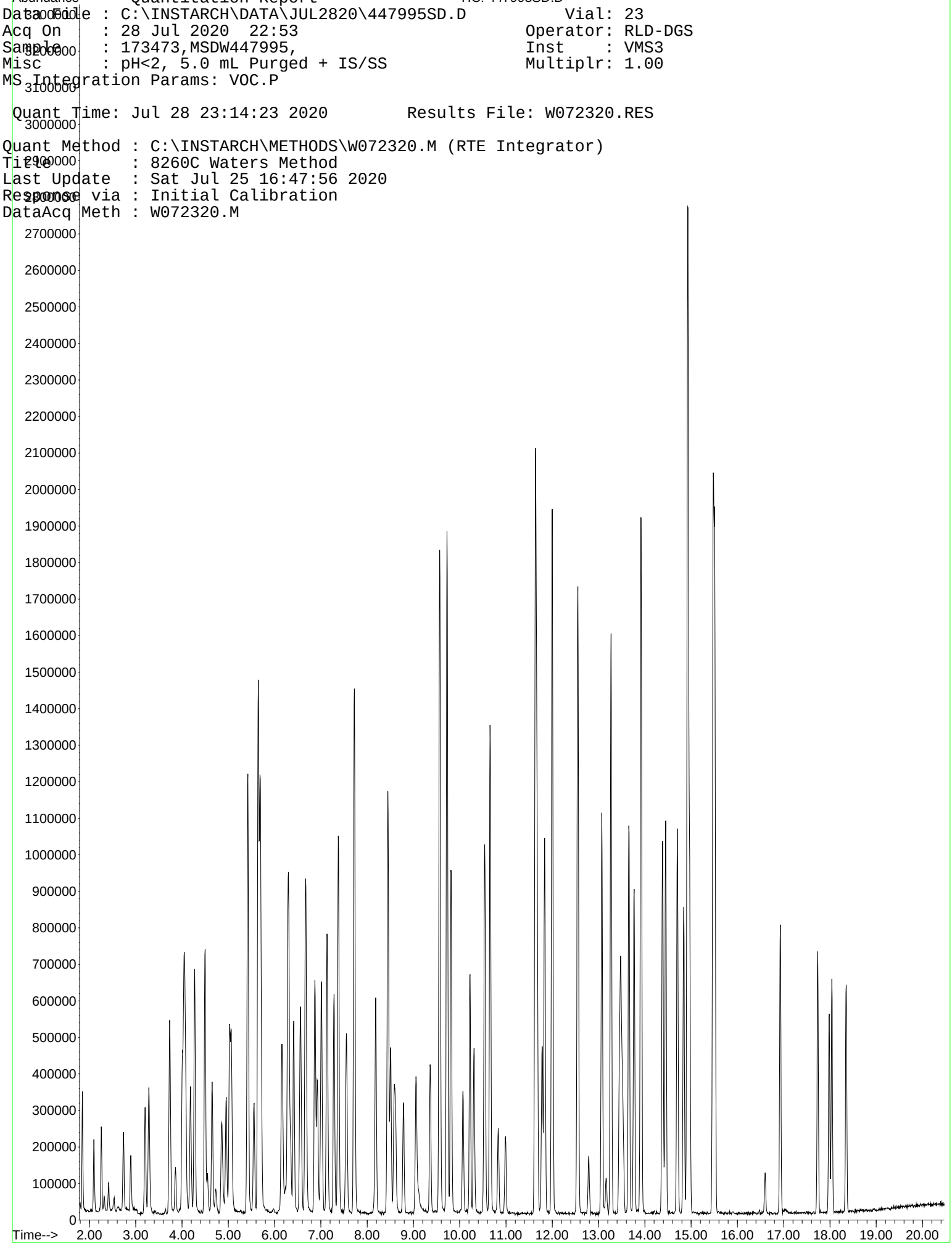
(#) = qualifier out of range (m) = manual integration
447995SD.D W072320.M Thu Jul 30 12:50:24 2020

Abundance Quantitation Report TIC: 447995SD.D

Data File : C:\INSTARCH\DATA\JUL2820\447995SD.D Vial: 23
Acq On : 28 Jul 2020 22:53 Operator: RLD-DGS
Sample : 173473,MSDW447995, Inst : VMS3
Misc : pH<2, 5.0 mL Purged + IS/SS Multiplr: 1.00
MS Integration Params: VOC.P

Quant Time: Jul 28 23:14:23 2020 Results File: W072320.RES

Quant Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Last Update : Sat Jul 25 16:47:56 2020
Response via : Initial Calibration
DataAcq Meth : W072320.M

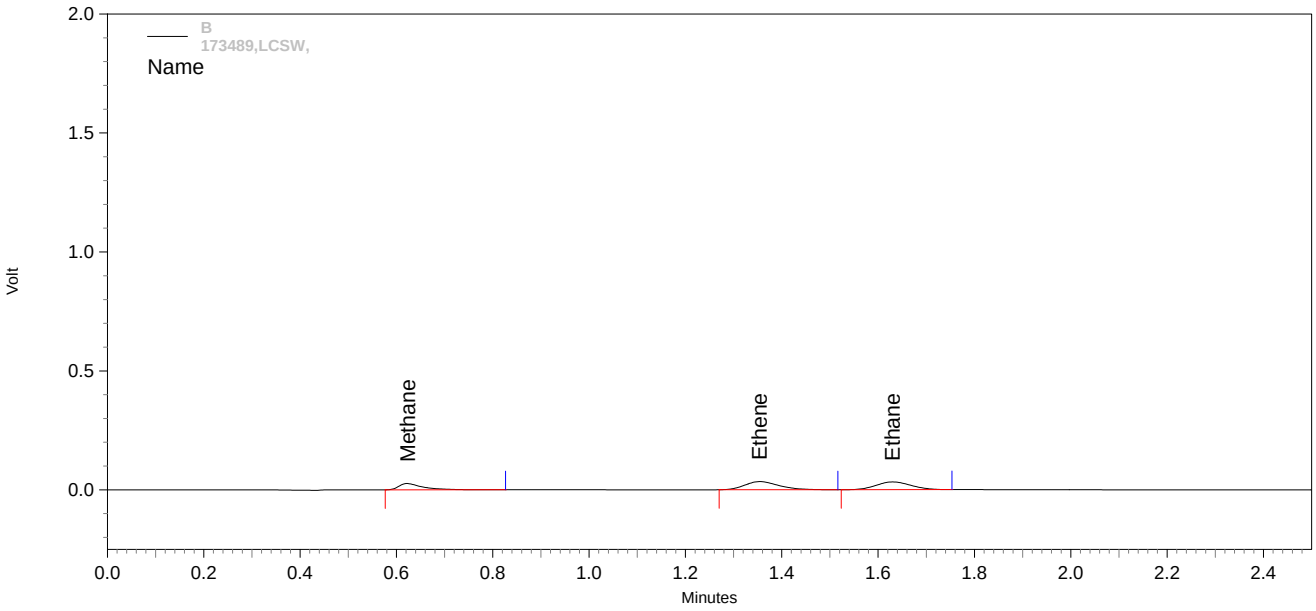


Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173489,LCSW,
Acquired: Jul 27, 2020 10:17:09
File Desc. Laboratory Control Sample - 25 ppmV -

500 uL of the 200 ppmV MEE Std. into 4 mL of headspace. 1.0 mL injection (Methane, Ethene, Ethane,)



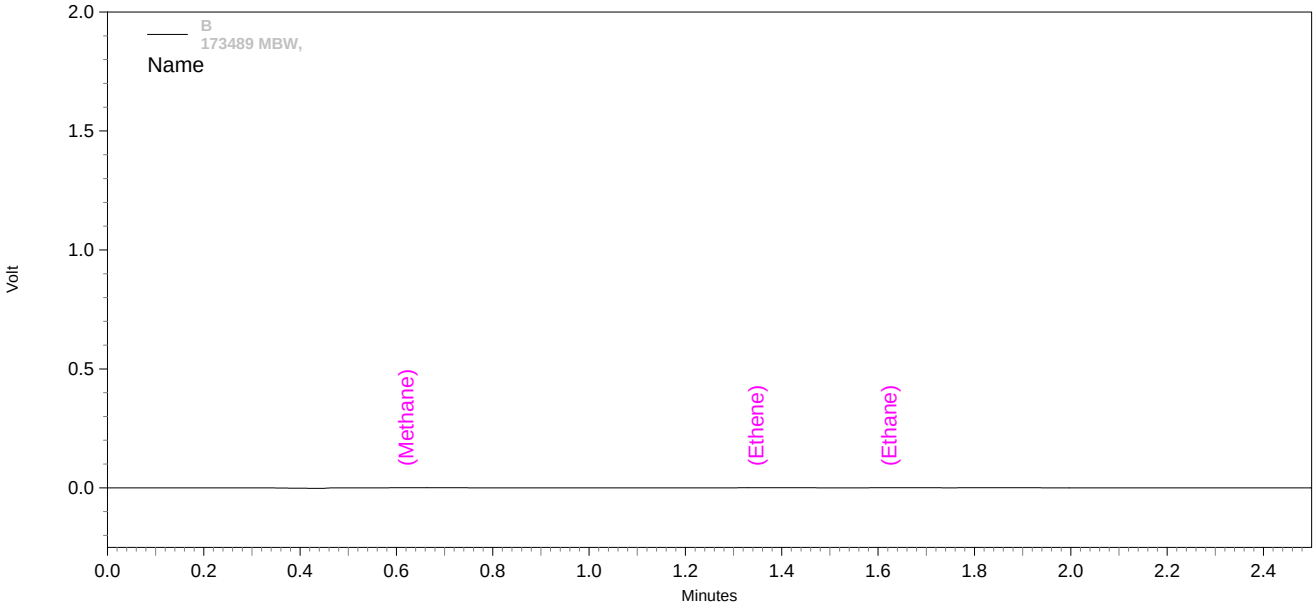
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.623**	**0.620**	**89258**	**23.851**	**ppmV**
2	**Ethene**	**1.353**	**1.347**	**168572**	**25.253**	**ppmV**
3	**Ethane**	**1.630**	**1.623**	**164312**	**24.873**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173489 MBW,
Acquired: Jul 27, 2020 10:21:14
File Desc. Method Blank
1.0 mL injection (Methane, Ethene, Ethane)



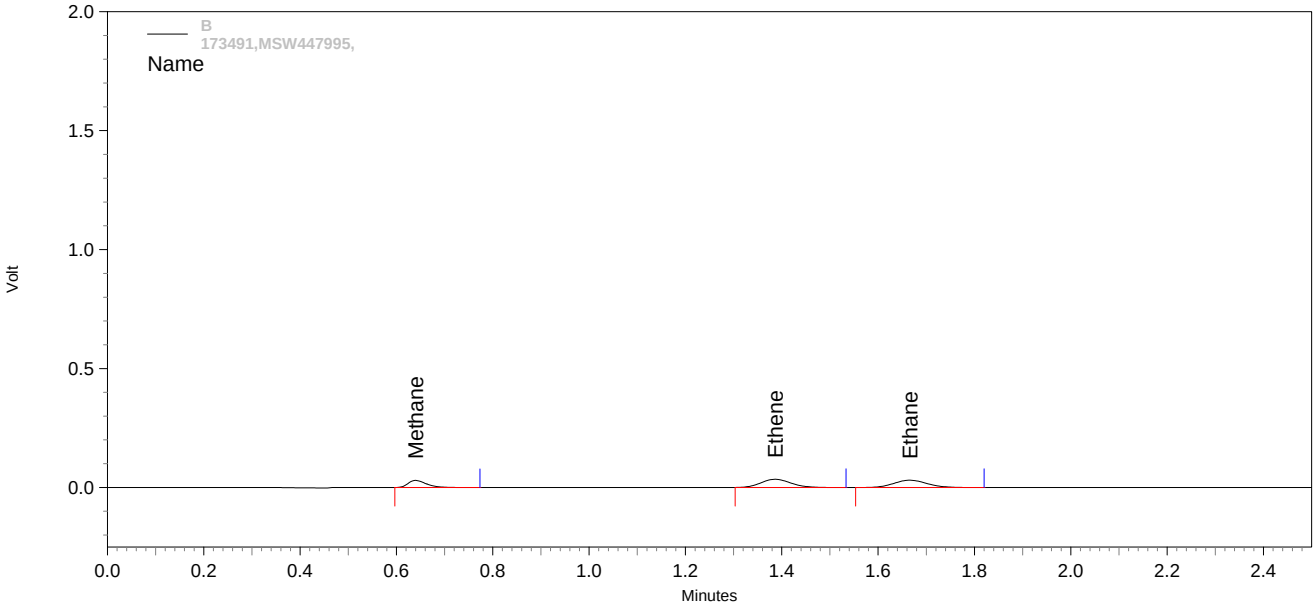
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.620**		**0.000 BDL**	**ppmV**
	Ethene		**1.347**		**0.000 BDL**	**ppmV**
	Ethane		**1.623**		**0.000 BDL**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\018.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173491,MSW447995,
Acquired: Jul 27, 2020 11:28:22
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



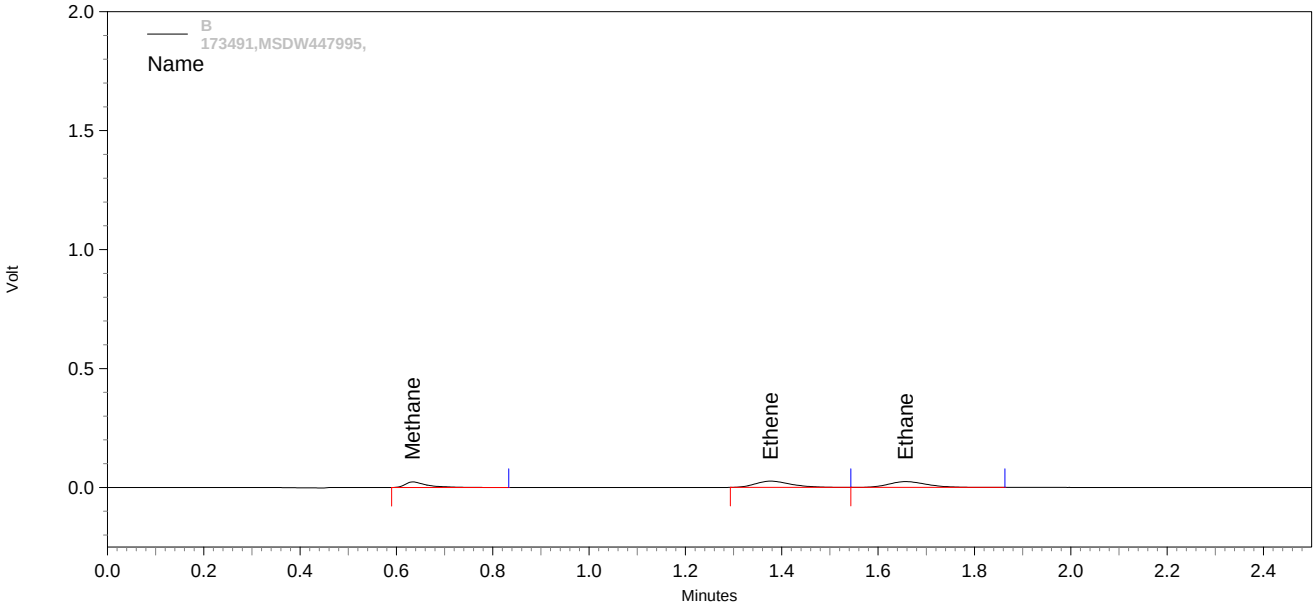
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.640**	**0.620**	**78419**	**20.861**	**ppmV**
2	**Ethene**	**1.387**	**1.347**	**148972**	**22.420**	**ppmV**
3	**Ethane**	**1.667**	**1.623**	**147087**	**22.339**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072720 -\019.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173491,MSDW447995,
Acquired: Jul 27, 2020 11:33:06
File Desc. MATRIX SPIKE 1mL injection (Methane, Ethene, Ethane)



B Results

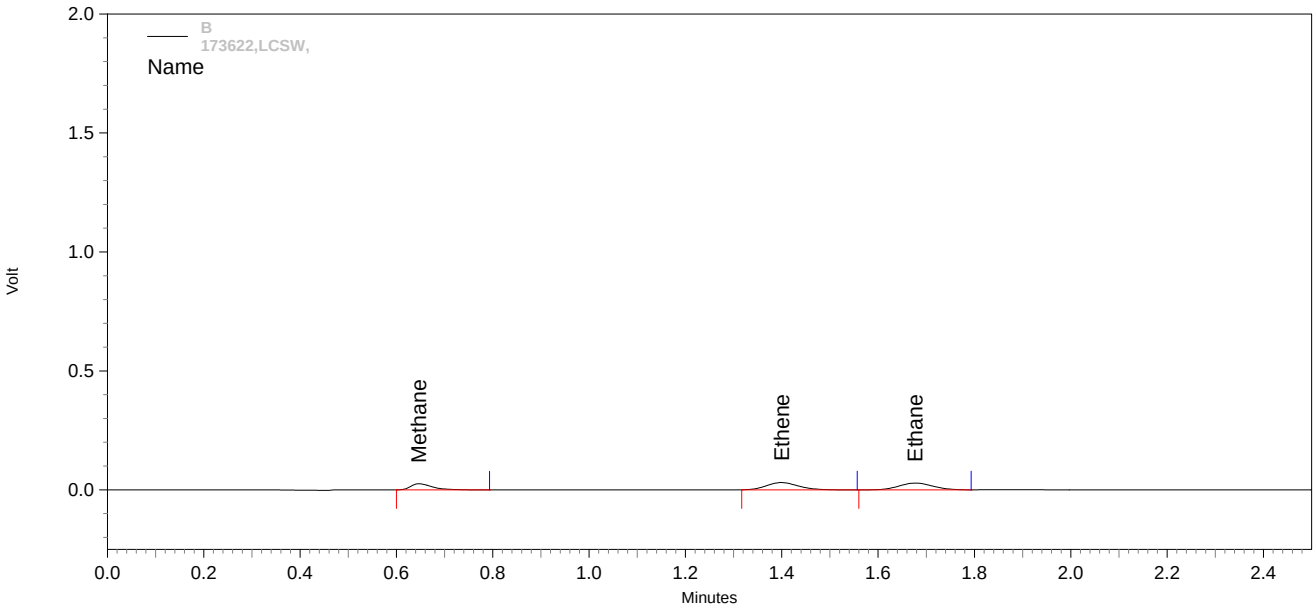
Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.633**	**0.620**	**72356**	**19.188**	**ppmV**
2	**Ethene**	**1.377**	**1.347**	**133869**	**20.237**	**ppmV**
3	**Ethane**	**1.657**	**1.623**	**132664**	**20.218**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\003.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173622,LCSW,
Acquired: Jul 29, 2020 14:34:33
File Desc. Laboratory Control Sample - 25 ppmV -

500 uL of the 200 ppmV MEE Std. into 4 mL of headspace. 1.0 mL injection (Methane, Ethene, Ethane,)



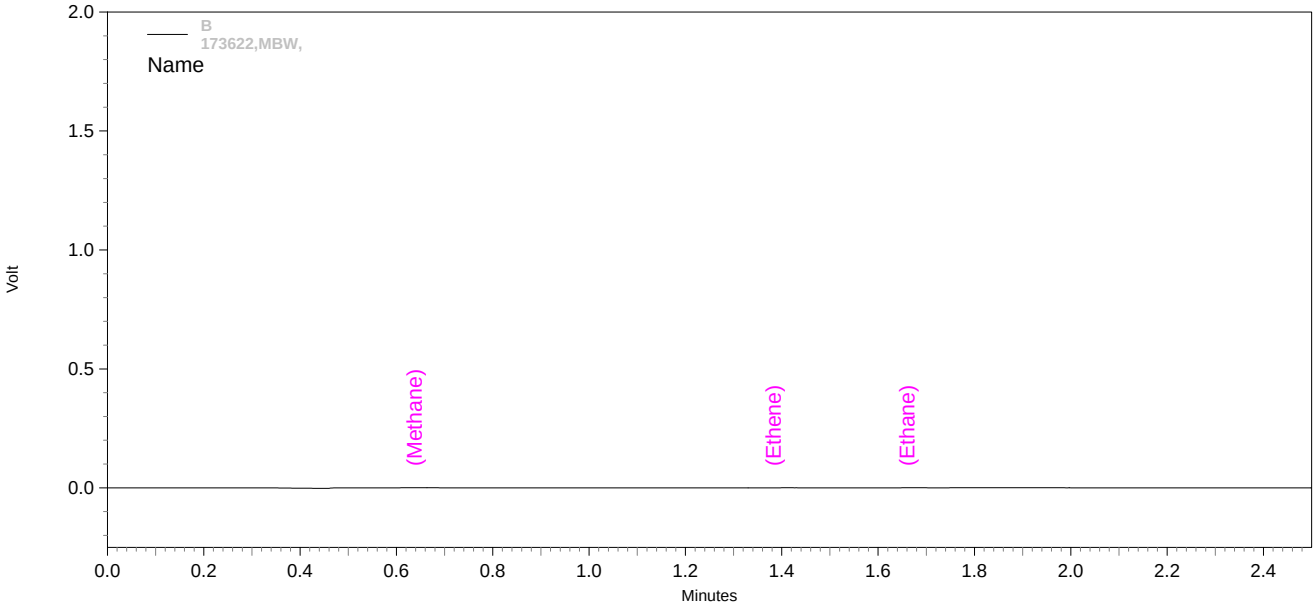
B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
1	**Methane**	**0.647**	**0.637**	**78146**	**20.786**	**ppmV**
2	**Ethene**	**1.400**	**1.383**	**138765**	**20.944**	**ppmV**
3	**Ethane**	**1.677**	**1.660**	**137770**	**20.969**	**ppmV**

Dissolved Gases External Standard Report

PVOC4

Data File: C:\InStarch\PVOC4\Data\072920 -\004.dat
Method Name: C:\Instarch\PVOC4\Methods\P4DG121319.met
Sample ID: 173622,MBW,
Acquired: Jul 29, 2020 14:38:31
File Desc. Method Blank
1.0 mL injection (Methane, Ethene, Ethane)



B Results

Pk #	*Name*	*Retention Time*	*Expected RT*	*Area*	*Concentration*	*Units*
	Methane		**0.637**		**0.000 BDL**	**ppmV**
	Ethene		**1.383**		**0.000 BDL**	**ppmV**
	Ethane		**1.660**		**0.000 BDL**	**ppmV**

VOLATILE ORGANIC ANALYSIS
LOGBOOK
DOCUMENTS

VOC 8260 QSM WATER 5.0 Analytical Run
173473 on 07/31/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	454123							VOC 8260 QSM WATER 5.0				
					BFB				0			
	452290							VOC 8260 QSM WATER 5.0				
					LCSW				0			
	452291							VOC 8260 QSM WATER 5.0				
					CCV				0			
	452617							VOC 8260 QSM WATER 5.0				
					MBW				0			
154947	447996		07/20/2020	1500		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		M	**4**	
		TB-1										
155037	449335		07/22/2000	1530		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		M	**4**	
		TB-49										
155089	450343		07/23/2020	1400		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		M	**4**	
		TB-48										
155037	449334		07/22/2020	1500		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49EB2										
154947	447991		07/20/2020	1140		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13MW4										
154947	447992		07/20/2020	1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13MW3										
154947	447993		07/20/2020	1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13TW3										
154947	447994		07/20/2020	1325		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW04										
154947	447995		07/20/2020	1415		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		13MW2			Designated MS/MSD							
155037	449329		07/22/2020	1000		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		50MW02										
155037	449330		07/22/2020	1110		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW2										
155037	449331		07/22/2020	1205		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW3										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

VOC 8260 QSM WATER 5.0 Analytical Run
173473 on 07/31/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
155037	449332		07/22/2020	1205			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48TW3											
155037	449333		07/22/2020	1335			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW2											
155089	450340		07/23/2020	0920			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW06											
155089	450341		07/23/2020	1015			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		48MW01											
155089	450342		07/23/2020	1135			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	VOC 8260 QSM 5.0		GW	**4**	
		49MW01											
	453177		07/20/2020	1415					VOC 8260 QSM 5.0				
		13MW2			MSW	447995				0			
	453178		07/20/2020	1415					VOC 8260 QSM 5.0				
		13MW2			MSDW	453177				0			
	453179								VOC 8260 QSM WATER 5.0				
					CCVF					0			

24 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072320.M (RTE Integrator)
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2820\BFB1.D
Injection Date : 28 Jul 2020 Log Time Period (hrs) : ALL
Injection Time : 12:07 Total files within period : 23
Sample Directory : C:\INSTARCH\DATA\JUL2820\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
CCV-LCS1	1.00	1.00	1.00	173473,LCSW, 10.0/100 ug/L, 5.0 mL Pur	28 Jul 2020	12:21
IB2	1.00	1.00	1.00	INSTRUMENT BLANK 5.0 mL DI H20 Purged + IS	28 Jul 2020	12:50
MB1	1.00	1.00	1.00	173473,MBW, pH<2, 5.0 mL DI H20 Purge	28 Jul 2020	13:20
447996	1.00	1.00	1.00	173473,447996, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	13:50
449335	1.00	1.00	1.00	173473,449335, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	14:20
450343	1.00	1.00	1.00	173473,450343, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	14:51
449334	1.00	1.00	1.00	173473,449334, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	15:21
447991	1.00	1.00	1.00	173473,447991, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	15:52
447992	1.00	1.00	1.00	173473,447992, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	16:23
447993	1.00	1.00	1.00	173473,447993, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	16:53
447994	1.00	1.00	1.00	173473,447994, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	17:24
447995	1.00	1.00	1.00	173473,447995, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	17:54
449329	1.00	1.00	1.00	173473,449329, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	18:24
449330	1.00	1.00	1.00	173473,449330, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	18:54
449331	1.00	1.00	1.00	173473,449331, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	19:24
449332	1.00	1.00	1.00	173473,449332, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	19:53
449333	1.00	1.00	1.00	173473,449333, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	20:23
449340	1.00	1.00	1.00	173473,449340, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	20:53
449341	1.00	1.00	1.00	173473,449341, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	21:23
449342	1.00	1.00	1.00	173473,449342, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	21:53
447995MS	1.00	1.00	1.00	173473,MSW447995, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	22:23
447995SD	1.00	1.00	1.00	173473,MSDW447995, pH<2, 5.0 mL Purged + IS/	28 Jul 2020	22:53
CCVF1	1.00	1.00	1.00	173473,CCVF, 10.0/100 ug/L, 5.0 mL Pur	28 Jul 2020	23:23

Over-range

Report

8260 ISTD/SSTD 20ug/ml VOC0729
8260 BFB STD. 50ug/ml VOC0728
8260 ICV STD. 100ug/ml VOC0735
8260 CCV/CALIB. 100ug/ml VOC0736

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2320B\BFB1.D
Injection Date : 23 Jul 2020 Log Time Period (hrs) : ALL
Injection Time : 16:44 Total files within period : 17
Sample Directory : C:\INSTARCH\DATA\JUL2320B\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
WCAL1	1.00	1.00	1.00	INITIAL CALIB. PT1 0.50/5.00 ug/L, 5.0	23 Jul 2020	17:57
WCAL2	1.00	1.00	1.00	INITIAL CALIB. PT2 1.00/10.00 ug/L, 5.0	23 Jul 2020	18:26
WCAL3	1.00	1.00	1.00	INITIAL CALIB. PT3 2.00/20.0 ug/L, 5.0	23 Jul 2020	18:56
WCAL4	1.00	1.00	1.00	INITIAL CALIB. PT4 5.00/50.0 ug/L, 5.0	23 Jul 2020	19:26
WCAL5	1.00	1.00	1.00	INITIAL CALIB. PT5 10.0/100.0 ug/L, 5.0	23 Jul 2020	19:56
WCAL6	1.00	1.00	1.00	INITIAL CALIB. PT6 20.0/200.0 ug/L, 5.0	23 Jul 2020	20:26
WCAL7	1.00	1.00	1.00	INITIAL CALIB. PT7 30.0/300.0 ug/L, 5.0	23 Jul 2020	20:56
WCAL8	1.00	1.00	1.00	INITIAL CALIB. PT8 40.0/400.0 ug/L, 5.0	23 Jul 2020	21:26
WCAL9	1.00	1.00	1.00	INITIAL CALIB. PT9 80.0/800.0 ug/L, 5.0	23 Jul 2020	21:56
ICV1	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	23 Jul 2020	22:55
ICV2	1.00	1.00	1.00	INITIAL CALIB. VERIF 30.0/300 ug/L, 5.0 m	23 Jul 2020	23:25
ICB1	1.00	1.00	1.00	INITIAL CALIB. BLANK pH<2, 5.0 mL DI H20	24 Jul 2020	00:54

8260 ISTD/SSTD 20ug/ml VOC0729
8260 BFB STD. 50ug/ml VOC0728
8260 ICV STD. 100ug/ml VOC0735
8260 CCV/CALIB. 100ug/ml VOC0736

pl_ilog
Injection Log Summary Report

Method : C:\INSTARCH\METHODS\W072320.M
Title : 8260C Waters Method
Start (Tune) File ID : C:\INSTARCH\DATA\JUL2420\BFB1.D
Injection Date : 24 Jul 2020 Log Time Period (hrs) : ALL
Injection Time : 11:17 Total files within period : 30
Sample Directory : C:\INSTARCH\DATA\JUL2420\

Injection Log Summary Table

File ID	Multiplier I	S	T	Sample Name Misc Info	Date	Time
ICVR	1.00	1.00	1.00	INITIAL CALIB. VERIF 10.0/100 ug/L, 5.0 m	24 Jul 2020	11:59

8260 ISTD/SSTD 20ug/ml VOC0729
8260 BFB STD. 50ug/ml VOC0728
8260 ICV STD. 100ug/ml VOC0735
8260 CCV/CALIB. 100ug/ml VOC0736

FVO4-01 Data Review Checklist

INDEPENDENT DATA REVIEW CHECKLIST			Method: GCMS (EPA SW-846 8260C)				
Analysis Date	**LIMS Run #(s):**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved?** Yes / No		**Instrument**
07/28/2020	173473	DGS	RLD	08/03/2020	Yes		VMS3

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	
I. BFB Tune Check						
Was a BFB tune check analyzed with acceptable results?	Relative abundance criteria met?	Yes		Yes		
II. Initial Calibration Verification (ICV)						
Was initial calibration performed using a minimum of five standard concentration levels (minimum of 6 levels for quadratic curves)?	Lowest standard at or below RL?	Yes		Yes		
Were the Average Relative Response Factors (ARRF) acceptable?	ARRF<or= specified limits (<15%D.)see SOP)	Yes		Yes		
Was a second-source ICV(s) analyzed (for Quadratic Curve)?	Required before sample analyses.	Yes		Yes		
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	1,4-Dioxane failed and Z flagged
Was Initial Calibration Blank (ICB) analyzed?	Required before sample analyses.	Yes		Yes		
Were the ICB results for all target analytes less than the limit of detection (LOD).	<LOD or < project/program specific limits	Yes		Yes		
III. Continuing Calibration Verification (CCV)						
Was an acceptable BFB tune check run at the beginning of every twelve hour shift?	Relative abundance criteria met?	Yes		Yes		
Was a CCV analyzed after every 12 hour tune check?	Required before sample analyses.	Yes		Yes		
Was a second CCV (CCV2) for compounds calibrated using quadratic curves analyzed after every 12 hour tune check?	Required before analyses of WI samples (above the inflection point of the curve).					
Were all target compound %Deviation or %Drift acceptable?	%D < 20% or project/program specific		No		No	Affected compounds were Z flagged
If necessary, were the results for outlying compounds qualified?		Yes		Yes		

IV. Blanks						
Was a Method Blank (MB) analyzed prior to analysis of samples?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MB results for all target analytes less than the limit of detection (LOD)?	*All target analytes <LOD or < project/program specific limits (<1/2 RL for DoD-QSM)	Yes		Yes		
If analytes were detected in the MB with no associated positives in the samples, no further action is needed. If the analyte detects in the MB were greater than the acceptance criteria and there were detects in the samples, was the data qualified.?						
V. Laboratory Control Spike (LCS)						
Was a LCS (and LCSD if needed) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the LCS (LCSD) recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.		No		No	Affected compounds were Q flagged
If applicable, were associated sample detects (and non-detects for low recoveries) qualified?		Yes		Yes		
Is the relative percent difference (RPD) for each analyte between the LCS and LSCD (if applicable) acceptable?	Default 20%, or see internally generated limits, or client specific limits.					
VI. Matrix Spike/Matrix Spike Duplicate (MS/MSD)						
Was a Martrix Spike (MS) and a Matrix Spike Duplicate (MSD) analyzed at the required frequency?	1 per 20 samples or project/program specific.	Yes		Yes		
Were the MS/MSD recoveries for all analytes within acceptance criteria?	Default 70-130%, or see internally generated limits, or project/program specified limits.	Yes		Yes		
Is the relative percent difference (RPD) for each analyte between the MS and MSD acceptable?	Default 20%, or see internally generated limits, or client specific limits.	Yes		Yes		
VII. Sample Analyses						
Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
Were surrogate recoveries for all samples and QC within acceptance criteria?	Default 70-130%, or see internally generated program limits, or client specified limits.	Yes		Yes		
If possible, were the affected samples reanalyzed?						
**Were reported sample results with failing surrogate recoveries qualified?						
Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed? If not qualify (X).	Target upper middle range of calibration curve.	Yes		Yes		
Did all samples meet hold time and preservation criteria as defined by method/program?	H2O sample: pH < 2 = 14 days, pH >2 = 7 days. Soil samples: 14 days (other criteria may apply)	Yes		Yes		
Were all samples and QC injected within 12 hours of BFB tune check?		Yes		Yes		
Were internal standard recoveries acceptable relevant to associated ICAL?	Response = -50 to +200%; Ret. time = +/- 30 sec.	Yes		Yes		

VIII. Records and Reporting						
Is sequence file / injection log present in the data package?		Yes		Yes		
Were all data, calculations, and values verified in LIMS (including removal of non-detections) upon completion of data capture?		Yes		Yes		
Were manual integrations performed correctly?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms.	Yes		Yes		
Was the rational for the manual integration verified?		Yes		Yes		
Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0735	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0948, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0958, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0960 into 2250uL of MeOH.	MeOH / B&J / DX212-U	100 ug/mL	07/19/2020	07/26/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0736	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0949, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0959, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0961 into 2250uL of MeOH.	MeOH / B&J / DX212-U	100 ug/mL	07/19/2020	07/26/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0728	8260 BFB Std.	75uL of 2,000 ug/mL 4-Bromofluorobenzene Std. V0929 into 2925uL of MeOH.	MeOH / B&J / DX212-U	50 ug/mL	07/09/2020	08/09/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0729	8260 ISTD/SSTD	200uL of 2,500 ug/mL 8260 Istd./Sstd. Mix V0944 and 250uL of 2000 ug/mL 1,2-Dichlorobenzene-$_{d4}$ Std. V0945 into 25mL of MeOH.	MeOH / B&J / DX212-U	20 ug/mL	07/09/2020	08/09/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0730	8260 ICV/Spiking Std.	150uL of 2,000 ug/mL VOC Mix V0948, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0958, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0960 into 2250uL of MeOH.	MeOH / B&J / DX212-U	100 ug/mL	07/09/2020	07/16/2020	RLD

Standard ID #	Standard Prepped	Prep	Solvent / Lot #	Final Concentration	Prep Date	Expiration Date	Analyst
VOC0734	8260 CCV/Calib. Std.	150uL of 2,000 ug/mL VOC Mix V0949, 300uL of 1,000/10,000 ug/mL VOC 8260 Additions Std. V0959, and 300uL of 1,000/10,000 ug/mL 8260 Special Additions Std. V0961 into 2250uL of MeOH.	MeOH / B&J / DX212-U	100 ug/mL	07/09/2020	07/16/2020	RLD

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0960	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	AA200613001
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	12/10/2020	06/22/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0961	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	AA200613005
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	12/10/2020	06/22/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0958	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN200604006
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	09/03/2020	06/16/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0959	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	AA200605006
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	09/03/2020	06/16/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib.Std. preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0949	8260 VOC Mix	Agilent	DWM-588-1	0006518399
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	04/30/2023	04/23/2020	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0950	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN200424002
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	07/23/2020	04/27/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0951	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	AA200424003
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	07/23/2020	04/27/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0948	8260 VOC Mix	AccuStandard	M-502-10X-PAK	219111249
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	11/21/2022	04/01/2020	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 ICV/Spiking standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0946	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	AA200303013
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	08/30/2020	03/09/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0947	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	AA200303018
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	08/30/2020	03/09/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0944	8260 ISTD/SSTD Mix	Agilent	STM-540	CT-0055
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,500 ug/mL	MeOH	2/28/2022	01/31/2020	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 ISTD/SSTD preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0945	1,2-Dichlorobenzene-$_{d4}$	Agilent	STS-210-1	CM-4301A
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	07/31/2021	01/31/2020	RLD
# of Ampules/Units:	4	Comments:	Used for 524.2 & 8021 IS/SS and SS preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0942	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN200120003
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	04/19/2020	01/24/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spikking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0943	VOC 8260 Additions	SPEX CertiPrep	VO-CTWI-12	EN200120019
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 10,000 ug/mL	MeOH	04/19/2020	01/24/2020	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0939	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191125015
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	05/23/2020	11/29/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 ICV/Spiking Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0940	VOC 8260 Special Additions	SPEX CertiPrep	VO-CTWI-5	EN191126007
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
1,000 - 50,000 ug/mL	MeOH	05/24/2020	11/29/2019	RLD
# of Ampules/Units:	2	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0941	8260 VOC Mix	Agilent	DWM-588-1	CT-0287
Concentration	Neat (% purity) or Solvent	Expiration Date	Date Received	Analyst
2,000 ug/mL	MeOH	02/28/2022	12/02/2019	RLD
# of Ampules/Units:	5	Comments:	Used for 8260 CCV/Calib. Standard preparation.	

Standard ID #	Compound/Standard Name	Supplier/Manufacturer	Standard Part #	Standard Lot #
V0929	4-Bromofluorobenzene	Agilent	STS-110N	0006476760
Concentration	**Neat (% purity) or Solvent**	**Expiration Date**	**Date Received**	**Analyst**
2,000 ug/mL	MeOH	7/31/2022	09/10/2019	RLD
# of Ampules/Units:	4	Comments:	Used for 8260 BFB Std. and 8015 SSTD.	

V METH, ETH, ETHENE QSM 5.0 Analytical Run
173491 on Jul 28, 2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	451087						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	451028						METH,ETH,ETHE QSM 5.0				
				LCSW				77419			
	451027						METH,ETH,ETHE QSM 5.0				
				MBW				77419			
154947	447991		Jul 20, 2020 1140		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW4						77419			
154947	447992		Jul 20, 2020 1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW3						77419			
154947	447993		Jul 20, 2020 1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13TW3						77419			
154947	447994		Jul 20, 2020 1325		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW04						77419			
154947	447995		Jul 20, 2020 1415		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		13MW2		Designated MS/MSD				77419			
	451025		Jul 20, 2020 1415				METH,ETH,ETHE QSM 5.0				
		13MW2		MSW 447995				77419			
	451026		Jul 20, 2020 1415				METH,ETH,ETHE QSM 5.0				
		13MW2		MSDW 451025				77419			
	451088						V METH, ETH, ETHENE QSM 5.				
				CCV				0			

11 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on Jul 28, 2020

Prep Batch **77,419** Date Prepped: Jul 27, 2020 Prepped By KMT

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	451027	MBW		METH,ETH,ETHE QSM	LIQUID	21.9				
	451028	LCSW		METH,ETH,ETHE QSM	LIQUID	21.9				
154947	447991			METH,ETH,ETHE QSM	GROUND WATER	21.9			4	
	447992			METH,ETH,ETHE QSM	GROUND WATER	21.9			4	
	447993			METH,ETH,ETHE QSM	GROUND WATER	21.9			4	
	447994			METH,ETH,ETHE QSM	GROUND WATER	21.9			4	
	447995	sample designated for QC		METH,ETH,ETHE QSM	GROUND WATER	21.9			4	
	451025	MSW	447995	METH,ETH,ETHE QSM	GROUND WATER	21.9				
	451026	MSDW	451025	METH,ETH,ETHE QSM	GROUND WATER	21.9				

Notes:_____

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	**Analysis Date (s)**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**	**Instrument**
173489, 173490, 173491	07/27/2020	KMT	RLD	07/28/2020	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
1. INITIAL CALIBRATION (ICAL)		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
2. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
3. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		
4. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?		Yes		Yes		

5. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits		No		No	Affected analyte M flagged
6. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		.
7. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)		No		No	Affected analytes T flagged
8. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

* Non-Applicable Yes/No Cells Are Left Blank*

Comments:

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 7/27/2020 **Instrument:** PVOC4

Calibration Date: 12/13/2020 **Analyst:** KMT

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)	pH
1	PS	0.25	43	21.9	
2	CCV	0.25	43	21.9	①
3	LCSW	1	43	21.9	
4	MBW	1	43	21.9	
5	447280	1	43	21.9	2
6	MSW447280	1	43	21.9	2
7	MSDW447280	1	43	21.9	2
8	~~447446~~ KMT 7/27/2020 447446	1	43	21.9	2
9	447448	1	43	21.9	2
10	447448x10	0.1	43	21.9	2
11	MSW447446	1	43	21.9	2
12	MSDW447446	1	43	21.9	2
13	447991	1	43	21.9	2
14	447992	1	43	21.9	2
15	447993	1	43	21.9	2
16	447994	1	43	21.9	2
17	447995	1	43	21.9	2
18	MSW447995	1	43	21.9	5
19	MSDW447995	1	43	21.9	2
20	CCV	0.25	43	21.9	①
21			43		
22			43		
23		N/A KMT 7/27/2020	~~43~~		
24			43		
25			43		

Calibration Standard Ref. #: VO 886

Second Source Ref. #: VOC0726

① N/A KMT 7/27/2020

Page 1

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\072720 - 173489 173490 173491.seq
Instrument: PVOC4
Processing Date: Jul 27, 2020 11:38:13

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
2	173489,CCV,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 10:13:15
3	173489,LCSW,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 10:17:09
4	173489 MBW,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 10:21:14
13	173491,447991,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:05:56
14	173491,447992,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:09:39
15	173491,447993,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:15:43
16	173491,447994,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:19:15
17	173491,447995,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:22:36
18	173491,MSW447995,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:28:22
19	173491,MSDW447995,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:33:06
20	173489,CCV,	C:\InStarch\PVOC4\Data\072720 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 27, 2020 11:38:13

V METH, ETH, ETHENE QSM 5.0 Analytical Run # 173623 on Jul 30, 2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	454044						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	453671						METH,ETH,ETHE QSM 5.0				
				LCSW				77461			
	453670						METH,ETH,ETHE QSM 5.0				
				MBW				77461			
	454045						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
155037	449329		Jul 22, 2020 1000		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		50MW02						77461			
155037	449330		Jul 22, 2020 1110		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW2						77461			
155037	449331		Jul 22, 2020 1205		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW3						77461			
155037	449332		Jul 22, 2020 1205		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48TW3						77461			
155037	449333		Jul 22, 2020 1335		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW2						77461			
155037	449334		Jul 22, 2020 1500		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49EB2						77461			
	454041						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
	454042						V METH, ETH, ETHENE QSM 5.				
				CCV				0			
155089	450340		Jul 23, 2020 0920		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW06						77461			
155089	450341		Jul 23, 2020 1015		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		48MW01						77461			
155089	450342		Jul 23, 2020 1135		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	METH,ETH,ETHE QSM 5.0		GW	**4**	
		49MW01						77461			
	454043						V METH, ETH, ETHENE QSM 5.				
				CCV				0			

16 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on Jul 30, 2020

Prep Batch **77,461** Date Prepped: Jul 29, 2020 Prepped By KMT

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	453670	MBW		METH,ETH,ETHE QSM	LIQUID	23.2				
	453671	LCSW		METH,ETH,ETHE QSM	LIQUID	23.2				
155037	449329			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
	449330			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
	449331			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
	449332			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
	449333			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
	449334			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
155089	450340			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
	450341			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	
	450342			METH,ETH,ETHE QSM	GROUND WATER	23.2			4	

Notes:_____

FVO1-01 Data Review Checklist

	FVO1-01 Method: Dissolved Gases (EPA SW-846 8015 / RSK 175 Modified)					
LIMS Run #(s)	**Analysis Date (s)**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**	**Instrument**
173622, 173623	07/29/2020, 07/30/2020	KMT	RLD	07/31/2020	Yes	PVOC4

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments**
1. INITIAL CALIBRATION (ICAL)		**Yes**	**No**	**Yes**	**No**	(Indicate reference to an attachment if necessary)
a. Was the initial calibration performed using a minimum of five concentration levels?	Lowest standard at or below RL	Yes		Yes		
b. For each analyte/component is the variation between calibration response factors for all concentration levels <20% RSD or is $r^2 \geq .99$ or $r \geq .995$ for the regression line?	RSD <20% or $r^2 \geq .99$ or $r \geq .995$ or program/project specific	Yes		Yes		
c. Are the identification and date of the ICAL listed on the printout (or PDF) of the analytical run and in the method file?	ID# and date of ICAL listed	Yes		Yes		
d. Was an Initial Calibration Verification (ICV) analyzed after the ICAL?	Analyzed prior to sample analyses	Yes		Yes		
e. Were the recoveries for each analyte in the ICV within required limits?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
f. Was an Initial Calibration Blank (ICB) analyzed?		Yes		Yes		
g. Were the ICB results for all target analytes/components less than the reporting limit (RL)?	<RL or < program/project specific	Yes		Yes		
2. CONTINUING CALIBRATION VERIFICATION (CCV)						
a . Was a CCV analyzed at the beginning and end of a sequential analysis run, as well as after ever 10 samples?		Yes		Yes		
b. Were the recoveries for each analyte/component in the CCV within acceptance criteria?	Recoveries 85 - 115% or within program/project specific limits	Yes		Yes		
3. METHOD BLANKS (MB)						
a. Was a method blank (MB) analyzed?	1 / 20 or program/project specific	Yes		Yes		
b. Were the MB results for all analytes/components less than reporting limit?	All target analytes/components <RL or within program/project specific limits (DoD-QSM: <1/2 the RL)	Yes		Yes		
4. LABORATORY CONTROL SAMPLE (LCS)						
a. Was a LCS analyzed at the required frequency?	1 / 20 or program/project specific	Yes		Yes		
b. Were LCS recoveries for all analytes within the acceptance criteria?	Default = 70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
c. If LCS recoveries exceed acceptance criteria, was the LCS reanalyzed in an effort to eliminate the possibility of a preparation error?		Yes		Yes		

5. MATRIX SPIKE (MS)/ MATRIX SPIKE DUPLICATES (MSD) and DUPLICATE						
a. Was a MS, MSD, and/or Duplicate (if valid) Vial analyzed with each batch of 20 samples (or program-specified frequency)?	1 / 20 or program/project specific frequency (QSM samples, duplicate only valid if sample result ≥ 5x the LOQ)	Yes		Yes		
b. Were MS/MSD recoveries for all analytes within acceptance criteria?	Default =70-130%, or within In-house generated or program/project specific limits	Yes		Yes		
6. PRECISION						
a. Is the relative percent difference (RPD) for each analyte between duplicate QC samples (i.e. parent sample / Duplicate vial), or for each MS/MSD within the acceptance criteria?	Default = 20 % RPD, or within In-house generated or program/project specific limits	Yes		Yes		.
7. SAMPLES (INCLUDING BLANKS, STANDARDS, AND QC SAMPLES)						
a. Are chromatogram characteristics, including peak shapes and areas, consistent with those of the CCV?		Yes		Yes		
b. Were all samples having analytes detected in amounts exceeding the calibration range diluted and reanalyzed or reanalyzed using a smaller sample aliquot? Affected analyte detects should remain above the limit of quantitation (LOQ) after reanalysis.		Yes		Yes		
c. Was the correct ambient temperature recorded on sample spreadsheets?		Yes		Yes		
d. Were all samples adequately preserved and analyzed within holding time?	CO_2 samples received unpreserved (analyze within 7 days or program/project specific) Methane, Ethene, Ethane samples received preserved to <2 (analyze within 14 days or program/project specific)	Yes		Yes		
8. RECORDS AND REPORTING						
a. Is a sequence run file present in the raw data file?		Yes		Yes		
b. Is the data initialed and dated by analyst?	Analysis Run sheet is initialed & dated by the analyst processing the raw data.	Yes		Yes		
c. Do all values, units, etc. listed match the raw data and associated calculations and records?		Yes		Yes		
e. Has the data been electronically transferred to the LIMS and were the applicable qualifiers assigned?		Yes		Yes		
f. Were manual integrations addressed properly and were the audit trails turned on (where applicable)?	Manual integration must be initialed, dated, and reason given, along with before & after chromatograms. Audit trail must be on (if available).	Yes		Yes		
g. Are reported results whose amounts exceeded the acceptance criteria flagged with an appropriate qualifier in LIMS and, if needed, were any non-matrix related nonconformities documented in the NCR spreadsheet?		Yes		Yes		

* Non-Applicable Yes/No Cells Are Left Blank*

Comments: _____

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 7/29/2020 **Instrument:** PVOC4

Calibration Date: 12/13/2019 **Analyst:** KMT

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)	pH
1	PS	0.25	43	23.2	
2	CCV	0.25	43	23.2	①
3	LCSW	1	43	23.2	
4	MBW	1	43	23.2	
5	450623	1	43	23.2	≤2
6	450623x4	0.25	43	23.2	≤2
7	450627	1	43	23.2	≤2
8	450629	1	43	23.2	≤2
9	450721	1	43	23.2	≤2
10	450721R	1	43	23.2	≤2
11	MSW450869	1	43	23.2	≤2
12	MSDW450269	1	43	23.2	≤2
13	CCV	0.25	43	23.2	①
14	CCB	1	43	23.2	
15	449329	1	43	23.2	≤2
16	449330	1	43	23.2	≤2
17	449331	1	43	23.2	≤2
18	449332	1	43	23.2	≤2
19	449333	1	43	23.2	≤2
20	449334	1	43	23.2	≤2
21	CCV	0.25	43	23.2	
22	CCB	1	43	23.2	①
23	CCV	0.25	43	23.2	
24	CCB	1	43	23.2	
25	449340	1	43	23.2	

Calibration Standard Ref. #: VO886

①N/A KMT 7/30/2020

Second Source Ref. #: VOC0726

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 7/29/2020 **Instrument:** PVOC4

Calibration Date: 12/13/2020 **Analyst:** KMT

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)	pH
26	449341		43	23.2	≤2
27	449342		43	23.2	≤2
28	CCV	0.25	43	23.2	NA KMT 7/30/2020
29			43		
30			43		
31			43		
32			43		
33			43		
34			43		
35			43		
36		NA KMT 7/30/2020	43		
37			43		
38			43		
39			43		
40			43		
41			43		
42			43		
43			43		
44			43		
45			43		
46			43		
47			43		
48			43		
49			43		
50			43		

Calibration Standard Ref. #: VO886

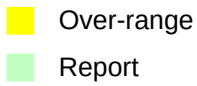
Second Source Ref. #: VOC0726

Page 1

Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\072920 - 173622 173623.seq
Instrument: PVOC4
Processing Date: Jul 30, 2020 10:37:12

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
2	173622,CCV,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 14:30:47
3	173622,LCSW,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 14:34:33
4	173622,MBW,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 14:38:31
11	173622,MSW450269,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:21:53
12	173622,MSDW450269,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:25:46
13	173622,CCV,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:29:48
14	173622,CCB,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:33:14
15	173623,449329,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:37:09
16	173623,449330,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:40:39
17	173623,449331,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:46:06
18	173623,449332,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:51:16
19	173623,449333,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 15:54:33
20	173623,449334,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 16:00:08
21	173623,CCV,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 16:03:25
22	173623,CCB,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 29, 2020 16:06:37
23	173623,CCV,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 30, 2020 08:15:14
24	173623,CCB,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 30, 2020 08:46:42
25	173623,450340,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 30, 2020 09:52:54
26	173623,450341,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 30, 2020 10:25:55
27	173623,450342,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 30, 2020 10:31:49
28	173623,CCV,	C:\InStarch\PVOC4\Data\072920 ...	C:\Instarch\PVOC4\Methods\P4...	Jul 30, 2020 10:37:12



Sequence Summary Report

Sequence Filename: C:\InStarch\PVOC4\Sequence\121319 - MEE ICAL.seq
Instrument: PVOC4
Processing Date: Dec 13, 2019 14:03:04

'Run Number	Sample ID	Data Filename	Method Filename	Run Time
1	MEE PT1 - 2 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 10:58:16
2	MEE PT2 - 5 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 11:06:00
3	MEE PT3 - 10 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 11:09:45
4	MEE PT4 - 20 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:18:01
5	MEE PT5 - 50 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:21:29
6	MEE PT6 - 100 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 12:24:55
7	MEE PT7 - 200 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 13:46:48
8	ICV - 50 ppmV	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 13:51:32
9	ICB	C:\Instarch\PVOC4\Data\121319i...	C:\Instarch\PVOC4\Methods\P4...	Dec 13, 2019 14:03:04

Dissolved Gases (Injection)

(Sequence Log)

Sequence Date: 12/13/19 **Instrument:** PVOC4

Calibration Date: 12/13/19 **Analyst:** TMG

Injection #	Sample #	Injection Vol. (ml)	Sample Vol. (ml)	Sample Temp. (°C)
1	PT 1	0.01	43	
2	PT 2	0.025	43	
3	PT3	0.05	43	
4	PT4	0.1	43	
5	PT5	0.25	43	
6	PT6	0.5	43	
7	PT7	1	43	
8	ICV	0.250	43	
9	ICB	1	43	
10			43	
11			43	
12			43	
13			43	
14			43	
15			43	
16			43	
17			43	
18			43	
19			43	
20			43	
21			43	
22			43	
23			43	
24			43	
25			43	

Calibration Standard Ref. #: V0886

Second Source Ref. #: V0C0299

LSVO1-01
Volatiles Standards Logbook
Logbook Created: 12/08/2015

NOTEBOOK VIEW: LTN_LSVO1_01_VOC_Default, NOTEBOOK: LSVO1_01_VOC, PAGE: 64
Page is Locked
Author: rdigmann on: 5/25/2018 7:47:52 AM
Witness: akurth on: 7/31/2018 9:54:19 AM
Project: Unassigned
Page Title: 05/24/18

Standard Log #:	VO886	Standard/Reagent:	Methane Ethene Ethane STI
Analyst:	AGK	Final Concentration:	200.0 PPM
Prep Date:	05/24/18	Expiration Date:	05/17/21
Prep:	Airgas Methane, Ethene, Ethane Standard Received 05/24/18 LOT# 54-401204472-1 REF# 54-401204472-1 Cylinder # P180959		

LPVO1-02 VOC
Volatiles Standards Prep Logbook
Logbook Created: 10/10/16
Balance used in reagent prep: VOB01
NOTEBOOK VIEW: LTN_LPVO1_02_VOC_Default, NOTEBOOK: LPVO1_02_VOC, PAGE: 27
Page is Locked
Author: AKURTH on: 22.03.2017 10:57:51
Page is not Witnessed
Project: Unassigned
Page Title: N/A

Standard Log #:	VOC0299	Standard/Reagent:	MEE RECERTIFICATION O
Analyst:	AGK	Final Concentration:	N/A
Prep Date:	03/17/17	Expiration Date:	03/17/20
Prep:	Recertification of methane, ethane, ethane tank (V681). Ran 4 consecutive CCV's with acceptable recoveries.		

1

CT Laboratories, LLC

METALS
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

IDW-48/49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 7470A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173576	Analysis Date/Time	07/29/2020 10:15
Analytical Prep Batch #:	77414	Prep. Date/Time:	07/28/2020 12:30
ICAL Calibration #:	07292020	Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7439-97-6	Total Mercury	0.060	U	0.030	0.060	0.12	0.12

CT LABORATORIES
delivering more than data from your environmental analyses

1

Sample Description

IDW-48/49

INORGANIC ANALYSIS DATA SHEET

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 6010C	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173504	Analysis Date/Time	07/28/2020 11:44
Analytical Prep Batch #:	77404	Prep. Date/Time:	07/27/2020 09:20
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7429-90-5	Total Aluminum	4350		6.0	18	36	36
7440-36-0	Total Antimony	6.0	U	2.0	6.0	12	12
7440-38-2	Total Arsenic	12	U	4.0	12	24	24
7440-39-3	Total Barium	151		0.29	0.90	1.8	1.8
7440-41-7	Total Beryllium	0.13	J	0.10	0.30	0.60	0.60
7440-43-9	Total Cadmium	1.0	U	0.30	1.0	2.0	2.0
7440-70-2	Total Calcium	103000		17	50	100	100
7440-47-3	Total Chromium	9.2		0.60	2.0	4.0	4.0
7440-48-4	Total Cobalt	6.1		0.70	2.0	4.0	4.0
7440-50-8	Total Copper	10.8	M	1.2	3.5	7.0	7.0
7439-89-6	Total Iron	5080		16	50	100	100
7439-92-1	Total Lead	2.6	J	1.4	2.0	4.0	4.0
7439-95-4	Total Magnesium	47800		6.0	20	40	40
7439-96-5	Total Manganese	673		0.70	2.0	4.0	4.0
7440-02-0	Total Nickel	5.7	J	1.0	3.0	6.0	6.0
7782-49-2	Total Selenium	6.5	U	2.2	6.5	13	13
7440-22-4	Total Silver	2.0	U	0.70	2.0	4.0	4.0
7440-28-0	Total Thallium	7.5	U	2.5	7.5	15	15
7440-62-2	Total Vanadium	6.7		0.80	2.5	5.0	5.0
7440-66-6	Total Zinc	16.6		1.6	5.0	10	10

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

IDW-48/49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 6010C	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173505	Analysis Date/Time	07/31/2020 12:59
Analytical Prep Batch #:	77404	Prep. Date/Time:	07/27/2020 09:20
ICAL Calibration #:		Concentration Units:	ug/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
7440-09-7	Total Potassium	3680		90	250	500	500
7440-23-5	Total Sodium	49600		100	300	600	600

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576 Lab Sample ID: 453552

ICAL Calibration #: 07292020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/29/20 08:44	3.00	2.92	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505

Lab Sample ID: 455435

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/31/20	10:26	100000	100000	100	90	110
Sodium	7/31/20	10:26	100000	100000	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505

Lab Sample ID: 455436

ICAL Calibration #:

Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/31/20	10:29	3000	3170	106	80	120
Sodium	7/31/20	10:29	3000	3180	106	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504 Lab Sample ID: 456887

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/28/20	10:26	12000	10800	90	90	110
Antimony	7/28/20	10:26	500.0	492.0	98	90	110
Arsenic	7/28/20	10:26	2000	1960	98	90	110
Barium	7/28/20	10:26	2000	1900	95	90	110
Beryllium	7/28/20	10:26	50.00	47.80	96	90	110
Cadmium	7/28/20	10:26	50.00	49.60	99	90	110
Calcium	7/28/20	10:26	10000	9710	97	90	110
Chromium	7/28/20	10:26	200.0	200.0	100	90	110
Cobalt	7/28/20	10:26	500.0	499.0	100	90	110
Copper	7/28/20	10:26	250.0	238.0	95	90	110
Iron	7/28/20	10:26	5000	5200	104	90	110
Lead	7/28/20	10:26	500.0	479.0	96	90	110
Magnesium	7/28/20	10:26	10000	10100	101	90	110
Manganese	7/28/20	10:26	500.0	488.0	98	90	110
Nickel	7/28/20	10:26	500.0	500.0	100	90	110
Selenium	7/28/20	10:26	2000	1970	98	90	110
Silver	7/28/20	10:26	50.00	46.10	92	90	110
Thallium	7/28/20	10:26	2000	2010	100	90	110
Vanadium	7/28/20	10:26	500.0	498.0	100	90	110
Zinc	7/28/20	10:26	500.0	488.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504 Lab Sample ID: 456888

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/28/20	10:39	1200	1320	110	80	120
Antimony	7/28/20	10:39	60.00	65.30	109	80	120
Arsenic	7/28/20	10:39	60.00	65.00	108	80	120
Barium	7/28/20	10:39	30.00	34.10	114	80	120
Beryllium	7/28/20	10:39	12.00	13.50	112	80	120
Cadmium	7/28/20	10:39	15.00	16.80	112	80	120
Calcium	7/28/20	10:39	1500	1510	101	80	120
Chromium	7/28/20	10:39	30.00	33.90	113	80	120
Cobalt	7/28/20	10:39	30.00	34.80	116	80	120
Copper	7/28/20	10:39	30.00	35.00	117	80	120
Iron	7/28/20	10:39	900.0	1030	114	80	120
Lead	7/28/20	10:39	30.00	33.20	111	80	120
Magnesium	7/28/20	10:39	1500	1780	119	80	120
Manganese	7/28/20	10:39	30.00	35.80	119	80	120
Nickel	7/28/20	10:39	30.00	35.10	117	80	120
Selenium	7/28/20	10:39	60.00	64.90	108	80	120
Thallium	7/28/20	10:39	60.00	64.30	107	80	120
Vanadium	7/28/20	10:39	30.00	34.60	115	80	120
Zinc	7/28/20	10:39	30.00	34.10	114	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

LLQC

2A-1

LOWER LIMIT OF QUANTITATION CHECK (LLQC)

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504

Lab Sample ID: 456892

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Silver	7/28/20 11:24	10.00	10.00	100	80	120

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576

Lab Sample ID: 453554

ICAL Calibration #: 07292020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/29/20	09:25	3.00	3.02	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576

Lab Sample ID: 453556

ICAL Calibration #: 07292020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/29/20 10:06	3.00	3.19	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576 Lab Sample ID: 453558

ICAL Calibration #: 07292020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Mercury	7/29/20 10:49	3.00	3.19	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505

Lab Sample ID: 455441

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/31/20	12:20	100000	101000	101	90	110
Sodium	7/31/20	12:20	100000	99300	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505

Lab Sample ID: 455443

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/31/20	12:53	100000	98300	98	90	110
Sodium	7/31/20	12:53	100000	97700	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505

Lab Sample ID: 455447

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/31/20	13:27	100000	104000	104	90	110
Sodium	7/31/20	13:27	100000	100000	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV High Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 1 - HIGH RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504 Lab Sample ID: 456895

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/28/20	12:32	5000	4690	94	90	110
Antimony	7/28/20	12:32	5000	4980	100	90	110
Arsenic	7/28/20	12:32	5000	4990	100	90	110
Barium	7/28/20	12:32	5000	4790	96	90	110
Beryllium	7/28/20	12:32	500.0	481.0	96	90	110
Cadmium	7/28/20	12:32	500.0	484.0	97	90	110
Calcium	7/28/20	12:32	5000	4930	99	90	110
Chromium	7/28/20	12:32	5000	5120	102	90	110
Cobalt	7/28/20	12:32	5000	4930	99	90	110
Copper	7/28/20	12:32	5000	4920	98	90	110
Iron	7/28/20	12:32	5000	5080	102	90	110
Lead	7/28/20	12:32	5000	4730	95	90	110
Magnesium	7/28/20	12:32	5000	4620	92	90	110
Manganese	7/28/20	12:32	5000	4790	96	90	110
Nickel	7/28/20	12:32	5000	5020	100	90	110
Selenium	7/28/20	12:32	5000	5000	100	90	110
Silver	7/28/20	12:32	500.0	464.0	93	90	110
Thallium	7/28/20	12:32	5000	4940	99	90	110
Vanadium	7/28/20	12:32	5000	4940	99	90	110
Zinc	7/28/20	12:32	5000	4980	100	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV Low Level

2A-2

CONTINUING CALIBRATION VERIFICATION (LEVEL 2 - LOW RANGE)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504 Lab Sample ID: 456896

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Aluminum	7/28/20	12:38	500.0	488.0	98	90	110
Antimony	7/28/20	12:38	500.0	499.0	100	90	110
Arsenic	7/28/20	12:38	500.0	492.0	98	90	110
Barium	7/28/20	12:38	500.0	488.0	98	90	110
Beryllium	7/28/20	12:38	50.00	48.80	98	90	110
Cadmium	7/28/20	12:38	50.00	49.30	99	90	110
Calcium	7/28/20	12:38	500.0	458.0	92	90	110
Chromium	7/28/20	12:38	500.0	506.0	101	90	110
Cobalt	7/28/20	12:38	500.0	506.0	101	90	110
Copper	7/28/20	12:38	500.0	487.0	97	90	110
Iron	7/28/20	12:38	500.0	525.0	105	90	110
Lead	7/28/20	12:38	500.0	487.0	97	90	110
Magnesium	7/28/20	12:38	500.0	499.0	100	90	110
Manganese	7/28/20	12:38	500.0	495.0	99	90	110
Nickel	7/28/20	12:38	500.0	506.0	101	90	110
Selenium	7/28/20	12:38	500.0	497.0	99	90	110
Silver	7/28/20	12:38	50.00	47.80	96	90	110
Thallium	7/28/20	12:38	500.0	491.0	98	90	110
Vanadium	7/28/20	12:38	500.0	509.0	102	90	110
Zinc	7/28/20	12:38	500.0	489.0	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

MRL

2B

MRL STANDARD CHECK

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505 Lab Sample ID: 455438

ICAL Calibration #: Concentration Units:

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Potassium	7/31/20	10:34	1000	1050	105	70	130
Sodium	7/31/20	10:34	1000	1060	106	70	130

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: 70-130

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576

Lab Sample ID: 453553

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 07292020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/29/2020 08:50	0	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505

Lab Sample ID: 455437

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/31/2020 10:32	76.00	U	90	250
Sodium	07/31/2020 10:32	41.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504 Lab Sample ID: 456889

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/28/2020 10:52	0.224	U	6	18
Antimony	07/28/2020 10:52	-1.13	U	2.0	6.0
Arsenic	07/28/2020 10:52	-3.40	U	4	12
Barium	07/28/2020 10:52	-0.304	U	0.29	0.90
Beryllium	07/28/2020 10:52	-0.0720	U	0.10	0.30
Cadmium	07/28/2020 10:52	0.135	U	0.3	1.0
Calcium	07/28/2020 10:52	3.45	U	17	50
Chromium	07/28/2020 10:52	-0.157	U	0.6	2.0
Cobalt	07/28/2020 10:52	-0.0350	U	0.7	2.0
Copper	07/28/2020 10:52	-0.0400	U	1.2	3.5
Iron	07/28/2020 10:52	0.346	U	16	50
Lead	07/28/2020 10:52	-1.10	U	1.4	2.0
Magnesium	07/28/2020 10:52	-40.6	U	6	20
Manganese	07/28/2020 10:52	-0.246	U	0.7	2.0
Nickel	07/28/2020 10:52	-0.0840	U	1.0	3.0
Selenium	07/28/2020 10:52	-3.13	U	2.2	6.5
Silver	07/28/2020 10:52	-0.629	U	0.7	2.0
Thallium	07/28/2020 10:52	-0.626	U	2.5	7.5
Vanadium	07/28/2020 10:52	-0.358	U	0.8	2.5
Zinc	07/28/2020 10:52	-0.157	U	1.6	4.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576 Lab Sample ID: 453555

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07292020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/29/2020 09:31	0.00100	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576

Lab Sample ID: 453557

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: 07292020

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/29/2020 10:12	0.00600	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576 Lab Sample ID: 453559

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: 07292020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Mercury	07/29/2020 10:55	0.00400	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505 Lab Sample ID: 455442

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/31/2020 12:22	103.0		90	250
Sodium	07/31/2020 12:22	73.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505

Lab Sample ID: 455444

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/31/2020 12:56	90.00		90	250
Sodium	07/31/2020 12:56	62.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505 Lab Sample ID: 455448

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Potassium	07/31/2020 13:30	87.00	U	90	250
Sodium	07/31/2020 13:30	63.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504 Lab Sample ID: 456897

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Aluminum	07/28/2020 12:44	-0.201	U	6	18
Antimony	07/28/2020 12:44	-2.23	U	2.0	6.0
Arsenic	07/28/2020 12:44	-0.182	U	4	12
Barium	07/28/2020 12:44	-0.00500	U	0.29	0.90
Beryllium	07/28/2020 12:44	-0.0380	U	0.10	0.30
Cadmium	07/28/2020 12:44	-0.0450	U	0.3	1.0
Calcium	07/28/2020 12:44	-2.30	U	17	50
Chromium	07/28/2020 12:44	0.304	U	0.6	2.0
Cobalt	07/28/2020 12:44	-0.0260	U	0.7	2.0
Copper	07/28/2020 12:44	-0.332	U	1.2	3.5
Iron	07/28/2020 12:44	-0.847	U	16	50
Lead	07/28/2020 12:44	-2.46	U	1.4	2.0
Magnesium	07/28/2020 12:44	-41.6	U	6	20
Manganese	07/28/2020 12:44	-0.315	U	0.7	2.0
Nickel	07/28/2020 12:44	-0.228	U	1.0	3.0
Selenium	07/28/2020 12:44	-2.96	U	2.2	6.5
Silver	07/28/2020 12:44	-0.282	U	0.7	2.0
Thallium	07/28/2020 12:44	2.57		2.5	7.5
Vanadium	07/28/2020 12:44	-0.339	U	0.8	2.5
Zinc	07/28/2020 12:44	-0.751	U	1.6	5.0

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173576 Lab Sample ID: 450888

Analytical Prep Batch # 77414 Preparation Date/Time: 07/28/2020 12:30

ICAL Calibration #: 07292020 Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Mercury	07/29/2020 09:34	0.00700	U	0.03	0.06

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173504 Lab Sample ID: 450807

Analytical Prep Batch # 77404 Preparation Date/Time: 07/27/2020 09:20

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit	
Total Aluminum	07/28/2020 11:38	2.33	U	6	18	
Total Antimony	07/28/2020 11:38	-5.61	U	2.0	6.0	
Total Arsenic	07/28/2020 11:38	-1.94	U	4	12	
Total Barium	07/28/2020 11:38	-0.0630	U	0.29	0.90	
Total Beryllium	07/28/2020 11:38	-0.0240	U	0.10	0.30	
Total Cadmium	07/28/2020 11:38	-0.0150	U	0.3	1.0	
Total Calcium	07/28/2020 11:38	10.40	U	17	50	
Total Chromium	07/28/2020 11:38	-0.824	U	0.6	2.0	
Total Cobalt	07/28/2020 11:38	-0.215	U	0.7	2.0	
Total Copper	07/28/2020 11:38	0.876	U	1.2	3.5	
Total Iron	07/28/2020 11:38	3.41	U	16	50	
Total Lead	07/28/2020 11:38	0.695	U	1.4	2.0	
Total Magnesium	07/28/2020 11:38	-39.2	U	6	20	FAIL
Total Manganese	07/28/2020 11:38	-0.297	U	0.7	2.0	
Total Nickel	07/28/2020 11:38	-0.104	U	1.0	3.0	
Total Selenium	07/28/2020 11:38	-1.94	U	2.2	6.5	
Total Silver	07/28/2020 11:38	0.571	U	0.7	2.0	
Total Thallium	07/28/2020 11:38	-0.961	U	2.5	7.5	
Total Vanadium	07/28/2020 11:38	-0.427	U	0.8	2.5	
Total Zinc	07/28/2020 11:38	-0.600	U	1.6	5.0	

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505 Lab Sample ID: 450807

Analytical Prep Batch # 77404 Preparation Date/Time: 07/27/2020 09:20

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/31/2020 12:51	7.00	U	90	250
Total Sodium	07/31/2020 12:51	14.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173505 Lab Sample ID: 450807

Analytical Prep Batch # 77404 Preparation Date/Time: 07/27/2020 09:20

ICAL Calibration #: Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Potassium	07/31/2020 12:51	7.00	U	90	250
Total Sodium	07/31/2020 12:51	14.00	U	100	300

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 154947
ICS Source: SPEX

Analytical Run #: 173505
Lab Sample ID: 455439
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/31/2020 10:37	500000	478000	96	80	120
Calcium	07/31/2020 10:37	500000	478000	96	80	120
Iron	07/31/2020 10:37	500000	475000	95	80	120
Magnesium	07/31/2020 10:37	500000	484000	97	80	120
Potassium	07/31/2020 10:37	0	15.00		-170	170
Sodium	07/31/2020 10:37	0	7.00		-140	140

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-1

ICP INTERFERENCE CHECK SAMPLE (SOL. A)

ICSA

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 154947
ICS Source: SPEX

Analytical Run #: 173504
Lab Sample ID: 456890
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/28/2020 11:05	500000	480000	96	80	120
Antimony	07/28/2020 11:05	0	-0.671		-10	10
Arsenic	07/28/2020 11:05	0	0.0380		-20	20
Barium	07/28/2020 11:05	0	1.04		-1.7	1.7
Beryllium	07/28/2020 11:05	0	0		-.7	.7
Cadmium	07/28/2020 11:05	0	0.00300		-1.3	1.3
Calcium	07/28/2020 11:05	500000	486000	97	80	120
Chromium	07/28/2020 11:05	0	0.856		-13	13
Cobalt	07/28/2020 11:05	0	-0.00300		-2	2
Copper	07/28/2020 11:05	0	0.00400		-7	7
Iron	07/28/2020 11:05	500000	471000	94	80	120
Lead	07/28/2020 11:05	0	0.922		-4.7	4.7
Magnesium	07/28/2020 11:05	500000	507000	101	80	120
Manganese	07/28/2020 11:05	0	-1.61		-7.3	7.3
Nickel	07/28/2020 11:05	0	-6.26		-7	7
Selenium	07/28/2020 11:05	0	0.00400		-13	13
Silver	07/28/2020 11:05	0	-0.322		-7.3	7.3
Thallium	07/28/2020 11:05	0	0.00700		-7.3	7.3
Vanadium	07/28/2020 11:05	20000	21200		16000	24000
Zinc	07/28/2020 11:05	0	-12.8		-20	20

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 154947
ICS Source: SPEX, Ultra

Analytical Run #: 173505
Lab Sample ID: 455440
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/31/2020 10:40	500000	494000	99	80	120
Calcium	07/31/2020 10:40	500000	476000	95	80	120
Iron	07/31/2020 10:40	500000	495000	99	80	120
Magnesium	07/31/2020 10:40	500000	494000	99	80	120
Potassium	07/31/2020 10:40	100000	112000	112	80	120
Sodium	07/31/2020 10:40	100000	109000	109	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No:

4-2

ICP INTERFERENCE CHECK SAMPLE (SOL. AB)

ICSAB

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
ICP ID Number: TJA 6000
SDG No.: 154947
ICS Source: SPEX, Ultra

Analytical Run #: 173504
Lab Sample ID: 456891
Inorganics MRL Standard Source: SPEX, Ultra,Inorganic Ventures and Mallinkrodt
ICAL Calibration #:
Concentration Units: ug/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R	Lower Limit (1)	Upper Limit (1)
Aluminum	07/28/2020 11:12	500000	459000	92	80	120
Antimony	07/28/2020 11:12	500.0	485.0	97	80	120
Arsenic	07/28/2020 11:12	500.0	501.0	100	80	120
Barium	07/28/2020 11:12	500.0	473.0	95	80	120
Beryllium	07/28/2020 11:12	500.0	454.0	91	80	120
Cadmium	07/28/2020 11:12	500.0	487.0	97	80	120
Calcium	07/28/2020 11:12	500000	466000	93	80	120
Chromium	07/28/2020 11:12	500.0	487.0	97	80	120
Cobalt	07/28/2020 11:12	500.0	474.0	95	80	120
Copper	07/28/2020 11:12	500.0	410.0	82	80	120
Iron	07/28/2020 11:12	500000	455000	91	80	120
Lead	07/28/2020 11:12	500.0	424.0	85	80	120
Magnesium	07/28/2020 11:12	500000	482000	96	80	120
Manganese	07/28/2020 11:12	500.0	474.0	95	80	120
Nickel	07/28/2020 11:12	500.0	454.0	91	80	120
Selenium	07/28/2020 11:12	500.0	468.0	94	80	120
Silver	07/28/2020 11:12	500.0	456.0	91	80	120
Thallium	07/28/2020 11:12	500.0	523.0	105	80	120
Vanadium	07/28/2020 11:12	500.0	484.0	97	80	120
Zinc	07/28/2020 11:12	500.0	418.0	84	80	120

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: **IDW-48/49**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solids for Sample:
Concentration Units: ug/L
Sample No: 450810
Parent Sample No.: 450344
Analytical Prep Batch #: 77404
Analytical Preparation Date/Time: 07/27/2020 09:20
Analytical Run #: 173504
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/28/2020 Analysis Time: -------- 12:07

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	5880		4350		800	191		P	*FAIL*
Total Antimony	88-113	213		BDL	U	200	106		P	
Total Arsenic	87-113	841		BDL	U	800	105		P	
Total Barium	88-113	929		151		800	97		P	
Total Beryllium	89-112	19.7		0.13	J	20.0	98		P	
Total Cadmium	88-113	18.6		BDL	U	20.0	93		P	
Total Calcium	87-113	298000		103000		200000	98		P	
Total Chromium	90-113	91.8		9.2		80.0	103		P	
Total Cobalt	89-114	207		6.1		200	100		P	
Total Copper	86-114	128		10.8		100	117		P	*FAIL*
Total Iron	87-115	5990		5080		400	228		P	*FAIL*
Total Lead	86-113	200		2.6	J	200	99		P	
Total Magnesium	85-113	147000		47800		100000	99		P	
Total Manganese	90-114	863		673		200	95		P	
Total Nickel	88-113	209		5.7	J	200	102		P	
Total Selenium	83-114	824		BDL	U	800	103		P	
Total Silver	84-115	20.8		BDL	U	20.0	104		P	
Total Thallium	85-114	737		BDL	U	800	92		P	
Total Vanadium	90-111	199		6.7		200	96		P	
Total Zinc	87-115	223		16.6		200	103		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

IDW-48/49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	ug/L
Sample No	450810	Parent Sample No.:	450344
Analytical Prep Batch #	77404	Analytical Preparation Date/Time:	07/27/2020 09:20
Analytical Run #:	173505	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/31/2020 Analysis Time: -------- 13:08

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	115000		3680		100000	111		P
Total Sodium	87-115	149000		49600		100000	99		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description

IDW-48/49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	ug/L
Sample No	455446	Parent Sample No.:	450344
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173505	ICAL Calibration #:	

Analysis Type *Initial Analysis* Analysis Date: ----- 07/31/2020 Analysis Time: -------- 13:13

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Potassium	80-120.	106000		3680		100000	102		P
Sodium	80-120.	146000		49600		100000	96		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5B

POST DIGESTION SPIKE SAMPLE RECOVERY

Sample Description: **IDW-48/49**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solids for Sample:
Concentration Units: ug/L
Sample No: 456894
Parent Sample No.: 450344
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 173504
ICAL Calibration #:

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/28/2020 Analysis Time: -------- 12:20

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Aluminum	80-120	8240		4350		4000	97		P	
Copper	80-120	381		10.8		500	74		P	*FAIL*
Iron	80-120	6930		5080		2000	92		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **IDW-48/49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	ug/L
Sample No	450811	Parent Sample No.:	450810
Analytical Prep Batch #	77404	Analytical Preparation Date/Time:	07/27/2020 09:20
Analytical Run #:	173504	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/28/2020 Analysis Time: -------- 12:14

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Total Aluminum	86-115	5950		4350		800	200		P	*FAIL*
Total Antimony	88-113	213		BDL	U	200	106		P	
Total Arsenic	87-113	855		BDL	U	800	107		P	
Total Barium	88-113	942		151		800	99		P	
Total Beryllium	89-112	20.2		0.13	J	20.0	100		P	
Total Cadmium	88-113	18.6		BDL	U	20.0	93		P	
Total Calcium	87-113	303000		103000		200000	100		P	
Total Chromium	90-113	94.3		9.2		80.0	106		P	
Total Cobalt	89-114	211		6.1		200	102		P	
Total Copper	86-114	130		10.8		100	119		P	*FAIL*
Total Iron	87-115	6000		5080		400	230		P	*FAIL*
Total Lead	86-113	197		2.6	J	200	97		P	
Total Magnesium	85-113	149000		47800		100000	101		P	
Total Manganese	90-114	866		673		200	96		P	
Total Nickel	88-113	209		5.7	J	200	102		P	
Total Selenium	83-114	840		BDL	U	800	105		P	
Total Silver	84-115	20.9		BDL	U	20.0	104		P	
Total Thallium	85-114	750		BDL	U	800	94		P	
Total Vanadium	90-111	204		6.7		200	99		P	
Total Zinc	87-115	227		16.6		200	105		P	

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description: **IDW-48/49**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	ug/L
Sample No	450811	Parent Sample No.:	450810
Analytical Prep Batch #	77404	Analytical Preparation Date/Time:	07/27/2020 09:20
Analytical Run #:	173505	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/31/2020 Analysis Time: -------- 13:10

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Potassium	86-114	118000		3680		100000	114		P
Total Sodium	87-115	151000		49600		100000	101		P

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

IDW-48/49

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 154947

% Solid for Sample:

Concentration Units: ug/L

Analytical Prep Batch #: 1

Analytical Preparation Date/Time: 77404

Analytical Run #: 173504

ICAL Calibration #:

Sample #: 450809

Parent Sample #: 450344

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Aluminum	07/28/2020	11:58	20	4350		4710		8		P	
Total Antimony	07/28/2020	11:58	20	2.0	U	2.0	U	0		P	
Total Arsenic	07/28/2020	11:58	20	4.0	U	4.0	U	0		P	
Total Barium	07/28/2020	11:58	20	151		153		1		P	
Total Beryllium	07/28/2020	11:58	20	0.13	J	0.13	J	0		P	
Total Cadmium	07/28/2020	11:58	20	0.30	U	0.30	U	0		P	
Total Calcium	07/28/2020	11:58	20	103000		104000		1		P	
Total Chromium	07/28/2020	11:58	20	9.2		9.7		5		P	
Total Cobalt	07/28/2020	11:58	20	6.1		6.3		3		P	
Total Copper	07/28/2020	11:58	20	10.8		12.3		13		P	
Total Iron	07/28/2020	11:58	20	5080		5210		3		P	
Total Lead	07/28/2020	11:58	20	2.6	J	5.5		72		P	*FAIL*
Total Magnesium	07/28/2020	11:58	20	47800		48200		1		P	
Total Manganese	07/28/2020	11:58	20	673		677		1		P	
Total Nickel	07/28/2020	11:58	20	5.7	J	5.2	J	9		P	
Total Selenium	07/28/2020	11:58	20	2.2	U	2.2	U	0		P	
Total Silver	07/28/2020	11:58	20	0.70	U	0.70	U	0		P	
Total Thallium	07/28/2020	11:58	20	2.5	U	2.5	U	0		P	
Total Vanadium	07/28/2020	11:58	20	6.7		7.3		9		P	
Total Zinc	07/28/2020	11:58	20	16.6		16.8		1		P	

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

IDW-48/49

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch # 1
Analytical Preparation Date/Time 77404
Analytical Run #: 173505
ICAL Calibration #:
Sample #: 450809
Parent Sample #: 450344

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	07/31/2020	13:05	20	3680		3680		0		P
Total Sodium	07/31/2020	13:05	20	49600		47200		5		P

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **IDW-48/49**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 77404
Analytical Preparation Date/Time: 07/27/2020 09:20
Analytical Run #: 173504
ICAL Calibration #:
Sample #: 450811
Parent Sample #: 450810

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Aluminum	07/28/2020	12:14	20	5880		5950		1		P
Total Antimony	07/28/2020	12:14	20	213		213		0		P
Total Arsenic	07/28/2020	12:14	20	841		855		2		P
Total Barium	07/28/2020	12:14	20	929		942		1		P
Total Beryllium	07/28/2020	12:14	20	19.7		20.2		3		P
Total Cadmium	07/28/2020	12:14	20	18.6		18.6		0		P
Total Calcium	07/28/2020	12:14	20	298000		303000		2		P
Total Chromium	07/28/2020	12:14	20	91.8		94.3		3		P
Total Cobalt	07/28/2020	12:14	20	207		211		2		P
Total Copper	07/28/2020	12:14	20	128		130		2		P
Total Iron	07/28/2020	12:14	20	5990		6000		0		P
Total Lead	07/28/2020	12:14	20	200		197		2		P
Total Magnesium	07/28/2020	12:14	20	147000		149000		1		P
Total Manganese	07/28/2020	12:14	20	863		866		0		P
Total Nickel	07/28/2020	12:14	20	209		209		0		P
Total Selenium	07/28/2020	12:14	20	824		840		2		P
Total Silver	07/28/2020	12:14	20	20.8		20.9		0		P
Total Thallium	07/28/2020	12:14	20	737		750		2		P
Total Vanadium	07/28/2020	12:14	20	199		204		2		P
Total Zinc	07/28/2020	12:14	20	223		227		2		P

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **IDW-48/49**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: ug/L
Analytical Prep Batch #: 77404
Analytical Preparation Date/Time: 07/27/2020 09:20
Analytical Run #: 173505
ICAL Calibration #:
Sample #: 450811
Parent Sample #: 450810

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Potassium	07/31/2020	13:10	20	115000		118000		3		P
Total Sodium	07/31/2020	13:10	20	149000		151000		1		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 154947

Concentration Units: ug/L

Analytical Run #: 173576 Sample No.:#: 450889

Analytical Prep Batch #: 77414 Preparation Date/Time: 07/28/2020 12:30

ICAL Calibration #: 07292020

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Mercury	07/29/2020 09:18	82-119	2.05		2.00	102		CV

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 154947

Concentration Units: ug/L

Analytical Run #: 173504 Sample No.:#: 450808

Analytical Prep Batch #: 77404 Preparation Date/Time: 07/27/2020 09:20

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Aluminum	07/28/2020 11:31	86-115	752.0		800.0	94		P
Total Antimony	07/28/2020 11:31	88-113	204.0		200.0	102		P
Total Arsenic	07/28/2020 11:31	87-113	824.0		800.0	103		P
Total Barium	07/28/2020 11:31	88-113	771.0		800.0	96		P
Total Beryllium	07/28/2020 11:31	89-112	19.50		20.00	98		P
Total Cadmium	07/28/2020 11:31	88-113	18.80		20.00	94		P
Total Calcium	07/28/2020 11:31	87-113	199000		200000	100		P
Total Chromium	07/28/2020 11:31	90-113	81.50		80.00	102		P
Total Cobalt	07/28/2020 11:31	89-114	201.0		200.0	100		P
Total Copper	07/28/2020 11:31	86-114	97.50		100.0	98		P
Total Iron	07/28/2020 11:31	87-115	434.0		400.0	108		P
Total Lead	07/28/2020 11:31	86-113	194.0		200.0	97		P
Total Magnesium	07/28/2020 11:31	85-113	96600		100000	97		P
Total Manganese	07/28/2020 11:31	90-114	197.0		200.0	98		P
Total Nickel	07/28/2020 11:31	88-113	200.0		200.0	100		P
Total Selenium	07/28/2020 11:31	83-114	803.0		800.0	100		P
Total Silver	07/28/2020 11:31	84-115	21.30		20.00	106		P
Total Thallium	07/28/2020 11:31	85-114	742.0		800.0	93		P
Total Vanadium	07/28/2020 11:31	90-111	190.0		200.0	95		P
Total Zinc	07/28/2020 11:31	87-115	204.0		200.0	102		P

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 154947

Concentration Units: ug/L

Analytical Run #: 173505 Sample No.:#: 450808

Analytical Prep Batch #: 77404 Preparation Date/Time: 07/27/2020 09:20

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Potassium	07/31/2020 12:48	86-114	105000		100000	105		P
Total Sodium	07/31/2020 12:48	87-115	102000		100000	102		P

CT LABORATORIES
delivering more than data from your environmental analyses

9

ICP SERIAL DILUTION

Sample Description

IDW-48/49

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID SDG No.: 154947

Concentration Units: ug/L

Sample No.: 456893 Parent Sample No.: 450344

LIMS Run #: 173504 ICAL Calibration #:.:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time		Initial Sample Result (I)	C (I)	Serial Dilution Result (S)	C (S)	% Diff.	Q	M	
Aluminum	07/28/2020	11:51	4350.		6300		45		P	*FAIL*
Copper	07/28/2020	11:51	10.8	J	17.45	J	62		P	*INVALID*
Iron	07/28/2020	11:51	5080.		7350		45		P	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Mercury	253.7			0.03	CV

CT LABORATORIES
delivering more than data from your environmental analyses

10

METHOD DETECTION LIMITS (ANNUALLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

ICP ID Number: TJA SDG No.: 154947

Matrix: LIQUID

Analyte	Wavelength (nm)	Background	CRDL (ug/L)	MDL (ug/L)	M
Total Aluminum	167.0			6	P
Total Antimony	217.5			2.0	P
Total Arsenic	193.7			4	P
Total Barium	455.4			0.29	P
Total Beryllium	313.041			0.10	P
Total Cadmium	226.502			0.3	P
Total Calcium	393.3			17	P
Total Chromium	267.716			0.6	P
Total Cobalt	228.616			0.7	P
Total Copper	327.3			1.2	P
Total Iron	259.9			16	P
Total Lead	220.35			1.4	P
Total Magnesium	279.5			6	P
Total Manganese	257.61			0.7	P
Total Nickel	231.604			1.0	P
Total Potassium	766.491			90	P
Total Selenium	196.02			2.2	P
Total Silver	328.068			0.7	P
Total Sodium	589.5			100	P
Total Thallium	190.864			2.5	P
Total Vanadium	292.402			0.8	P
Total Zinc	213.856			1.6	P

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	2	Fe	0.000006	0.000000	No
			Ce	0.000000	0.000000	No
Ag 338.289 {100}	☒	1	Fe	0.000906	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	1	Al	0.001713	0.000000	No
As 197.262 {471}	☒	1	Al	-0.000113	0.000000	No
Ba 233.527 {445}	☒	3	Fe	-0.000038	0.000000	No
			V	0.000180	0.000000	No
			Al	0.000000	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000029	0.000000	No
Be 313.042 {108}	☒	1	Fe	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000016	0.000000	No
Ca 315.887 {107}	☒	None				
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	2	Fe	0.000090	0.000000	No
			Al	0.000000	0.000000	No
Cd 228.802 {147}	☒	None				
Co 228.616 {447}	☒	5	Fe	0.000009	0.000000	No
			Ti	0.003000	0.000000	No
			Ba	-0.001300	0.000000	No
			Ni	0.000040	0.000000	No
			Al	0.000001	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000188	0.000000	No
Cr 205.560 {464}	☒	1	Fe	-0.000004	0.000000	No
Cr 267.716 {126}	☒	1	Fe	-0.000014	0.000000	No
Cu 224.700 {450}	☒	5	Fe	0.000274	0.000000	No
			Mo	0.001320	0.000000	No
			Ni	-0.006000	0.000000	No
			Pb	0.003030	0.000000	No
			Al	0.000000	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000136	0.000000	No
Cu 327.396 {103}	☒	1	Fe	0.000069	0.000000	No
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	-0.000086	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Mn 259.373 {130}	☒	1	Mg	0.001339	0.000000	No
Mo 202.030 {466}	☒	1	Fe	-0.000011	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000020	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000036	0.000000	No
Ni 221.647 {452}	☒	1	Ca	0.000021	0.000000	No
Ni 231.604 {445}	☒	3	Fe	0.000012	0.000000	No
			Co	0.000000	0.000000	No
			Mo	0.000000	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.001241	0.000000	No
			Na	0.000000	0.000000	No
Pb 220.353 {453}	☒	3	Si	0.000000	0.000000	No
			Al	0.000001	0.000000	No
			Fe	0.000018	0.000000	No
Pb 220.353 {153}	☒	1	Al	-0.000040	0.000000	No
Sb 206.833 {463}	☒	1	Fe	0.000009	0.000000	No
Sb 217.581 {455}	☒	3	Fe	-0.000069	0.000000	No
			V	0.002070	0.000000	No
			Pb	-0.001040	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000360	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.001308	0.000000	No
Tl 190.856 {476}	☒	5	Fe	0.000024	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000050	0.000000	No
			Cr	0.000251	0.000000	No
			V	-0.003800	0.000000	No
Tl 190.856 {477}	☒	1	Fe	-0.000048	0.000000	No
V 290.882 {116}	☒	1	Fe	0.000073	0.000000	No
V 292.402 {115}	☒	3	Fe	0.000020	0.000000	No
			Cr	-0.000400	0.000000	No
			Al	0.000000	0.000000	No
Zn 202.548 {466}	☒	1	Fe	-0.000239	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000003	0.000000	No
Zn 213.856 {457}	☒	2	Fe	0.000167	0.000000	No
			Cu	0.007413	0.000000	No
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Y 224.306 {451}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000106	0.000000	No
Si 251.611 {134}	☒	2	Fe	-0.000105	0.000000	No
			Mo	0.005400	0.000000	No
Ti 323.452 {104}	☒	1	Fe	0.000036	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000052	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000014	0.000000	No
Sr 421.552 { 80}	☒	1	Fe	0.000014	0.000000	No

ICP INTERELEMENT CORRECTION FACTORS (ANNUAL)
ICP ID NUMBER: TA ICAP6000 / ICAP6500

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Sn 189.989 {477}	☒	1	Fe	0.000013	0.000000	No
B 249.678 {135}	☒	2	Fe	0.000001	0.000000	No
			Co	0.003970	0.000000	No
B 249.773 {135}	☒	1	Fe	0.000357	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000011	0.000000	No
K 766.490 { 44}	☒	1	Fe	0.000216	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000079	0.000000	No
S 182.034 {485}	☒	1	Mg	0.000100	0.000000	No
Hg 184.950 {482}	☒	1	Fe	0.000001	0.000000	No
Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

ICP LINEAR RANGES (QUARTERLY)

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

ICP ID Number: TA SDG No.: 154947

Analyte	Integ. Time (Sec.)	Concentration (ug/L)	M
Aluminum	15.00	1000000	P
Antimony	15.00	10000	P
Arsenic	15.00	10000	P
Barium	15.00	10000	P
Beryllium	15.00	1000	P
Boron	15.00	1000	P
Cadmium	15.00	1000	P
Calcium	15.00	1000000	P
Chromium	15.00	100000	P
Cobalt	15.00	10000	P
Copper	15.00	100000	P
Iron	15.00	1000000	P
Lead	15.00	100000	P
Lithium	15.00	10000	P
Magnesium	15.00	1000000	P
Manganese	15.00	100000	P
Molybdenum	15.00	10000	P
Nickel	15.00	10000	P
Potassium	15.00	200000	P
Selenium	15.00	10000	P
Silicon	15.00	1000	P
Silver	15.00	100	P
Sodium	15.00	200000	P
Strontium	15.00	10000	P
Thallium	15.00	10000	P
Tin	15.00	10000	P
Titanium	15.00	1000	P
Tungsten	15.00	10000	P
Vanadium	15.00	10000	P
Zinc	15.00	100000	P

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories

Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Method: EPA 3010A

SDG No.: 154947

Preparation Batch #: 77404

Preparation Date/Time: 07/27/2020 / 09:20

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
450344	Normal Sample	IDW-48/49	GROUND WATER	50.0
450807	Method Blank		LIQUID	50.0
450808	Lab Control Spike		LIQUID	50.0
450809	Lab Duplicate	IDW-48/49	GROUND WATER	50.0
450810	Matrix Spike	IDW-48/49	GROUND WATER	50.0
450811	Matrix Spike Duplicate	IDW-48/49	GROUND WATER	50.0

CT LABORATORIES
delivering more than data from your environmental analyses

13

PREPARATION LOG

Lab Name: CT Laboratories | Project: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Method: EPA 7470A | SDG No.: 154947

Preparation Batch #: 77414 | Preparation Date/Time: 07/28/2020 / 12:30

Lab Sample #	QC Type	Sample Description	Matrix	**Weight (g for solid/soil) or Volume (mL for liquid/aqueous)**
448843	Normal Sample	IDW-54	GROUND WATER	25.0
450344	Normal Sample	IDW-48/49	GROUND WATER	25.0
450888	Method Blank		LIQUID	25.0
450889	Lab Control Spike		LIQUID	25.0
450890	Lab Duplicate	IDW-54	GROUND WATER	25.0
450891	Matrix Spike	IDW-54	GROUND WATER	25.0
450892	Matrix Spike Duplicate	IDW-54	GROUND WATER	25.0

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 154947

Instrument ID Number: CETAC

Method Number: CV

Start & End Date: 07/29/2020 to 07/29/2020

Analytical Run #: 173576

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
453552	ICV	1.00	7/29 08:44																X													
453553	ICB	1.00	7/29 08:50																X													
450889	LCSW	1.00	7/29 09:18																X													
453554	CCV	1.00	7/29 09:25																X													
453555	CCB	1.00	7/29 09:31																X													
450888	MBW	1.00	7/29 09:34																X													
448843	Initial	1.00	7/29 10:00																X													
450890	DUP	1.00	7/29 10:03																X													
453556	CCV	1.00	7/29 10:06																X													
453557	CCB	1.00	7/29 10:12																X													
450344	Initial	1.00	7/29 10:15																X													
450891	MSW	1.00	7/29 10:27																X													
450892	MSDW	1.00	7/29 10:30																X													
453558	CCV	1.00	7/29 10:49																X													
453559	CCB	1.00	7/29 10:55																X													

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL

SDG No.: 154947

Instrument ID Number: TJA

Method Number: P

Start & End Date: 07/28/2020 to 07/28/2020

Analytical Run #: 173504

Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
456887	ICV	1.00	7/28 10:26	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456888	ICVLL	1.00	7/28 10:39	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X					X			X	X
456889	ICB	1.00	7/28 10:52	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456890	ICSA	1.00	7/28 11:05	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456891	ICSAB	1.00	7/28 11:12	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456892	ICVLL	1.00	7/28 11:24																							X							
450808	LCSW	1.00	7/28 11:31	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
450807	MBW	1.00	7/28 11:38	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
450344	Initial	1.00	7/28 11:44	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456893	L	5	7/28 11:51	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
450809	DUP	1.00	7/28 11:58	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
450810	MSW	1.00	7/28 12:07	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
450811	MSDW	1.00	7/28 12:14	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456894	PDSW	1.00	7/28 12:20	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456895	CCV1	1.00	7/28 12:32	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456896	CCV2	1.00	7/28 12:38	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X
456897	CCB	1.00	7/28 12:44	X	X	X	X	X		X	X	X	X	X	X	X	X	X				X		X		X			X			X	X

CT LABORATORIES
delivering more than data from your environmental analyses

14

ANALYSIS RUN LOG

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Lab Code: CTL
SDG No.: 154947

Instrument ID Number: TJA
Method Number: P

Start & End Date: 07/31/2020 to 07/31/2020
Analytical Run #: 173505

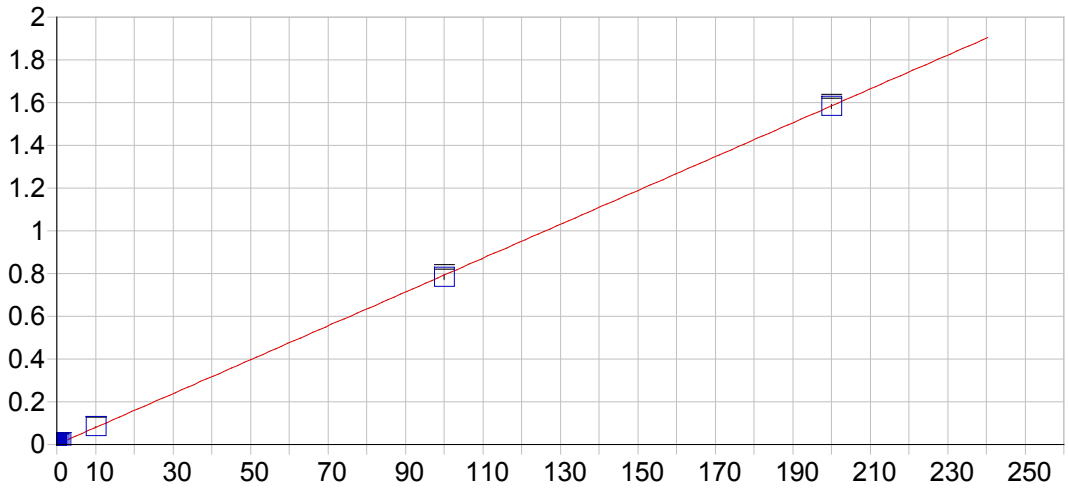
Sample Number	Analysis or QC Type	DF	Analysis Date/ Time	Al	Sb	As	Ba	Be	B	Cd	Ca	Cr	Co	Cu	Fe	Pb	Mg	Mn	Hg	Mo	Li	Ni	K	Se	Si	Ag	Na	Sr	Tl	Sn	W	V	Zn
455435	ICV	1.00	7/31 10:26																				X				X					
455436	ICVLL	1.00	7/31 10:29																				X				X					
455437	ICB	1.00	7/31 10:32																				X				X					
455438	MRL	1.00	7/31 10:34																				X				X					
455439	ICSA	1.00	7/31 10:37	X							X				X		X						X				X					
455440	ICSAB	1.00	7/31 10:40	X							X				X		X						X				X					
455441	CCV	1.00	7/31 12:20																				X				X					
455442	CCB	1.00	7/31 12:22																				X				X					
450808	LCSW	1.00	7/31 12:48																				X				X					
450807	MBW	1.00	7/31 12:51																				X				X					
455443	CCV	1.00	7/31 12:53																				X				X					
455444	CCB	1.00	7/31 12:56																				X				X					
450344	Initial	1.00	7/31 12:59																				X				X					
455445	L	5	7/31 13:02																				X				X					
450809	DUP	1.00	7/31 13:05																				X				X					
450810	MSW	1.00	7/31 13:08																				X				X					
450811	MSDW	1.00	7/31 13:10																				X				X					
455446	PDSW	1.00	7/31 13:13																				X				X					
455447	CCV	1.00	7/31 13:27																				X				X					
455448	CCB	1.00	7/31 13:30																				X				X					

METALS
RAW DATA
DOCUMENTS

	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	K 766.490 { 44}	08/03/2020 13:28:37	07/31/2020 10:23:28	Linear	1/Var	0.000486	0.007921	0.000000	1.000000	0.999912	0.000107	0.015591	0.051970
	K 769.896 { 44}	08/03/2020 13:28:37	07/31/2020 10:23:28	Linear	1/Conc	0.000346	0.007335	0.000000	1.000000	0.999968	0.000029	0.022736	0.075786
	Na 330.237 {102}	08/03/2020 13:28:37	07/31/2020 10:23:28	Linear	1/Conc	0.000071	0.000097	0.000000	1.000000	0.999986	0.000001	0.721294	2.404314
	Na 589.592 { 57}	08/03/2020 13:28:37	07/31/2020 10:23:28	Linear	1/Conc	0.003200	0.071636	0.000000	1.000000	0.999789	0.000726	0.003109	0.010363
	Y 320.332 {105}*	08/03/2020 13:28:37	07/31/2020 10:03:31	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 360.073 { 94}	08/03/2020 13:28:37	07/31/2020 10:03:31	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Al 308.215 {109}	08/03/2020 13:28:37	07/31/2020 10:26:24	Linear	1/Conc	0.000692	0.000011	0.000000	1.000000	1.000000	0.000000	-1.000000	-1.000000
	Al 396.152 { 85}	08/03/2020 13:28:37	07/31/2020 10:26:24	Linear	1/Conc	0.000174	0.010163	0.000000	1.000000	1.000000	0.000000	0.007727	0.025757
	Mg 285.213 {118}	08/03/2020 13:28:37	07/31/2020 10:26:24	Linear	None	0.000109	0.039848	0.000000	1.000000	1.000000	0.000000	0.001265	0.004218
	Ca 317.933 {106}	08/03/2020 13:28:37	07/31/2020 10:26:24	Linear	None	0.019828	0.004990	0.000000	1.000000	1.000000	0.000000	0.009512	0.031706
	Fe 234.349 {144}	08/03/2020 13:28:37	07/31/2020 10:26:24	Linear	None	0.000124	0.001277	0.000000	1.000000	1.000000	0.000000	0.018314	0.061046

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	Na 330.237 {102}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Y 320.332 {105}*	Warnin	1.000000	0.000000	1	0
	Y 360.073 { 94}	Warnin	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	Mg 285.213 {118}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
K 766.490 { 44}	☒	1	Fe	0.000114	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000322	0.000000	No
Na 330.237 {102}	☒	1	Fe	0.000191	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000204	0.000000	No
Y 320.332 {105}*	☒	None				
Y 360.073 { 94}	☒	None				
Al 308.215 {109}	☒	1	Fe	0.000000	0.000000	No
Al 396.152 { 85}	☒	None				
Mg 285.213 {118}	☒	None				
Ca 317.933 {106}	☒	None				
Fe 234.349 {144}	☒	None				

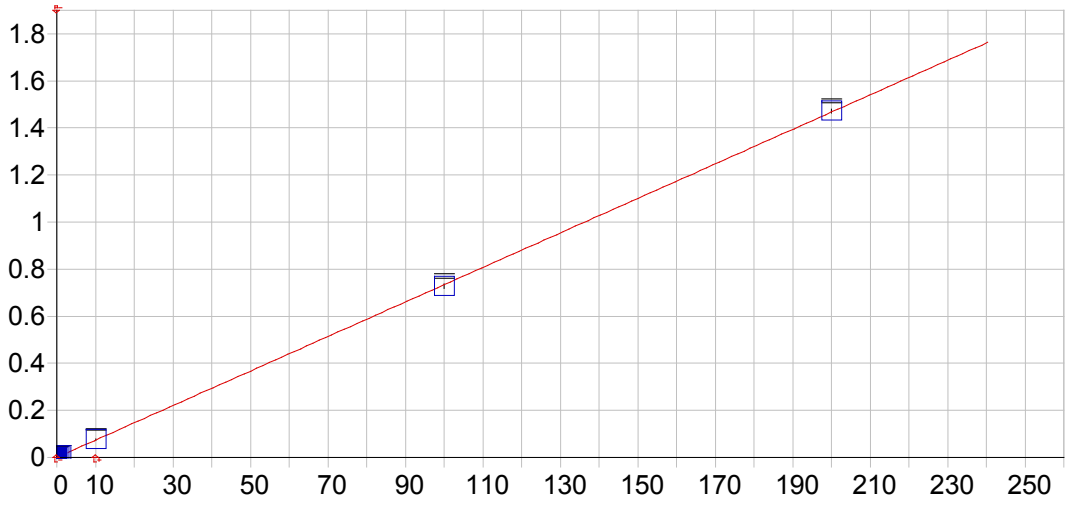


K 766.490 { 44}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000486	Re-Slope:	1.000000
A1 (Gain):	0.007921	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999912	Status:	OK.
Std Error of Est:	0.000107		
Predicted MDL:	0.015591		
Predicted MQL:	0.051970		

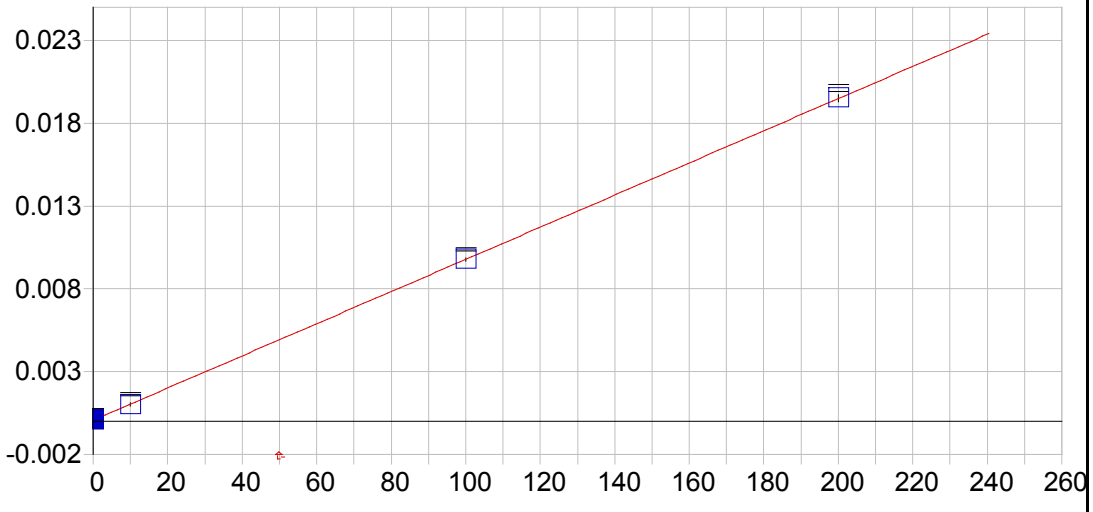
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02077	-.021	.000	.00032	.000	1
CalibStd-1.0	1.0000	1.0377	.038	3.77	.00871	.000	1
CalibStd-10.	10.000	10.357	.357	3.57	.08252	.002	1
CalibStd-0.5	.50000	.49901	-.001	-.197	.00444	.000	1
CalibStd-200	200.00	199.76	-.243	-.121	1.5827	.010	1
CalibStd-100	100.00	98.855	-1.14	-1.14	.78347	.009	1



K 769.896 { 44}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000346		Re-Slope:	1.000000	
A1 (Gain):	0.007335		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999968		Status:	OK.	
Std Error of Est:	0.000029				
Predicted MDL:	0.022736				
Predicted MQL:	0.075786				

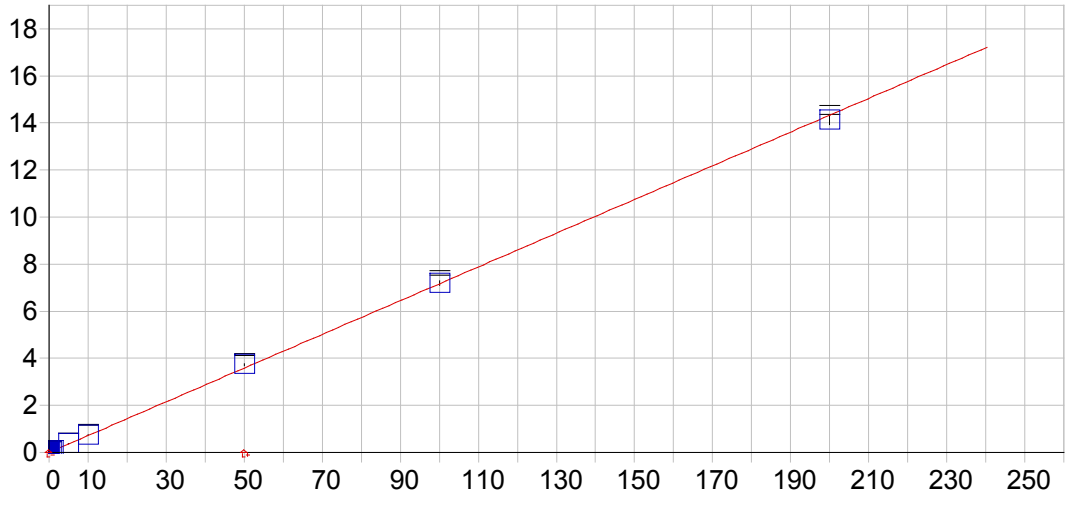
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00004	-.000	.000	.00035	.000	1
CalibStd-1.0	1.0000	1.0385	.039	3.85	.00796	.000	1
CalibStd-10.	10.000	10.312	.312	3.12	.07599	.002	1
CalibStd-0.5	.50000	.51256	.013	2.51	.00411	.000	1
CalibStd-200	200.00	200.50	.499	.249	1.4711	.009	1
CalibStd-100	100.00	99.139	-.861	-.861	.72757	.009	1



Na 330.237 {102}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000071		Re-Slope:	1.000000	
A1 (Gain):	0.000097		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999986		Status:	OK.	
Std Error of Est:	0.000001				
Predicted MDL:	0.721294				
Predicted MQL:	2.404314				

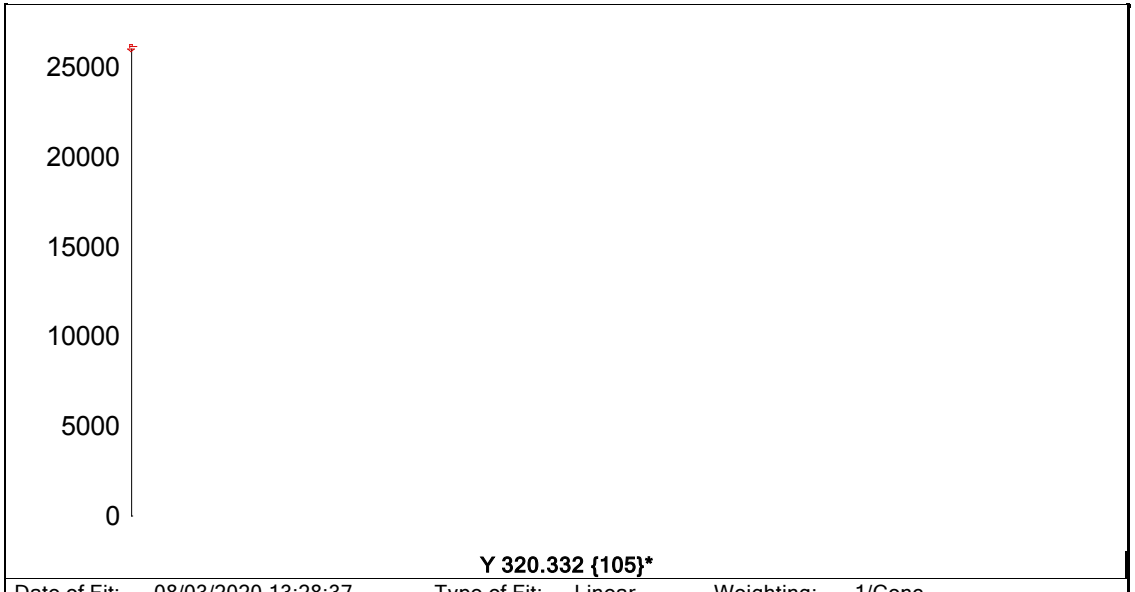
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00027	.000	.000	.00007	.000	1
CalibStd-200	200.00	200.40	.398	.199	.01952	.000	1
CalibStd-10.	10.000	9.7171	-.283	-2.83	.00101	.000	1
CalibStd-100	100.00	99.885	-.115	-.115	.00977	.000	1



Na 589.592 { 57}

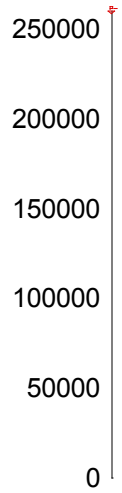
Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.003200		Re-Slope:	1.000000	
A1 (Gain):	0.071636		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999789		Status:	OK.	
Std Error of Est:	0.000726				
Predicted MDL:	0.003109				
Predicted MQL:	0.010363				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00009	-.000	.000	.00319	.001	1
CalibStd-0.5	.50000	.50739	.007	1.48	.03955	.000	1
CalibStd-1.0	1.0000	1.0391	.039	3.91	.07764	.003	1
CalibStd-5.0	5.0000	5.2786	.279	5.57	.38134	.011	1
CalibStd-10.	10.000	10.339	.339	3.39	.74385	.018	1
CalibStd-50	50.000	52.021	2.02	4.04	3.7298	.050	1
CalibStd-100	100.00	100.26	.260	.260	7.1854	.094	1
CalibStd-200	200.00	197.06	-2.94	-1.47	14.119	.186	1



Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

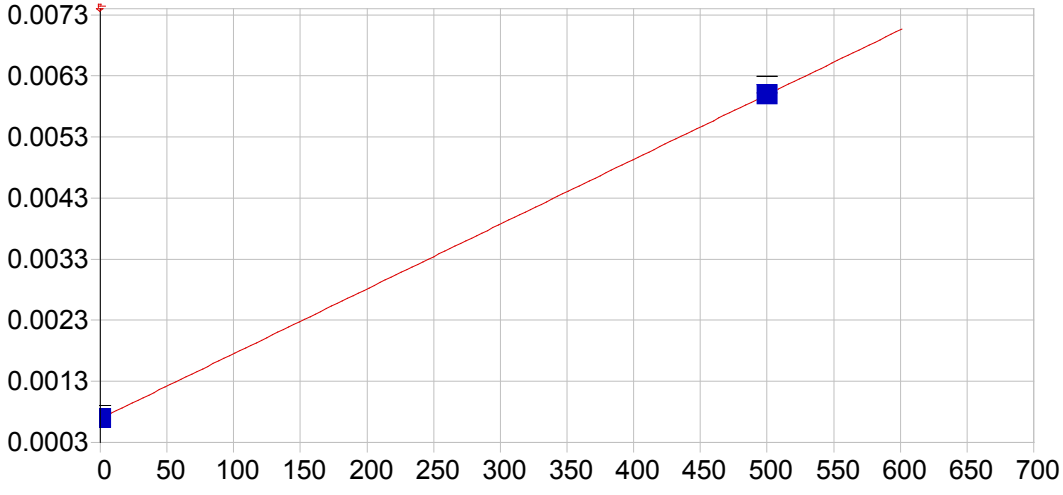
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	23988.	596.	1



Y 360.073 { 94}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	237290.	3860.	1

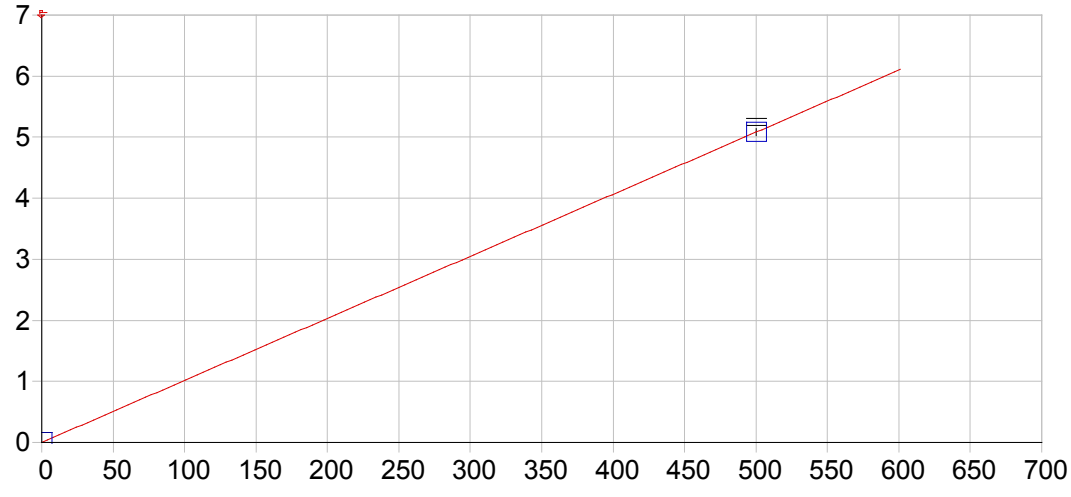


Al 308.215 {109}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000692	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	n/a		
Predicted MQL:	n/a		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00069	.000	1
CalibStd-500	500.00	500.00	.000	.000	.00599	.000	1

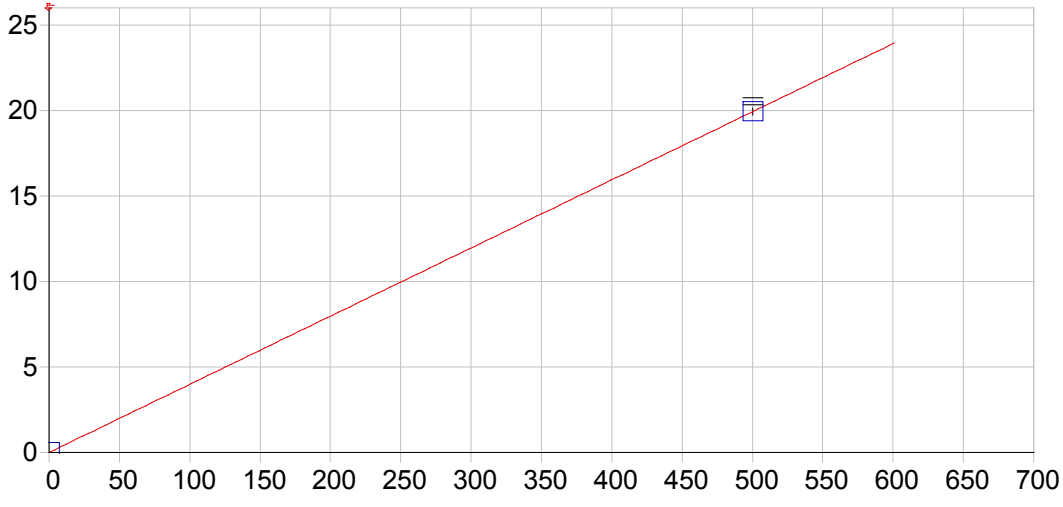


Al 396.152 { 85}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000174	Re-Slope:	1.000000
A1 (Gain):	0.010163	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.007727		
Predicted MQL:	0.025757		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00017	.000	1
CalibStd-500	500.00	500.00	.000	.000	5.0816	.056	1

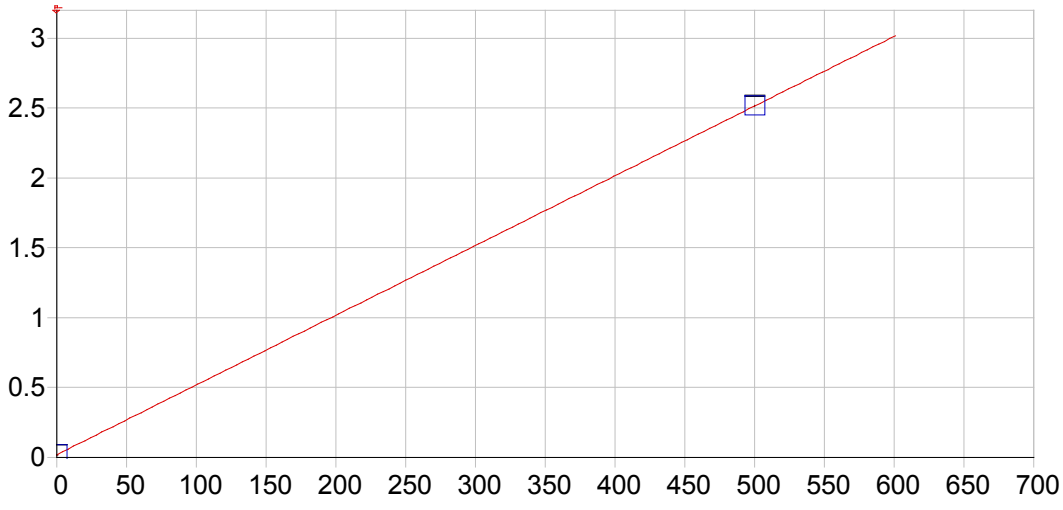


Mg 285.213 {118}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000109	Re-Slope:	1.000000
A1 (Gain):	0.039848	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.001265		
Predicted MQL:	0.004218		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00011	.000	1
CalibStd-500	500.00	500.00	.000	.000	19.924	.209	1

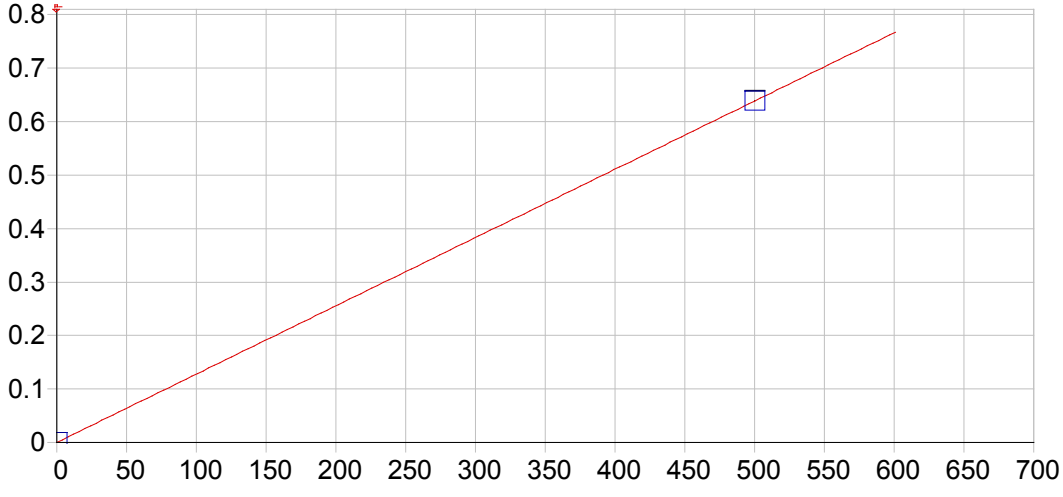


Ca 317.933 {106}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.019828	Re-Slope:	1.000000
A1 (Gain):	0.004990	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.009512		
Predicted MQL:	0.031706		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.01983	.000	1
CalibStd-500	500.00	500.00	.000	.000	2.5150	.003	1



Fe 234.349 {144}

Date of Fit:	08/03/2020 13:28:37	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000124	Re-Slope:	1.000000
A1 (Gain):	0.001277	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.018314		
Predicted MQL:	0.061046		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00012	.000	1
CalibStd-500	500.00	500.00	.000	.000	.63859	.001	1

Sample Name: Blank Acquired: 07/31/2020 10:00:32 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.003**	**.000**	**.000**	**.020**	**.000**
Stddev	.000	.000	.001	.000	.000	.000	.000
%RSD	94.0	107.	16.5	33.7	51.4	.417	16.4

Int. Std.	Y_3203
Units	Cts/S
Avg	**23988.**
Stddev	596.
%RSD	2.4856

Sample Name: CalibStd-0.5 Acquired: 07/31/2020 10:03:34 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.004**	**.040**
Stddev	.000	.000
%RSD	.802	1.09

Int. Std.	Y_3203
Units	Cts/S
Avg	**23594.**
Stddev	109.
%RSD	.46047

Sample Name: CalibStd-1.0 Acquired: 07/31/2020 10:06:26 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895
Units	Cts/S	Cts/S
Avg	**.009**	**.078**
Stddev	.000	.003
%RSD	2.36	3.48

Int. Std.	Y_3203
Units	Cts/S
Avg	**23426.**
Stddev	284.
%RSD	1.2115

Sample Name: CalibStd-5.0 Acquired: 07/31/2020 10:09:17 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	.381
Stddev	.011
%RSD	2.84

Int. Std.	Y_3203
Units	Cts/S
Avg	23523.
Stddev	241.
%RSD	1.0243

Sample Name: CalibStd-10.0 Acquired: 07/31/2020 10:12:06 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.083**	**.001**	**.744**
Stddev	.002	.000	.018
%RSD	2.02	10.5	2.40

Int. Std.	Y_3203
Units	Cts/S
Avg	**23679.**
Stddev	156.
%RSD	.65723

Sample Name: CalibStd-50 Acquired: 07/31/2020 10:14:54 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Na5895
Units	Cts/S
Avg	**3.73**
Stddev	.05
%RSD	1.35

Int. Std.	Y_3203
Units	Cts/S
Avg	**23312.**
Stddev	115.
%RSD	.49122

Sample Name: CalibStd-100 Acquired: 07/31/2020 10:17:44 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**.783**	**.010**	**7.19**
Stddev	.009	.000	.09
%RSD	1.21	1.09	1.31

Int. Std.	Y_3203
Units	Cts/S
Avg	**23395.**
Stddev	141.
%RSD	.60170

Sample Name: CalibStd-200 Acquired: 07/31/2020 10:20:32 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Na5895
Units	Cts/S	Cts/S	Cts/S
Avg	**1.58**	**.020**	**14.1**
Stddev	.01	.000	.2
%RSD	.614	1.10	1.31

Int. Std.	Y_3203
Units	Cts/S
Avg	**23060.**
Stddev	49.
%RSD	.21189

Sample Name: CalibStd-500 Acquired: 07/31/2020 10:23:31 Type: Cal
Method: Sodium and Potassium 1(v1270) Mode: IR Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Mg2852	Ca3179	Fe2343
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**5.08**	**19.9**	**2.51**	**.639**
Stddev	.06	.2	.00	.001
%RSD	1.10	1.05	.135	.145

Int. Std.	Y_3203
Units	Cts/S
Avg	**21475.**
Stddev	229.
%RSD	1.0671

Sample Name: icv Acquired: 07/31/2020 10:26:28 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**100.**	**100.**	**.047**	**.061**	**.034**	**.169**
Stddev	1.	2.	.011	.005	.031	.048
%RSD	1.36	1.55	24.3	9.03	93.4	28.4
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23531.**
Stddev	145.
%RSD	.61417

Sample Name: ICVLL Acquired: 07/31/2020 10:29:16 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.17**	**3.18**	**-.006**	**.013**	**-.015**	**-.007**
Stddev	.06	.07	.007	.003	.031	.030
%RSD	1.97	2.16	122.	21.7	198.	451.
Check ?	Chk Pass	Chk Pass	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23903.**
Stddev	167.
%RSD	.70071

Sample Name: icb Acquired: 07/31/2020 10:32:05 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.076**	**.041**	**-.011**	**.008**	**.013**	**.062**
Stddev	.016	.004	.002	.001	.036	.026
%RSD	20.9	9.90	17.8	7.38	271.	42.4
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23758.**
Stddev	427.
%RSD	1.7985

Sample Name: mrl Acquired: 07/31/2020 10:34:57 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**1.05**	**1.06**	**-.018**	**-.002**	**-.015**	**-.041**
Stddev	.01	.00	.004	.002	.006	.022
%RSD	.644	.217	20.4	99.6	37.3	54.5
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23827.**
Stddev	75.
%RSD	.31275

Sample Name: icsa Acquired: 07/31/2020 10:37:48 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.015**	**.007**	**478.**	**484.**	**478.**	**475.**
Stddev	.014	.002	4.	4.	3.	1.
%RSD	91.9	33.6	.889	.921	.666	.283
Check ?	Chk Pass	Chk Pass	None	None	None	None
High Limit						
Low Limit						

Int. Std.	Y_3203
Units	Cts/S
Avg	**21673.**
Stddev	164.
%RSD	.75585

Sample Name: icsab Acquired: 07/31/2020 10:40:46 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**112.**	**109.**	**494.**	**494.**	**476.**	**495.**
Stddev	1.	2.	4.	6.	3.	1.
%RSD	1.32	1.71	.857	1.14	.712	.245
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**20952.**
Stddev	155.
%RSD	.73898

Sample Name: ccv Acquired: 07/31/2020 12:20:02 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**101.**	**99.3**	**-.017**	**.005**	**-.034**	**-.050**
Stddev	1.	1.0	.005	.001	.013	.016
%RSD	.607	.990	31.8	18.1	37.9	32.5
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23291.**
Stddev	52.
%RSD	.22383

Sample Name: ccb Acquired: 07/31/2020 12:22:50 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.103**	**.073**	**-.018**	**.004**	**-.036**	**-.026**
Stddev	.014	.002	.006	.001	.038	.015
%RSD	13.4	2.14	33.8	32.3	105.	57.5
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23686.**
Stddev	193.
%RSD	.81473

Sample Name: lcsw77404 Acquired: 07/31/2020 12:48:20 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**105.**	**102.**	**.808**	**107.**	**187.**	**.369**
Stddev	2.	1.	.004	1.	1.	.020
%RSD	1.54	1.04	.484	.795	.612	5.55

Int. Std.	Y_3203
Units	Cts/S
Avg	**22411.**
Stddev	163.
%RSD	.72934

Sample Name: mbw77404 Acquired: 07/31/2020 12:51:05 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.007**	**.014**	**-.023**	**-.000**	**-.042**	**-.076**
Stddev	.015	.004	.008	.002	.029	.018
%RSD	213.	26.2	34.2	755.	69.0	23.0

Int. Std.	Y_3203
Units	Cts/S
Avg	**23557.**
Stddev	250.
%RSD	1.0595

Sample Name: ccv Acquired: 07/31/2020 12:53:59 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**98.3**	**97.7**	**-.017**	**.004**	**-.030**	**-.046**
Stddev	1.5	1.4	.003	.002	.033	.023
%RSD	1.50	1.40	20.4	48.7	110.	48.7
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23467.**
Stddev	105.
%RSD	.44811

Sample Name: ccb Acquired: 07/31/2020 12:56:47 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.090**	**.062**	**-.020**	**.003**	**.005**	**-.026**
Stddev	.023	.002	.006	.002	.027	.017
%RSD	26.0	3.44	30.9	64.4	504.	66.6
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23583.**
Stddev	315.
%RSD	1.3348

Sample Name: 450344 Acquired: 07/31/2020 12:59:39 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.68**	**49.6**	**3.55**	**54.4**	**99.3**	**4.75**
Stddev	.06	.6	.02	.2	.3	.09
%RSD	1.50	1.23	.681	.362	.317	1.90

Int. Std.	Y_3203
Units	Cts/S
Avg	**22867.**
Stddev	120.
%RSD	.52266

Sample Name: I450344 Acquired: 07/31/2020 13:02:25 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.773**	**11.2**	**.755**	**12.4**	**21.1**	**.992**
Stddev	.026	.2	.010	.1	.1	.017
%RSD	3.40	2.07	1.31	.895	.488	1.69

Int. Std.	Y_3203
Units	Cts/S
Avg	**23002.**
Stddev	123.
%RSD	.53545

Sample Name: dup450344 Acquired: 07/31/2020 13:05:14 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**3.68**	**47.2**	**3.37**	**55.6**	**99.8**	**4.87**
Stddev	.06	1.8	.03	.5	.8	.04
%RSD	1.67	3.82	.870	.914	.803	.730

Int. Std.	Y_3203
Units	Cts/S
Avg	**22668.**
Stddev	149.
%RSD	.65674

Sample Name: msw450344 Acquired: 07/31/2020 13:08:01 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**115.**	**149.**	**5.14**	**161.**	**292.**	**5.61**
Stddev	2.	1.	.05	2.	3.	.01
%RSD	1.73	.648	.946	.950	.889	.245

Int. Std.	Y_3203
Units	Cts/S
Avg	**22390.**
Stddev	203.
%RSD	.90687

Sample Name: msdw450344 Acquired: 07/31/2020 13:10:57 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**118.**	**151.**	**5.11**	**163.**	**291.**	**5.58**
Stddev	2.	1.	.05	1.	2.	.07
%RSD	1.95	.462	.909	.826	.592	1.16

Int. Std.	Y_3203
Units	Cts/S
Avg	**22296.**
Stddev	120.
%RSD	.53843

Sample Name: pdsw450344 Acquired: 07/31/2020 13:13:47 Type: Unk
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**106.**	**146.**	**3.03**	**53.3**	**96.9**	**4.56**
Stddev	1.	1.	.01	.3	1.0	.05
%RSD	1.14	.954	.497	.594	1.000	1.14

Int. Std.	Y_3203
Units	Cts/S
Avg	**22803.**
Stddev	210.
%RSD	.92157

Sample Name: ccv Acquired: 07/31/2020 13:27:53 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na3302	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**104.**	**100.**	**-.021**	**.004**	**-.021**	**-.025**
Stddev	3.	1.	.002	.001	.028	.022
%RSD	2.61	1.19	11.1	38.3	131.	88.4
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**22958.**
Stddev	237.
%RSD	1.0342

Sample Name: ccb Acquired: 07/31/2020 13:30:41 Type: QC
Method: Sodium and Potassium 1(v1270) Mode: CONC Corr. Factor: 1.000000
User: MDS ICAP6000: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	K_7664	Na5895	Al3961	Mg2852	Ca3179	Fe2343
Units	mg/L	mg/L	ug/L	mg/L	mg/L	mg/L
Avg	**.087**	**.063**	**-.022**	**.003**	**-.034**	**-.029**
Stddev	.017	.006	.004	.001	.016	.025
%RSD	19.7	10.3	18.1	34.5	46.4	86.6
Check ?	None	None	None	None	None	None
Value						
Range						

Int. Std.	Y_3203
Units	Cts/S
Avg	**23380.**
Stddev	302.
%RSD	1.2914

Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
Ag 328.068 {103}	08/06/2020 09:09:32	07/28/2020 09:30:58	Linear	None	-0.000002	0.000002	0.000000	1.000000	0.999995	0.000000	1.107563	3.691877
Ag 338.289 {100}	08/06/2020 09:09:32	07/28/2020 10:20:09	Linear	1/Conc	0.000005	0.000001	0.000000	1.000000	0.999077	0.000001	5.659472	18.864907
Al 167.079 {501}	08/06/2020 09:09:32	07/28/2020 09:36:38	Linear	1/Conc	0.000006	0.000002	0.000000	1.000000	0.999095	0.000000	0.806779	2.689264
Al 308.215 {109}	08/06/2020 09:09:32	07/28/2020 09:57:04	Curvili	1/Var	0.000041	0.000000	0.000000	1.000000	0.999952	0.000008	26.680384	88.934614
Al 396.152 { 85}	08/06/2020 09:09:32	07/28/2020 10:13:31	Linear	1/Conc	-0.000022	0.000002	0.000000	1.000000	0.999309	0.000110	5.843858	19.479525
As 193.759 {474}	08/06/2020 09:09:32	07/28/2020 09:36:38	Linear	1/Conc	0.000003	0.000001	0.000000	1.000000	0.999638	0.000000	4.080667	13.602224
As 197.262 {471}	08/06/2020 09:09:32	07/28/2020 09:43:26	Linear	None	0.000001	0.000000	0.000000	1.000000	0.999997	0.000005	6.637775	22.125916
Ba 233.527 {445}	08/06/2020 09:09:32	07/28/2020 09:36:38	Linear	1/Conc	0.000000	0.000006	0.000000	1.000000	0.999919	0.000000	0.440105	1.467015
Ba 455.403 { 74}	08/06/2020 09:09:32	07/28/2020 09:43:26	Linear	1/Conc	-0.000001	0.000057	0.000000	1.000000	0.999886	0.000003	0.162202	0.540673
Ba 493.409 { 68}	08/06/2020 09:09:32	07/28/2020 10:20:09	Linear	None	0.007689	0.000050	0.000000	1.000000	1.000000	0.000096	0.540414	1.801381
Be 313.042 {108}	08/06/2020 09:09:32	07/28/2020 09:36:39	Linear	1/Var	-0.000049	0.000059	0.000000	1.000000	0.999931	0.000001	0.031364	0.104546
Be 234.861 {144}	08/06/2020 09:09:32	07/28/2020 09:36:39	Linear	1/Conc	0.000001	0.000003	0.000000	1.000000	0.999997	0.000000	0.691379	2.304598
Ca 315.887 {107}	08/06/2020 09:09:32	07/28/2020 10:13:31	Linear	1/Var	0.000018	0.000000	0.000000	1.000000	0.999921	0.000008	9.876719	32.922395
Ca 317.933 {106}	08/06/2020 09:09:32	07/28/2020 10:13:31	Linear	1/Var	0.001373	0.000001	0.000000	1.000000	0.999959	0.000048	3.442896	11.476321
Ca 393.366 { 86}	08/06/2020 09:09:32	07/28/2020 09:36:39	Linear	1/Var	0.000543	0.000149	0.000000	1.000000	0.998038	0.000803	0.051576	0.171921
Ca 396.847 { 85}	08/06/2020 09:09:32	07/28/2020 09:43:27	Linear	1/Conc	0.000227	0.000072	0.000000	1.000000	0.999711	0.000081	0.108996	0.363319
Cd 226.502 {449}	08/06/2020 09:09:32	07/28/2020 09:36:40	Linear	1/Conc	0.000001	0.000018	0.000000	1.000000	0.999954	0.000000	0.232455	0.774850
Cd 228.802 {447}	08/06/2020 09:09:32	07/28/2020 09:36:40	Linear	1/Conc	0.000013	0.000037	0.000000	1.000000	0.999952	0.000000	0.194698	0.648992
Co 228.616 {447}	08/06/2020 09:09:32	07/28/2020 09:43:27	Linear	1/Conc	0.000001	0.000016	0.000000	1.000000	0.999871	0.000001	0.316780	1.055932
Co 238.892 {141}	08/06/2020 09:09:32	07/28/2020 09:43:27	Linear	1/Conc	0.000002	0.000002	0.000000	1.000000	0.999907	0.000001	0.696429	2.321431
Cr 205.560 {464}	08/06/2020 09:09:32	07/28/2020 09:50:16	Linear	1/Var	0.000020	0.000012	0.000000	1.000000	0.998936	0.000095	0.313714	1.045712
Cr 267.716 {126}	08/06/2020 09:09:32	07/28/2020 09:43:28	Linear	1/Conc	0.000000	0.000002	0.000000	1.000000	0.999913	0.000000	0.759322	2.531075
Cu 223.008 {451}	08/06/2020 09:09:32	07/28/2020 09:36:41	Linear	1/Conc	-0.000005	0.000004	0.000000	1.000000	0.999905	0.000000	1.195634	3.985446
Cu 224.700 {450}	08/06/2020 09:09:32	07/28/2020 09:50:16	Linear	1/Var	-0.000202	0.000007	0.000000	1.000000	0.996196	0.000160	0.409265	1.364215
Cu 324.754 {104}	08/06/2020 09:09:32	07/28/2020 09:50:16	Linear	1/Var	0.000297	0.000002	0.000000	1.000000	0.999839	0.000009	2.555451	8.518171
Cu 327.396 {103}	08/06/2020 09:09:32	07/28/2020 09:43:28	Linear	1/Conc	0.000016	0.000002	0.000000	1.000000	0.999859	0.000000	4.596841	15.322805
Fe 234.349 {144}	08/06/2020 09:09:32	07/28/2020 09:57:04	Linear	1/Var	0.000034	0.000001	0.000000	1.000000	0.998677	0.000013	1.509400	5.031332
Fe 239.562 {140}	08/06/2020 09:09:32	07/28/2020 10:13:32	Linear	1/Var	0.000003	0.000000	0.000000	1.000000	0.998962	0.000011	5.588884	18.629614
Fe 259.940 {129}	08/06/2020 09:09:32	07/28/2020 10:05:33	Linear	1/Var	0.000002	0.000001	0.000000	1.000000	0.998761	0.000032	2.948623	9.828743
Mg 202.582 {466}	08/06/2020 09:09:32	07/28/2020 10:13:32	Linear	1/Var	0.000009	0.000000	0.000000	1.000000	0.997979	0.000014	3.097643	10.325476
Mg 279.079 {121}	08/06/2020 09:09:32	07/28/2020 10:13:32	Linear	1/Var	-0.000006	0.000000	0.000000	1.000000	0.999160	0.000017	31.065663	103.55221
Mg 280.270 {120}	08/06/2020 09:09:32	07/28/2020 09:43:29	Linear	None	0.001310	0.000027	0.000000	1.000000	0.999945	0.001680	0.037916	0.126387
Mn 257.610 {131}	08/06/2020 09:09:32	07/28/2020 09:43:29	Linear	1/Var	0.000001	0.000010	0.000000	1.000000	0.999086	0.000008	0.100240	0.334132
Mn 259.373 {130}	08/06/2020 09:09:32	07/28/2020 09:50:17	Linear	1/Var	0.000002	0.000004	0.000000	1.000000	0.999931	0.000012	0.666279	2.220931
Mo 202.030 {466}	08/06/2020 09:09:32	07/28/2020 09:36:43	Linear	1/Conc	0.000002	0.000007	0.000000	1.000000	0.999899	0.000000	0.510123	1.700410
Mo 203.844 {465}	08/06/2020 09:09:32	07/28/2020 09:36:43	Linear	1/Var	0.000001	0.000004	0.000000	1.000000	0.999933	0.000004	1.076542	3.588473
Mo 204.598 {464}	08/06/2020 09:09:32	07/28/2020 09:43:29	Linear	1/Conc	-0.000001	0.000004	0.000000	1.000000	0.999917	0.000000	0.915793	3.052642
Ni 221.647 {452}	08/06/2020 09:09:32	07/28/2020 09:43:30	Linear	1/Conc	0.000003	0.000010	0.000000	1.000000	0.999809	0.000009	0.605143	2.017143
Ni 231.604 {445}	08/06/2020 09:09:32	07/28/2020 09:43:30	Linear	1/Conc	-0.000018	0.000011	0.000000	1.000000	0.999862	0.000001	0.551336	1.837785
Pb 216.999 {455}	08/06/2020 09:09:32	07/28/2020 09:50:17	Linear	1/Conc	0.000006	0.000001	0.000000	1.000000	0.999850	0.000001	5.074615	16.915383
Pb 216.999 {456}	08/06/2020 09:09:32	07/28/2020 09:50:17	Linear	1/Conc	-0.000002	0.000000	0.000000	1.000000	0.999854	0.000000	20.940061	69.800203
Pb 220.353 {453}	08/06/2020 09:09:32	07/28/2020 09:36:44	Linear	1/Conc	0.000014	0.000002	0.000000	1.000000	0.999822	0.000000	2.965524	9.885079
Pb 220.353 {153}	08/06/2020 09:09:32	07/28/2020 09:50:17	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999931	0.000000	5.339024	17.796748
Sb 206.833 {463}	08/06/2020 09:09:32	07/28/2020 09:43:30	Linear	1/Conc	-0.000006	0.000001	0.000000	1.000000	0.999933	0.000000	2.519009	8.396696

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Ag 328.068 {103}	OK.	1.000000	0.000000	1	0
	Ag 338.289 {100}	OK.	1.000000	0.000000	1	0
	Al 167.079 {501}	OK.	1.000000	0.000000	1	0
	Al 308.215 {109}	OK.	1.000000	0.000000	1	0
	Al 396.152 { 85}	OK.	1.000000	0.000000	1	0
	As 193.759 {474}	OK.	1.000000	0.000000	1	0
	As 197.262 {471}	OK.	1.000000	0.000000	1	0
	Ba 233.527 {445}	OK.	1.000000	0.000000	1	0
	Ba 455.403 { 74}	OK.	1.000000	0.000000	1	0
	Ba 493.409 { 68}	OK.	1.000000	0.000000	1	0
	Be 313.042 {108}	OK.	1.000000	0.000000	1	0
	Be 234.861 {144}	OK.	1.000000	0.000000	1	0
	Ca 315.887 {107}	OK.	1.000000	0.000000	1	0
	Ca 317.933 {106}	OK.	1.000000	0.000000	1	0
	Ca 393.366 { 86}	OK.	1.000000	0.000000	1	0
	Ca 396.847 { 85}	OK.	1.000000	0.000000	1	0
	Cd 226.502 {449}	OK.	1.000000	0.000000	1	0
	Cd 228.802 {447}	OK.	1.000000	0.000000	1	0
	Co 228.616 {447}	OK.	1.000000	0.000000	1	0
	Co 238.892 {141}	OK.	1.000000	0.000000	1	0
	Cr 205.560 {464}	OK.	1.000000	0.000000	1	0
	Cr 267.716 {126}	OK.	1.000000	0.000000	1	0
	Cu 223.008 {451}	OK.	1.000000	0.000000	1	0
	Cu 224.700 {450}	OK.	1.000000	0.000000	1	0
	Cu 324.754 {104}	OK.	1.000000	0.000000	1	0
	Cu 327.396 {103}	OK.	1.000000	0.000000	1	0
	Fe 234.349 {144}	OK.	1.000000	0.000000	1	0
	Fe 239.562 {140}	OK.	1.000000	0.000000	1	0
	Fe 259.940 {129}	OK.	1.000000	0.000000	1	0
	Mg 202.582 {466}	OK.	1.000000	0.000000	1	0
	Mg 279.079 {121}	OK.	1.000000	0.000000	1	0
	Mg 280.270 {120}	OK.	1.000000	0.000000	1	0
	Mn 257.610 {131}	OK.	1.000000	0.000000	1	0
	Mn 259.373 {130}	OK.	1.000000	0.000000	1	0
	Mo 202.030 {466}	OK.	1.000000	0.000000	1	0
	Mo 203.844 {465}	OK.	1.000000	0.000000	1	0
	Mo 204.598 {464}	OK.	1.000000	0.000000	1	0
	Ni 221.647 {452}	OK.	1.000000	0.000000	1	0
	Ni 231.604 {445}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {455}	OK.	1.000000	0.000000	1	0
	Pb 216.999 {456}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {453}	OK.	1.000000	0.000000	1	0
	Pb 220.353 {153}	OK.	1.000000	0.000000	1	0
	Sb 206.833 {463}	OK.	1.000000	0.000000	1	0

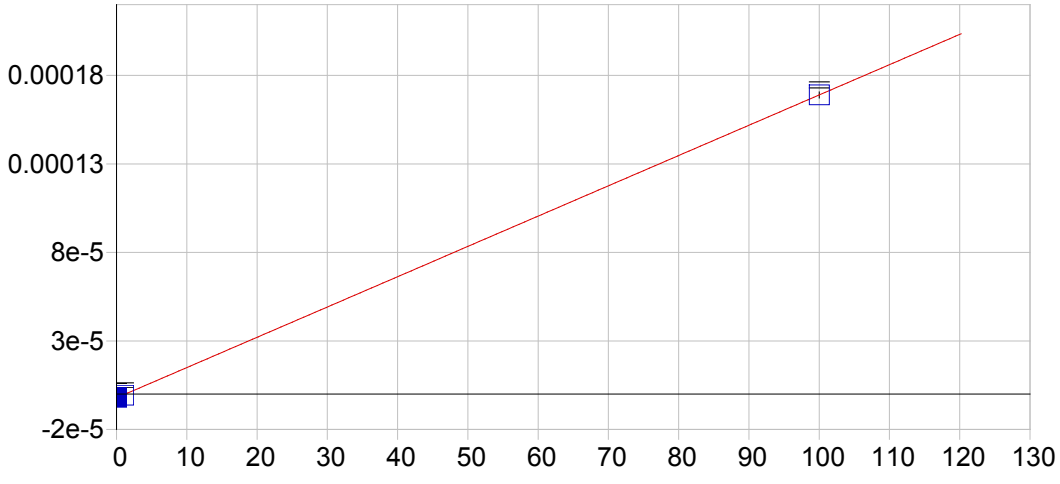
	Element, Wavelength and Order	Date of Fit	Date of Cal.	Type of Fit	Weighting	A0	A1	A2	n (Exponent)	Correlation	Std Error of Est	Predicted MDL	Predicted MQL
	Sb 217.581 {455}	08/06/2020 09:09:32	07/28/2020 09:43:31	Linear	1/Conc	0.000008	0.000002	0.000000	1.000000	0.999871	0.000000	2.655724	8.852412
	Se 196.090 {472}	08/06/2020 09:09:32	07/28/2020 09:36:44	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999788	0.000000	4.124128	13.747094
	Se 203.985 {465}	08/06/2020 09:09:32	07/28/2020 09:36:44	Linear	1/Var	-0.000000	0.000001	0.000000	1.000000	0.999974	0.000002	8.261510	27.538366
	Se 206.279 {463}	08/06/2020 09:09:32	07/28/2020 09:43:31	Linear	1/Var	0.000000	0.000000	0.000000	1.000000	0.999983	0.000003	37.901973	126.33991
	Tl 190.856 {476}	08/06/2020 09:09:32	07/28/2020 09:36:45	Linear	1/Conc	0.000008	0.000002	0.000000	1.000000	0.999790	0.000000	2.211675	7.372249
	Tl 190.856 {477}	08/06/2020 09:09:32	07/28/2020 09:43:31	Linear	1/Var	0.000008	0.000001	0.000000	1.000000	0.999507	0.000029	4.092537	13.641791
	V 290.882 {116}	08/06/2020 09:09:32	07/28/2020 09:43:31	Linear	1/Conc	0.000015	0.000001	0.000000	1.000000	0.999979	0.000000	3.495241	11.650803
	V 292.402 {115}	08/06/2020 09:09:32	07/28/2020 09:43:31	Linear	1/Conc	-0.000004	0.000006	0.000000	1.000000	0.999960	0.000001	0.570939	1.903130
	Zn 206.200 {463}	08/06/2020 09:09:32	07/28/2020 09:50:17	Curvili	1/Conc	0.000012	0.000014	-0.000000	1.000000	0.999985	0.000003	0.294482	0.981605
	Zn 213.856 {457}	08/06/2020 09:09:32	07/28/2020 09:36:46	Linear	1/Conc	0.000033	0.000032	0.000000	1.000000	0.999748	0.000003	0.135864	0.452881
	Y 224.306 {450}*	08/06/2020 09:09:32	07/28/2020 08:46:28	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 324.228 {104}*	08/06/2020 09:09:32	07/28/2020 08:46:28	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Y 371.030 { 91}*	08/06/2020 09:09:32	07/28/2020 08:46:28	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.000000	0.000000	-1.000000	-1.000000
	Na 588.995 { 57}	08/06/2020 09:09:32	07/28/2020 09:57:05	Linear	1/Var	0.003362	0.000008	0.000000	1.000000	0.999487	0.000203	3.776969	12.589896
	Na 589.592 { 57}	08/06/2020 09:09:32	07/28/2020 10:13:32	Linear	1/Var	0.000045	0.000004	0.000000	1.000000	0.999718	0.000132	4.667985	15.559950
	Si 251.611 {134}	08/06/2020 09:09:32	07/28/2020 09:57:06	Linear	1/Conc	0.000003	0.000000	0.000000	1.000000	0.999789	0.000003	9.078807	30.262692
	Ti 323.452 {104}	08/06/2020 09:09:32	07/28/2020 09:43:32	Linear	1/Conc	0.000157	0.000006	0.000000	1.000000	0.999980	0.000000	1.105252	3.684172
	Ti 334.941 {101}	08/06/2020 09:09:32	07/28/2020 09:43:32	Linear	1/Conc	0.000000	0.000004	0.000000	1.000000	0.999963	0.000000	1.016618	3.388727
	Sr 407.771 { 83}	08/06/2020 09:09:32	07/28/2020 09:43:32	Linear	1/Conc	0.000032	0.000154	0.000000	1.000000	0.999905	0.000008	0.065940	0.219799
	Sr 421.552 { 80}	08/06/2020 09:09:32	07/28/2020 09:43:32	Linear	1/Conc	-0.000005	0.000098	0.000000	1.000000	0.999907	0.000005	0.091539	0.305130
	Sn 189.989 {477}	08/06/2020 09:09:32	07/28/2020 09:43:33	Linear	1/Conc	0.000002	0.000002	0.000000	1.000000	0.999885	0.000000	1.311550	4.371832
	B 249.678 {135}	08/06/2020 09:09:32	07/28/2020 09:43:33	Linear	1/Var	0.000001	0.000002	0.000000	1.000000	0.999935	0.000004	1.009653	3.365511
	B 249.773 {135}	08/06/2020 09:09:32	07/28/2020 09:43:33	Linear	1/Var	0.000002	0.000003	0.000000	1.000000	0.999918	0.000005	0.616277	2.054257
	Li 670.784 { 50}	08/06/2020 09:09:32	07/28/2020 09:43:33	Linear	1/Conc	-0.000007	0.000029	0.000000	1.000000	0.999961	0.000003	0.802296	2.674319
	K 766.490 { 44}	08/06/2020 09:09:32	07/28/2020 10:13:32	Linear	1/Var	0.000046	0.000001	0.000000	1.000000	0.999464	0.000102	28.006526	93.355088
	K 769.896 { 44}	08/06/2020 09:09:32	07/28/2020 10:13:32	Linear	1/Conc	-0.000034	0.000000	0.000000	1.000000	0.999141	0.000019	45.978085	153.26028
	P 213.618 {457}	08/06/2020 09:09:32	07/28/2020 10:13:33	Linear	1/Conc	0.000001	0.000001	0.000000	1.000000	0.999962	0.000008	6.145382	20.484608
	S 182.034 {485}	08/06/2020 09:09:32	07/28/2020 10:13:33	Linear	1/Conc	0.000003	0.000000	0.000000	1.000000	0.999931	0.000006	7.110205	23.700684
	Hg 184.950 {482}	08/06/2020 09:09:32	07/28/2020 09:36:48	Linear	1/Conc	0.000000	0.000000	0.000000	1.000000	0.999987	0.000000	1.186629	3.955430
	Ce 404.076 { 83}	08/06/2020 09:09:32	07/28/2020 09:36:48	Linear	1/Conc	0.000022	0.000001	0.000000	1.000000	1.000000	0.000000	15.670593	52.235310

	Element, Wavelength and Order	Status	Reslope		QC Norm	
			Slope	Y-int	Slope factor	Offset
	Sb 217.581 {455}	OK.	1.000000	0.000000	1	0
	Se 196.090 {472}	OK.	1.000000	0.000000	1	0
	Se 203.985 {465}	OK.	1.000000	0.000000	1	0
	Se 206.279 {463}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {476}	OK.	1.000000	0.000000	1	0
	Tl 190.856 {477}	OK.	1.000000	0.000000	1	0
	V 290.882 {116}	OK.	1.000000	0.000000	1	0
	V 292.402 {115}	OK.	1.000000	0.000000	1	0
	Zn 206.200 {463}	OK.	1.000000	0.000000	1	0
	Zn 213.856 {457}	OK.	1.000000	0.000000	1	0
	Y 224.306 {450}*	Warnin	1.000000	0.000000	1	0
	Y 324.228 {104}*	Warnin	1.000000	0.000000	1	0
	Y 371.030 { 91}*	Warnin	1.000000	0.000000	1	0
	Na 588.995 { 57}	OK.	1.000000	0.000000	1	0
	Na 589.592 { 57}	OK.	1.000000	0.000000	1	0
	Si 251.611 {134}	OK.	1.000000	0.000000	1	0
	Ti 323.452 {104}	OK.	1.000000	0.000000	1	0
	Ti 334.941 {101}	OK.	1.000000	0.000000	1	0
	Sr 407.771 { 83}	OK.	1.000000	0.000000	1	0
	Sr 421.552 { 80}	OK.	1.000000	0.000000	1	0
	Sn 189.989 {477}	OK.	1.000000	0.000000	1	0
	B 249.678 {135}	OK.	1.000000	0.000000	1	0
	B 249.773 {135}	OK.	1.000000	0.000000	1	0
	Li 670.784 { 50}	OK.	1.000000	0.000000	1	0
	K 766.490 { 44}	OK.	1.000000	0.000000	1	0
	K 769.896 { 44}	OK.	1.000000	0.000000	1	0
	P 213.618 {457}	OK.	1.000000	0.000000	1	0
	S 182.034 {485}	OK.	1.000000	0.000000	1	0
	Hg 184.950 {482}	OK.	1.000000	0.000000	1	0
	Ce 404.076 { 83}	OK.	1.000000	0.000000	1	0

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Ag 328.068 {103}	☒	1	Ce	-0.003820	0.000000	No
Ag 338.289 {100}	☒	3	Fe	0.000461	0.000000	No
			Ti	0.002000	0.000000	No
			Ce	0.000000	0.000000	No
Al 167.079 {501}	☒	None				
Al 308.215 {109}	☒	None				
Al 396.152 { 85}	☒	None				
As 193.759 {474}	☒	4	Al	0.001245	0.000000	No
			Mn	-0.000003	0.000000	No
			Ni	-0.000722	0.000000	No
			Cr	0.000734	0.000000	No
As 197.262 {471}	☒	1	Al	0.000112	0.000000	No
Ba 233.527 {445}	☒	1	Fe	0.000019	0.000000	No
Ba 455.403 { 74}	☒	1	Fe	0.000002	0.000000	No
Ba 493.409 { 68}	☒	1	Fe	0.000009	0.000000	No
Be 313.042 {108}	☒	2	Fe	0.000020	0.000000	No
			Ni	0.000000	0.000000	No
Be 234.861 {144}	☒	1	Fe	-0.000013	0.000000	No
Ca 315.887 {107}	☒	1	Fe	0.000000	0.000000	No
Ca 317.933 {106}	☒	None				
Ca 393.366 { 86}	☒	1	Cu	0.000000	0.000000	No
Ca 396.847 { 85}	☒	None				
Cd 226.502 {449}	☒	1	Fe	0.000212	0.000000	No
Cd 228.802 {447}	☒	1	Fe	-0.000005	0.000000	No
Co 228.616 {447}	☒	3	Fe	-0.000060	0.000000	No
			Ba	-0.001175	0.000000	No
			Ti	0.001700	0.000000	No
Co 238.892 {141}	☒	1	Fe	0.000226	0.000000	No
Cr 205.560 {464}	☒	1	Fe	0.000000	0.000000	No
Cr 267.716 {126}	☒	4	Fe	0.000005	0.000000	No
			Mn	0.000157	0.000000	No
			Ti	0.000100	0.000000	No
			V	-0.000002	0.000000	No
Cu 223.008 {451}	☒	2	Fe	0.000166	0.000000	No
			Mo	0.001000	0.000000	No
Cu 224.700 {450}	☒	2	Fe	0.003134	0.000000	No
			Ni	-0.007040	0.000000	No
Cu 324.754 {104}	☒	1	Fe	-0.000081	0.000000	No
Cu 327.396 {103}	☒	2	Fe	0.000006	0.000000	No
			Mo	-0.000319	0.000000	No
Fe 234.349 {144}	☒	None				
Fe 239.562 {140}	☒	None				
Fe 259.940 {129}	☒	None				
Mg 202.582 {466}	☒	None				

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
Mg 279.079 {121}	☒	None				
Mg 280.270 {120}	☒	None				
Mn 257.610 {131}	☒	1	Al	0.000004	0.000000	No
Mn 259.373 {130}	☒	1	Mg	0.001207	0.000000	No
Mo 202.030 {466}	☒	3	Fe	-0.000020	0.000000	No
			Ti	0.001417	0.000000	No
			V	-0.000077	0.000000	No
Mo 203.844 {465}	☒	1	Fe	-0.000019	0.000000	No
Mo 204.598 {464}	☒	1	Fe	0.000044	0.000000	No
Ni 221.647 {452}	☒	2	Ca	-0.000003	0.000000	No
			Mg	-0.000003	0.000000	No
Ni 231.604 {445}	☒	6	Fe	-0.000047	0.000000	No
			Co	-0.000134	0.000000	No
			Mo	0.000840	0.000000	No
			Al	0.000003	0.000000	No
			Mn	0.000019	0.000000	No
			Be	-0.000294	0.000000	No
Pb 216.999 {455}	☒	2	Al	0.003119	0.000000	No
			Na	0.000000	0.000000	No
Pb 216.999 {456}	☒	1	Al	0.002922	0.000000	No
Pb 220.353 {453}	☒	7	Si	0.000000	0.000000	No
			Al	0.000023	0.000000	No
			Ni	0.000106	0.000000	No
			Mo	-0.001644	0.000000	No
			V	-0.000018	0.000000	No
			Cu	0.000367	0.000000	No
			Mn	0.000094	0.000000	No
Pb 220.353 {153}	☒	1	Fe	-0.000300	0.000000	No
Sb 206.833 {463}	☒	2	Fe	-0.000097	0.000000	No
			Cr	0.000000	0.000000	No
Sb 217.581 {455}	☒	2	Fe	-0.000052	0.000000	No
			Ni	0.000133	0.000000	No
Se 196.090 {472}	☒	1	Fe	-0.000187	0.000000	No
Se 203.985 {465}	☒	1	Fe	-0.000160	0.000000	No
Se 206.279 {463}	☒	1	Fe	0.000965	0.000000	No
Tl 190.856 {476}	☒	7	Fe	-0.000303	0.000000	No
			Be	-0.000013	0.000000	No
			Ti	0.000000	0.000000	No
			Mn	0.000000	0.000000	No
			Ni	0.000000	0.000000	No
			Co	0.002495	0.000000	No
			Cr	0.000220	0.000000	No
Tl 190.856 {477}	☒	2	Fe	-0.000350	0.000000	No
			Cr	0.000000	0.000000	No

Element, Wavelength and Order	Use?	# IECs	IEC	k1	k2	Calc-in-fit?
V 290.882 {116}	☒	1	Fe	0.000207	0.000000	No
V 292.402 {115}	☒	5	Fe	0.000045	0.000000	No
			Cr	-0.000051	0.000000	No
			Al	0.000000	0.000000	No
			Ti	0.000420	0.000000	No
			Mo	-0.000481	0.000000	No
Zn 206.200 {463}	☒	1	Fe	-0.000024	0.000000	No
Zn 213.856 {457}	☒	9	Fe	0.000365	0.000000	No
			Cu	0.001765	0.000000	No
			Al	0.000000	0.000000	No
			Mn	0.000094	0.000000	No
			Ni	0.004500	0.000000	No
			Ti	-0.000307	0.000000	No
			Mg	0.000026	0.000000	No
			Mo	0.000034	0.000000	No
			Ca	0.000000	0.000000	No
Y 224.306 {450}*	☒	None				
Y 324.228 {104}*	☒	None				
Y 371.030 { 91}*	☒	None				
Na 588.995 { 57}	☒	1	Fe	0.000109	0.000000	No
Na 589.592 { 57}	☒	1	Fe	0.000324	0.000000	No
Si 251.611 {134}	☒	4	Fe	-0.000024	0.000000	No
			Mo	0.042672	0.000000	No
			Ti	0.028118	0.000000	No
			Sn	0.019943	0.000000	No
Ti 323.452 {104}	☒	1	Fe	0.000008	0.000000	No
Ti 334.941 {101}	☒	1	Fe	0.000082	0.000000	No
Sr 407.771 { 83}	☒	1	Fe	0.000015	0.000000	No
Sr 421.552 { 80}	☒	1	Ca	0.000013	0.000000	No
Sn 189.989 {477}	☒	1	Fe	0.000034	0.000000	No
B 249.678 {135}	☒	1	Fe	0.000002	0.000000	No
B 249.773 {135}	☒	1	Fe	0.001062	0.000000	No
Li 670.784 { 50}	☒	1	Fe	0.000016	0.000000	No
K 766.490 { 44}	☒	1	Fe	-0.000191	0.000000	No
K 769.896 { 44}	☒	1	Fe	0.000201	0.000000	No
P 213.618 {457}	☒	1	Fe	-0.000011	0.000000	No
S 182.034 {485}	☒	2	Mn	0.002145	0.000000	No
			Fe	0.001405	0.000000	No
Hg 184.950 {482}	☒	1	Fe	0.000009	0.000000	No
Ce 404.076 { 83}	☒	1	Fe	0.000227	0.000000	No

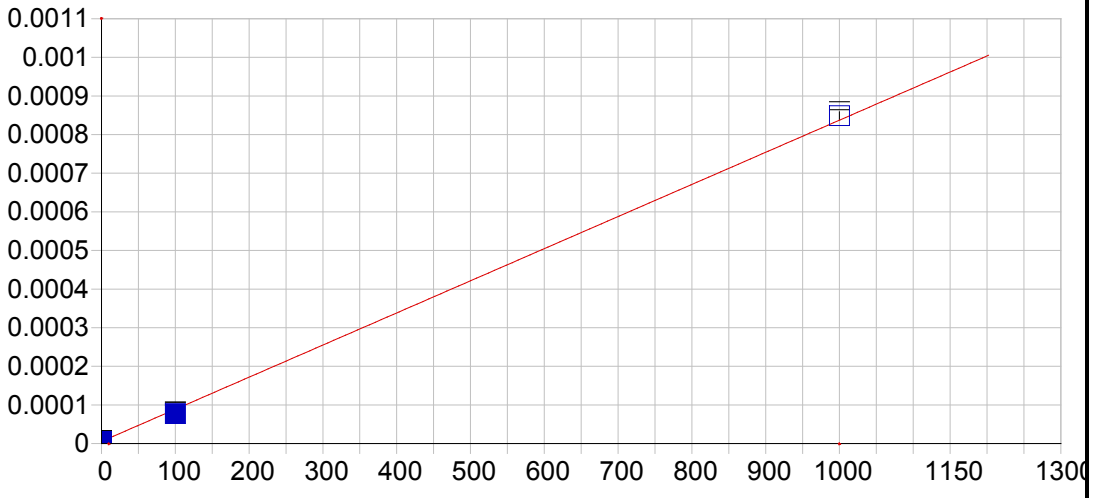


Ag 328.068 {103}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999995	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.107563		
Predicted MQL:	3.691877		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.17341	.173	.000	-.00000	.000	1
CalStd8=100	100.00	100.00	.002	.002	.00017	.000	1
CalStd3=1	1.0000	.82484	-.175	-17.5	-.00000	.000	1

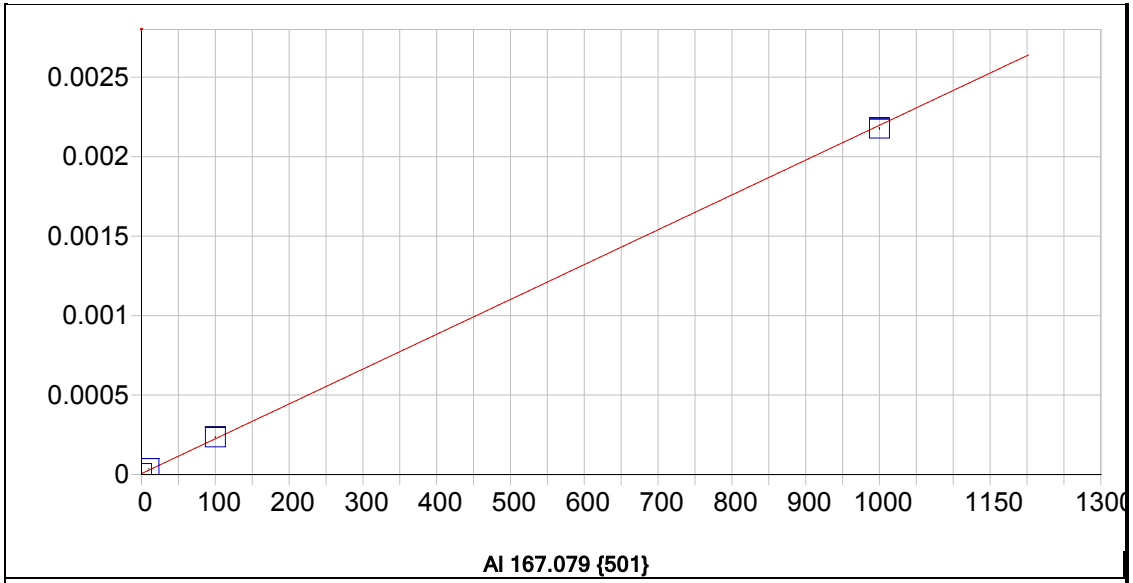


Ag 338.289 {100}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999077	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.659472		
Predicted MQL:	18.864907		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.01222	.012	.000	.00001	.000	1
CalStd8=100	100.00	86.415	-13.6	-13.6	.00008	.000	1
Ag Ba 1000,	1000.0	1013.6	13.6	1.36	.00085	.000	1

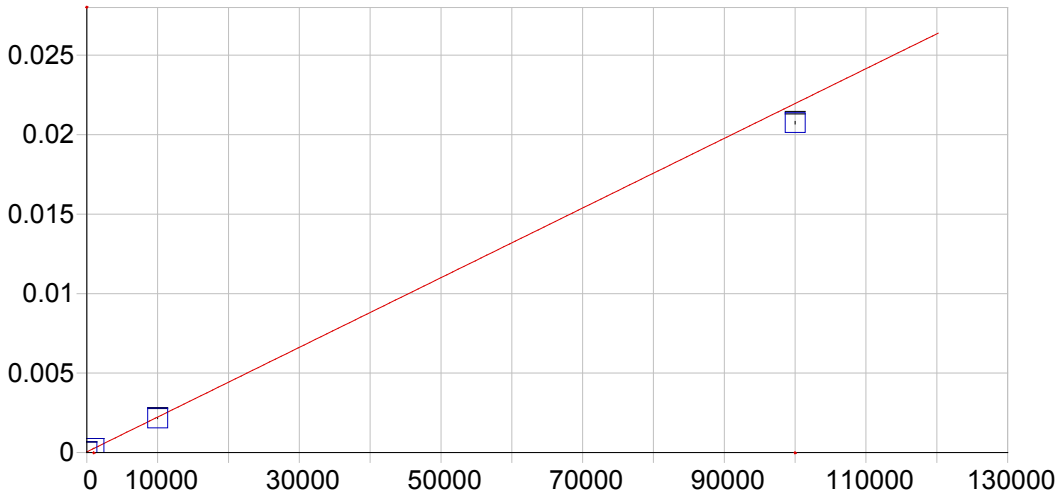


Al 167.079 {501}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999095	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.806779		
Predicted MQL:	2.689264		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00452	-.005	.000	.00001	.000	1
CalStd9=100	1000.0	991.14	-8.86	-.886	.00218	.000	1
CalStd5=10	10.000	14.133	4.13	41.3	.00004	.000	1
CalStd8=100	100.00	104.73	4.73	4.73	.00024	.000	1

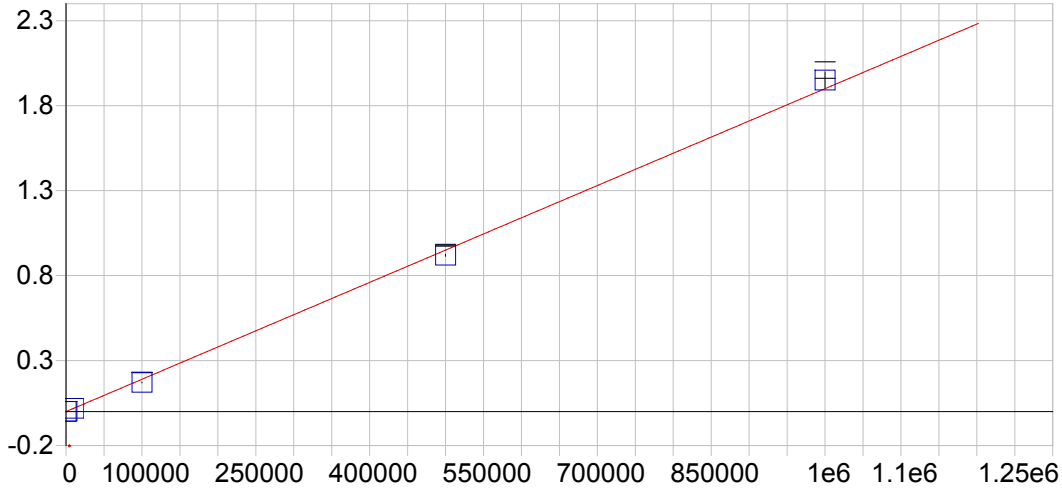


Al 308.215 {109}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Curvilinear	Weighting:	1/Var

A0 (Offset):	0.000041	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	26.680384		
Predicted MQL:	88.934614		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.4131	-8.41	.000	.00004	.000	1
CalStd10=10	10000.	9673.4	-327.	-3.27	.00216	.000	1
CalStd9=100	1000.0	1016.3	16.3	1.63	.00026	.000	1
CalStd13=10	100000.	94489.	-5510.	-5.51	.02075	.000	1

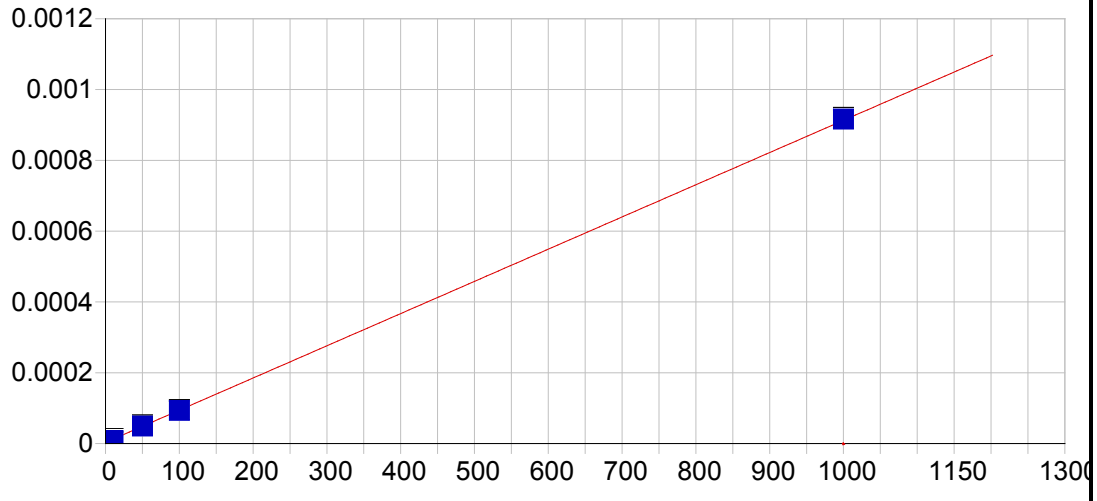


Al 396.152 { 85}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999309	Status:	OK.
Std Error of Est:	0.000110		
Predicted MDL:	5.843858		
Predicted MQL:	19.479525		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.16285	.163	.000	-.00002	.000	1
CalStd14=50	500000.	484110.	-15900.	-3.18	.91979	.005	1
CalStd13=10	100000.	89975.	-10000.	-10.0	.17093	.001	1
CalStd10=10	10000.	9538.0	-462.	-4.62	.01810	.000	1
CalStd9=100	1000.0	989.00	-11.0	-1.10	.00186	.000	1
CalibStd15=	1000000.	1026400.	26400.	2.64	1.9501	.048	1

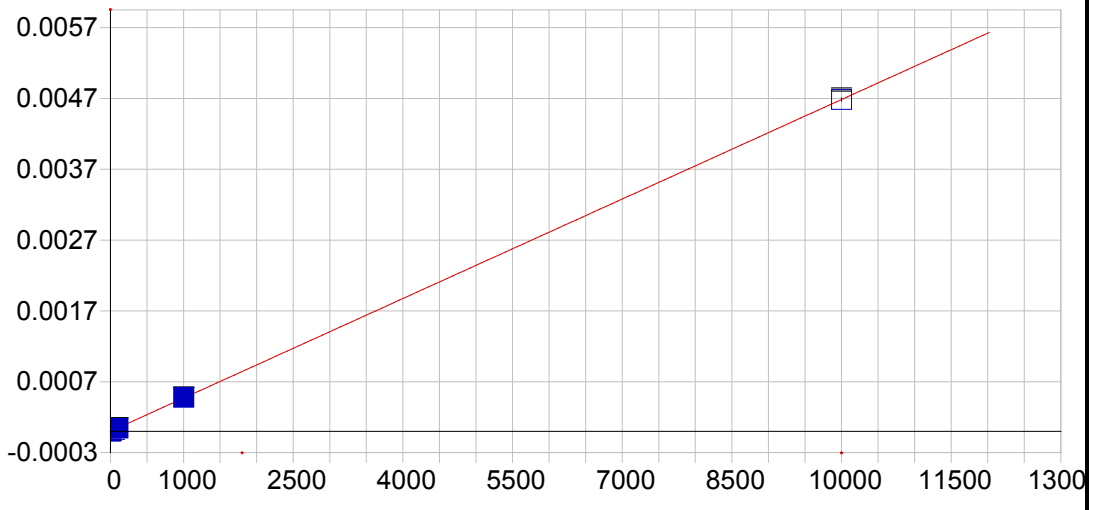


As 193.759 {474}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999638	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.080667		
Predicted MQL:	13.602224		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00280	.003	.000	.00000	.000	1
CalStd9=100	1000.0	1003.5	3.49	.349	.00092	.000	1
CalStd7=50	50.000	50.626	.626	1.25	.00005	.000	1
CalStd5=10	10.000	7.1632	-2.84	-28.4	.00001	.000	1
CalStd8=100	100.00	98.719	-1.28	-1.28	.00009	.000	1

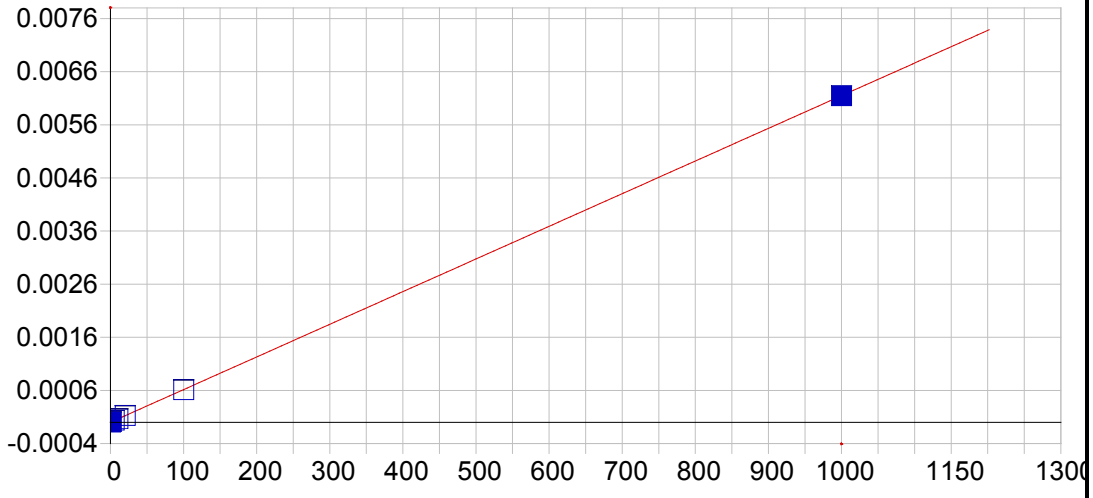


As 197.262 {471}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	6.637775		
Predicted MQL:	22.125916		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-4.2464	-4.25	.000	-.00000	.000	1
CalStd9=100	1000.0	1019.9	19.9	1.99	.00048	.000	1
CalStd7=50	50.000	42.258	-7.74	-15.5	.00002	.000	1
CalStd5=10	10.000	9.6496	-.350	-3.50	.00001	.000	1
CalStd8=100	100.00	94.307	-5.69	-5.69	.00004	.000	1
CalStd10=10	10000.	9998.1	-1.90	-.019	.00468	.000	1

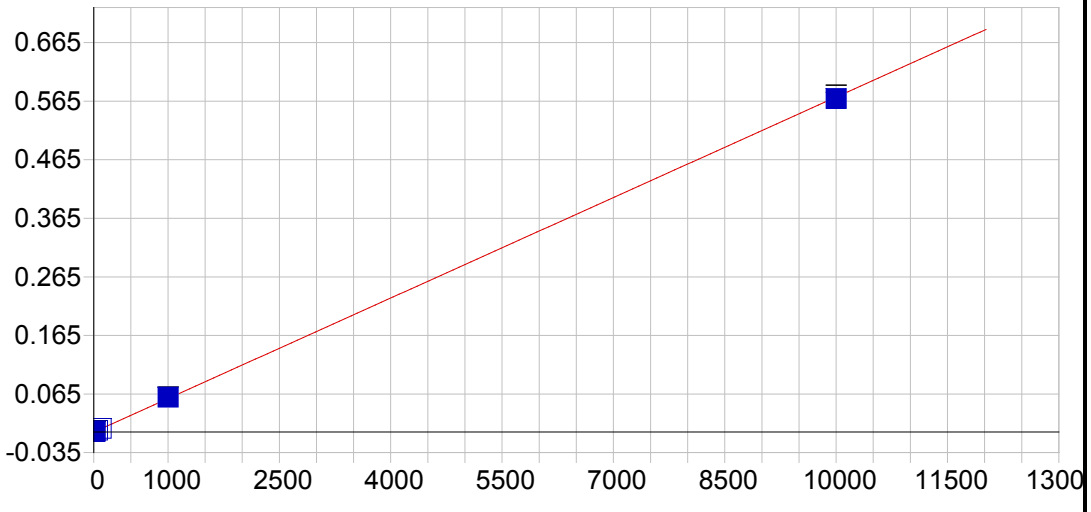


Ba 233.527 {445}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999919	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.440105		
Predicted MQL:	1.467015		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00029	-.000	.000	.00000	.000	1
CalStd5=10	10.000	10.165	.165	1.65	.00006	.000	1
CalStd6=20	20.000	20.064	.064	.318	.00012	.000	1
CalStd8=100	100.00	99.133	-.867	-.867	.00061	.000	1
CalStd4=5	5.0000	5.9086	.909	18.2	.00004	.000	1
CalStd9=100	1000.0	999.64	-.364	-.036	.00615	.000	1
CalStd3=1	1.0000	1.0936	.094	9.36	.00001	.000	1

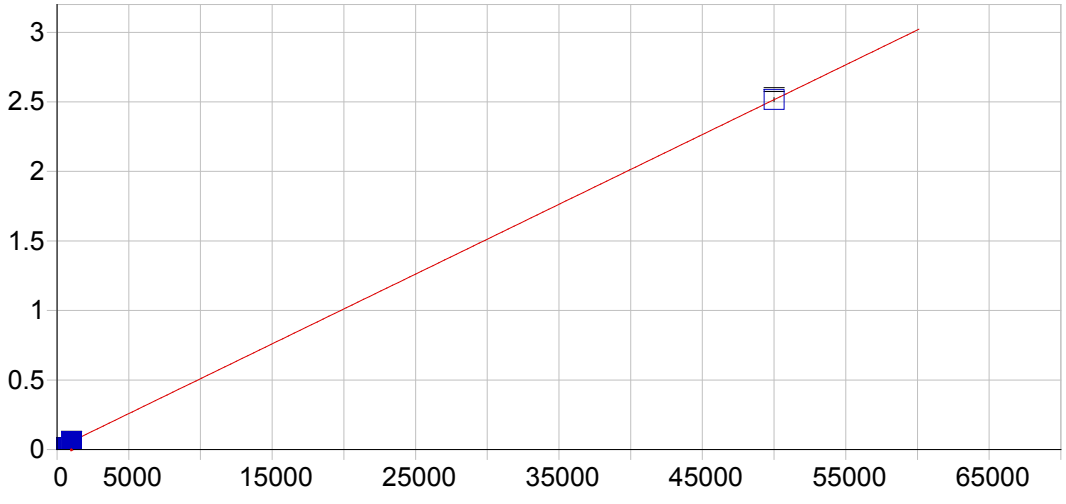


Ba 455.403 { 74}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000057	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999886	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.162202		
Predicted MQL:	0.540673		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00056	-.001	.000	-.00000	.000	1
CalStd7=50	50.000	52.594	2.59	5.19	.00301	.000	1
CalStd5=10	10.000	10.476	.476	4.76	.00060	.000	1
CalStd6=20	20.000	20.852	.852	4.26	.00119	.000	1
CalStd8=100	100.00	104.59	4.59	4.59	.00598	.000	1
CalStd4=5	5.0000	6.4532	1.45	29.1	.00037	.000	1
CalStd9=100	1000.0	1038.6	38.6	3.86	.05941	.001	1
CalStd3=1	1.0000	1.0501	.050	5.01	.00006	.000	1
CalStd10=10	10000.	9951.4	-48.6	-.486	.56927	.006	1

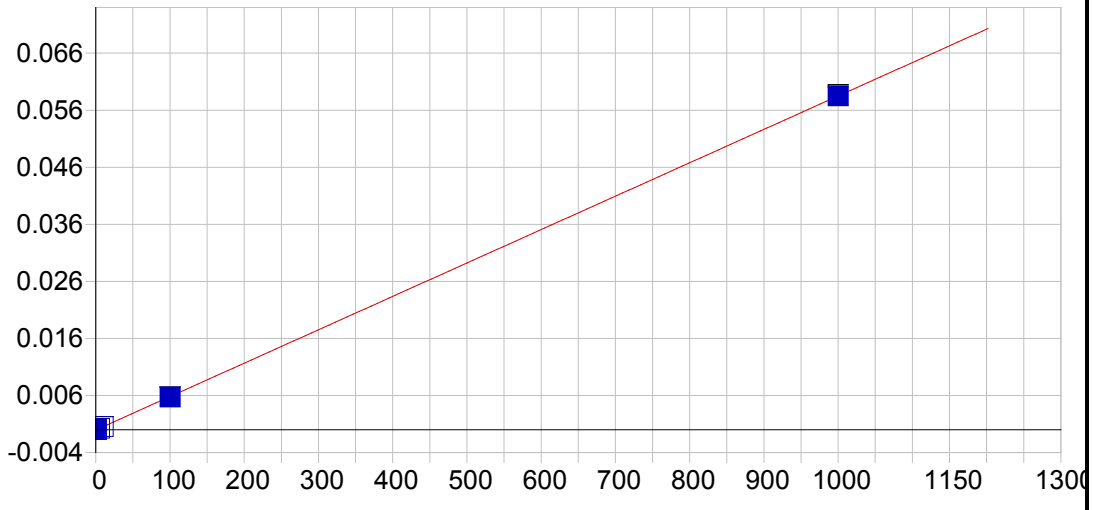


Ba 493.409 { 68}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.007689	Re-Slope:	1.000000
A1 (Gain):	0.000050	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000096		
Predicted MDL:	0.540414		
Predicted MQL:	1.801381		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.9493	-1.95	.000	.00759	.000	1
CalStd9=100	1000.0	1000.1	.065	.006	.05785	.001	1
CalStd8=100	100.00	101.89	1.89	1.89	.01280	.000	1
Ag Ba 1000,	50000.	50000.	-.005	-.000	2.5155	.014	1

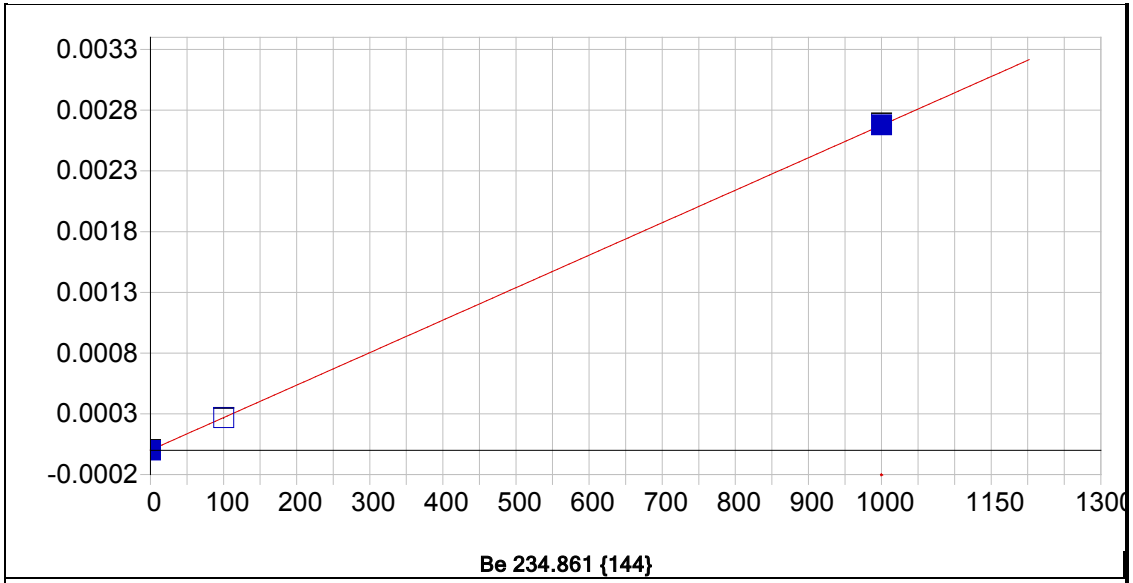


Be 313.042 {108}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000049	Re-Slope:	1.000000
A1 (Gain):	0.000059	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999931	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.031364		
Predicted MQL:	0.104546		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.08159	-.082	.000	-.00005	.000	1
CalStd5=10	10.000	9.9092	-.091	-.908	.00053	.000	1
CalStd8=100	100.00	98.451	-1.55	-1.55	.00571	.000	1
CalStd2=0.5	.50000	.49464	-.005	-1.07	-.00002	.000	1
CalStd4=5	5.0000	5.0700	.070	1.40	.00025	.000	1
CalStd9=100	1000.0	1000.1	.100	.010	.05850	.000	1
CalStd3=1	1.0000	1.0007	.001	.071	.00001	.000	1

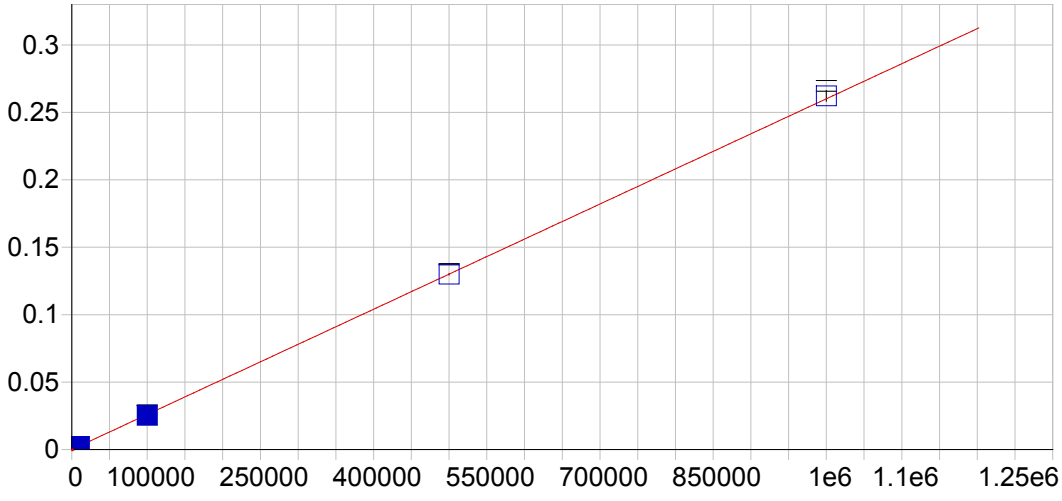


Be 234.861 {144}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999997	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.691379		
Predicted MQL:	2.304598		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00073	.001	.000	.00000	.000	1
CalStd9=100	1000.0	1000.8	.814	.081	.00268	.000	1
CalStd8=100	100.00	99.186	-.814	-.814	.00027	.000	1

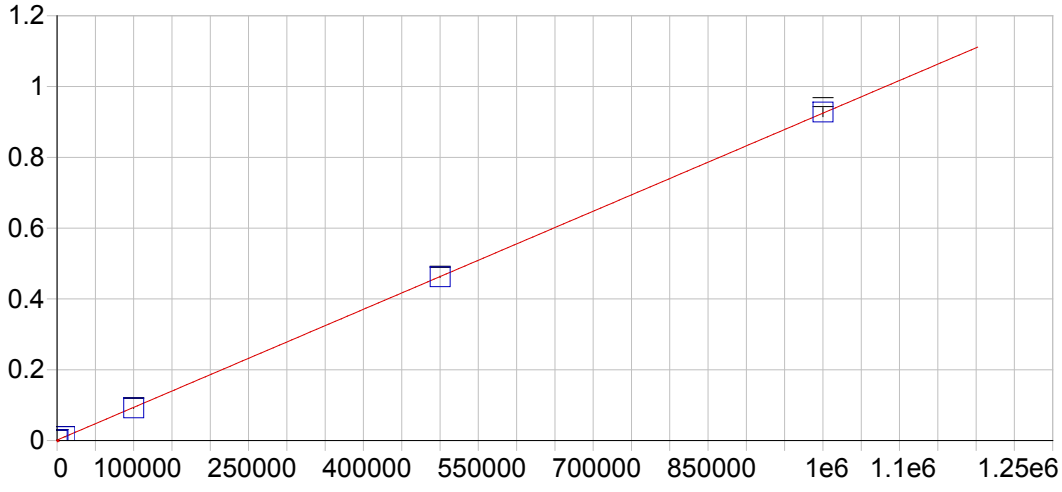


Ca 315.887 {107}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999921	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	9.876719		
Predicted MQL:	32.922395		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-11.868	-11.9	.000	.00002	.000	1
CalStd10=10	10000.	10024.	24.0	.240	.00263	.000	1
CalStd13=10	100000.	97276.	-2720.	-2.72	.02532	.000	1
CalStd14=50	500000.	499560.	-442.	-.088	.12994	.000	1
CalStd9=100	1000.0	1032.2	32.2	3.22	.00029	.000	1
CalibStd15=	1000000.	1008200.	8240.	.824	.26224	.004	1

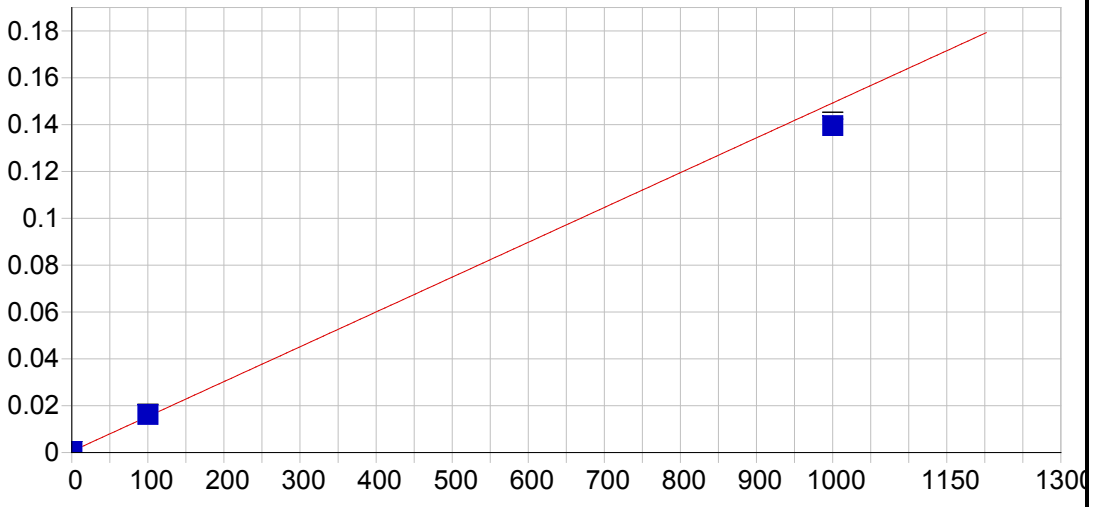


Ca 317.933 {106}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.001373	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999959	Status:	OK.
Std Error of Est:	0.000048		
Predicted MDL:	3.442896		
Predicted MQL:	11.476321		

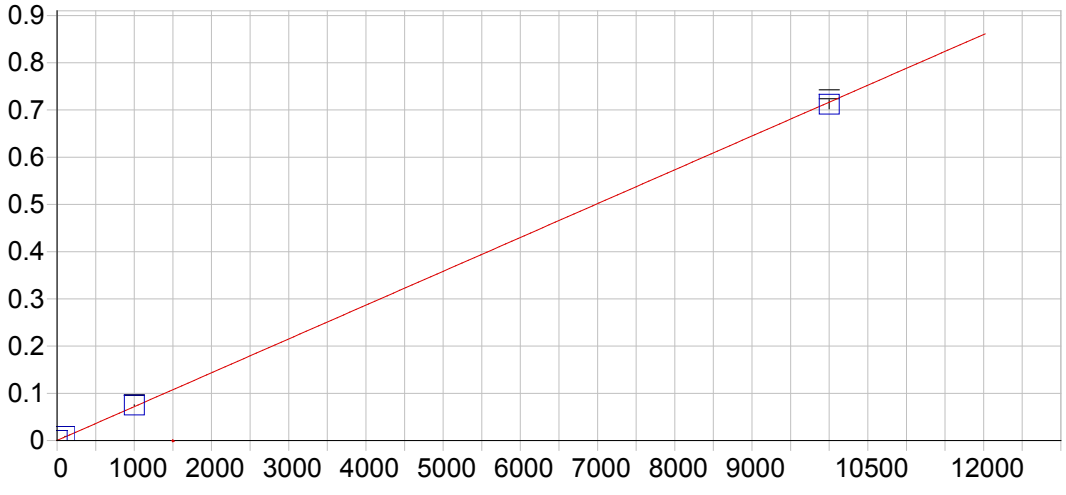
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-19.444	-19.4	.000	.00135	.000	1
CalStd10=10	10000.	10105.	105.	1.05	.01070	.000	1
CalStd13=10	100000.	98024.	-1980.	-1.98	.09189	.001	1
CalStd14=50	500000.	499250.	-750.	-.150	.46240	.002	1
CalStd9=100	1000.0	1012.4	12.4	1.24	.00231	.000	1
CalibStd15=	1000000.	1003000.	2960.	.296	.92753	.013	1



Ca 393.366 { 86}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000543		Re-Slope:	1.000000	
A1 (Gain):	0.000149		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.998038		Status:	OK.	
Std Error of Est:	0.000803				
Predicted MDL:	0.051576				
Predicted MQL:	0.171921				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.83690	-.837	.000	.00042	.000	1
CalStd9=100	1000.0	934.77	-65.2	-6.52	.13954	.001	1
CalStd8=100	100.00	105.10	5.10	5.10	.01617	.000	1

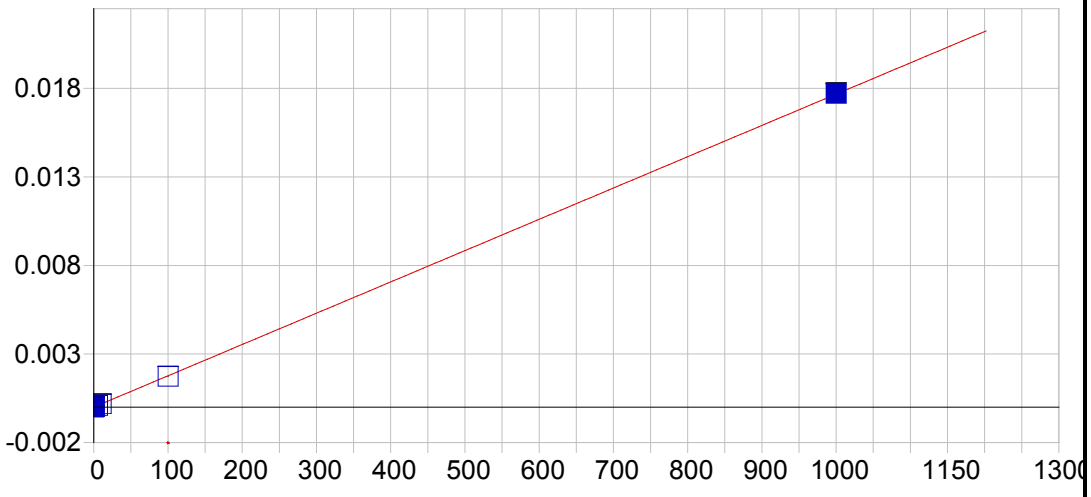


Ca 396.847 { 85}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000227	Re-Slope:	1.000000
A1 (Gain):	0.000072	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999711	Status:	OK.
Std Error of Est:	0.000081		
Predicted MDL:	0.108996		
Predicted MQL:	0.363319		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.02393	-.024	.000	.00023	.000	1
CalStd10=10	10000.	9935.9	-64.1	-.641	.71197	.010	1
CalStd8=100	100.00	120.17	20.2	20.2	.00884	.000	1
CalStd9=100	1000.0	1044.0	44.0	4.40	.07501	.001	1

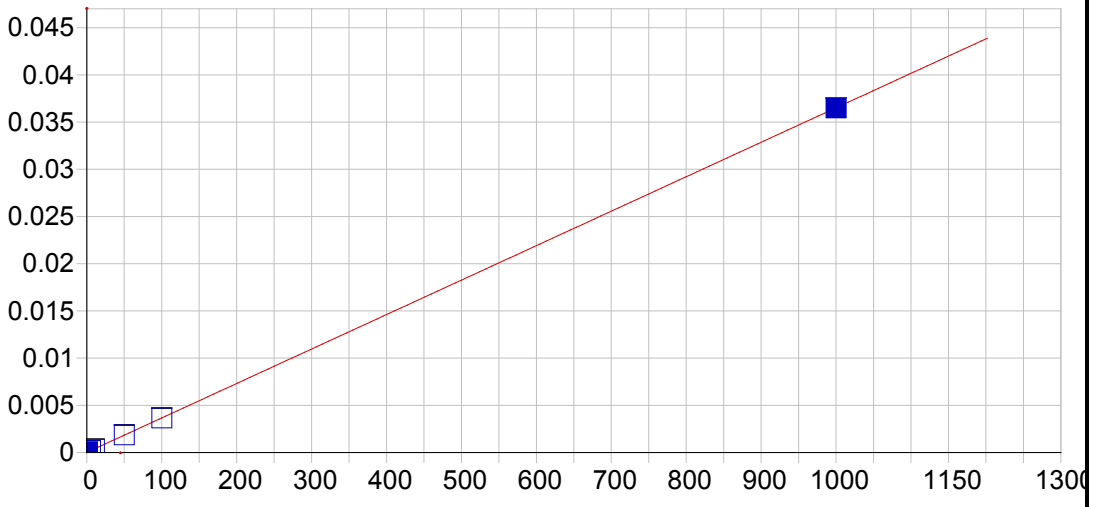


Cd 226.502 {449}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000018	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999954	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.232455		
Predicted MQL:	0.774850		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00018	.000	.000	.00000	.000	1
CalStd3=1	1.0000	1.0039	.004	.387	.00002	.000	1
CalStd2=0.5	.50000	.32761	-.172	-34.5	.00001	.000	1
CalStd4=5	5.0000	5.0520	.052	1.04	.00009	.000	1
CalStd8=100	100.00	98.204	-1.80	-1.80	.00174	.000	1
CalStd5=10	10.000	9.7724	-.228	-2.28	.00017	.000	1
CalStd9=100	1000.0	1002.1	2.14	.214	.01772	.000	1

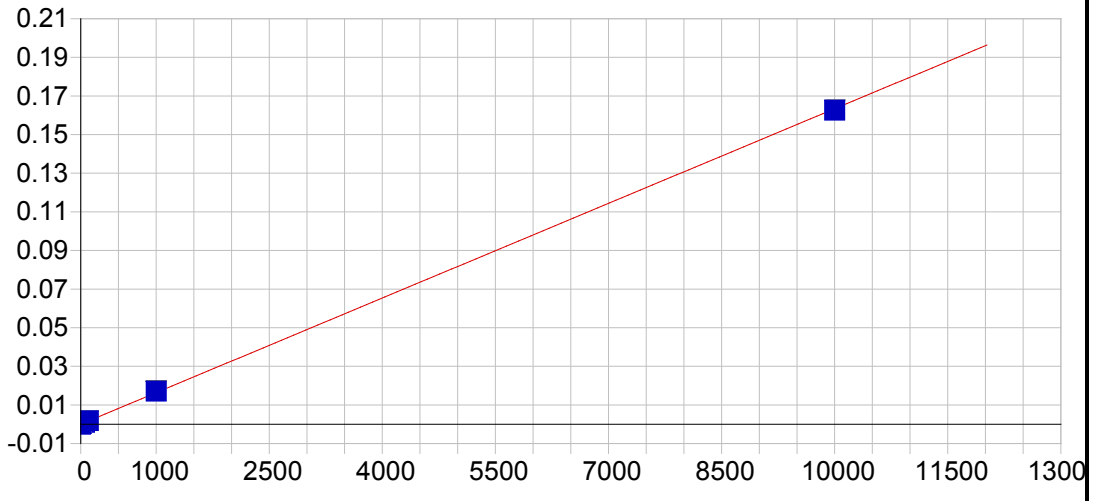


Cd 228.802 {447}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000013	Re-Slope:	1.000000
A1 (Gain):	0.000037	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999952	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.194698		
Predicted MQL:	0.648992		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00027	-.000	.000	.00001	.000	1
CalStd7=50	50.000	50.567	.567	1.13	.00186	.000	1
CalStd3=1	1.0000	1.0793	.079	7.93	.00005	.000	1
CalStd2=0.5	.50000	.70384	.204	40.8	.00004	.000	1
CalStd4=5	5.0000	5.2686	.269	5.37	.00020	.000	1
CalStd8=100	100.00	99.617	-.383	-.383	.00365	.000	1
CalStd5=10	10.000	9.9888	-.011	-.112	.00038	.000	1
CalStd9=100	1000.0	999.28	-.725	-.072	.03649	.000	1

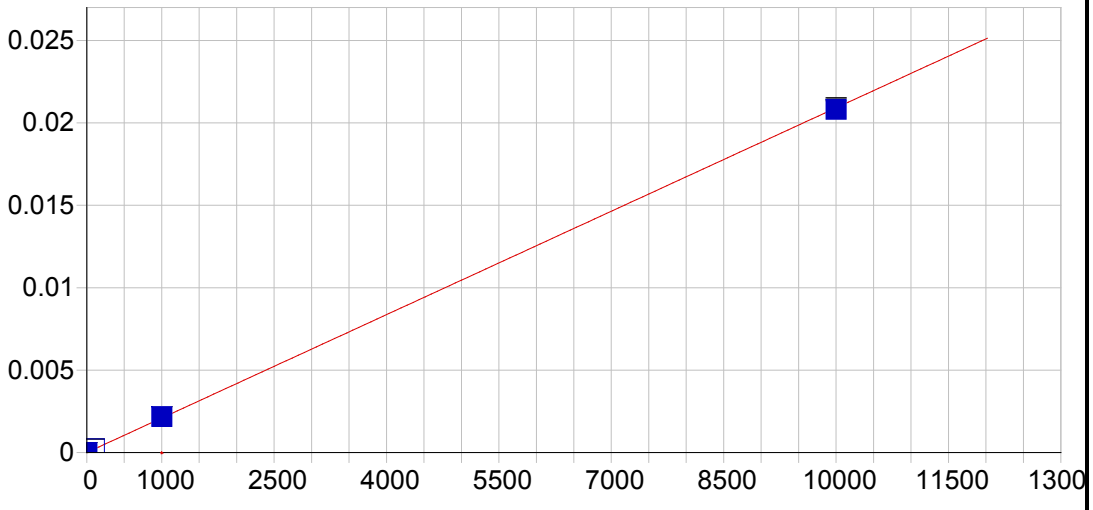


Co 228.616 {447}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000016	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999871	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.316780		
Predicted MQL:	1.055932		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00050	-.000	.000	.00000	.000	1
CalStd7=50	50.000	52.410	2.41	4.82	.00086	.000	1
CalStd5=10	10.000	10.239	.239	2.39	.00017	.000	1
CalStd4=5	5.0000	6.5412	1.54	30.8	.00011	.000	1
CalStd8=100	100.00	102.61	2.61	2.61	.00168	.000	1
CalStd9=100	1000.0	1044.3	44.3	4.43	.01707	.000	1
CalStd3=1	1.0000	1.0510	.051	5.10	.00002	.000	1
CalStd10=10	10000.	9948.9	-51.1	-.511	.16283	.000	1

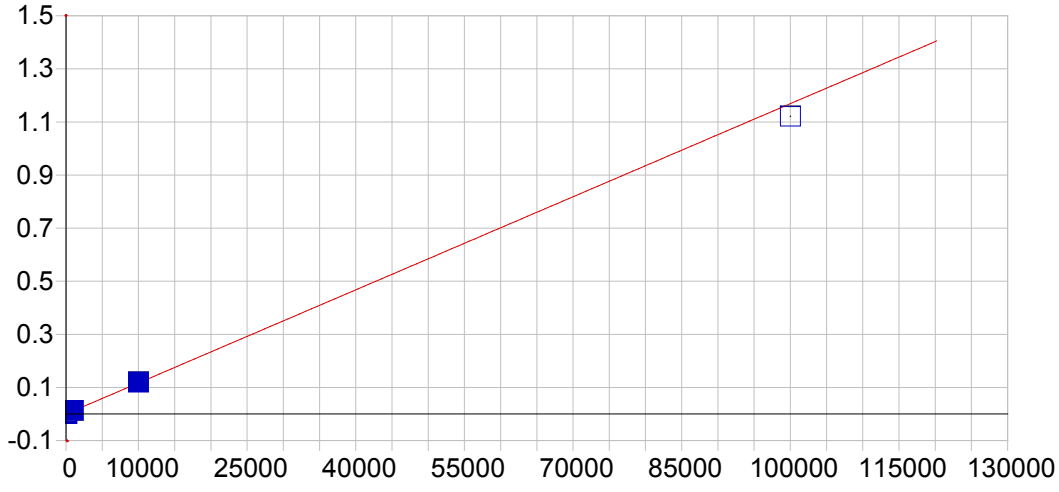


Co 238.892 {141}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999907	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.696429		
Predicted MQL:	2.321431		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00794	-.008	.000	.00000	.000	1
CalStd9=100	1000.0	1041.0	41.0	4.10	.00218	.000	1
CalStd10=10	10000.	9954.7	-45.3	-.453	.02082	.000	1
CalStd8=100	100.00	104.29	4.29	4.29	.00022	.000	1

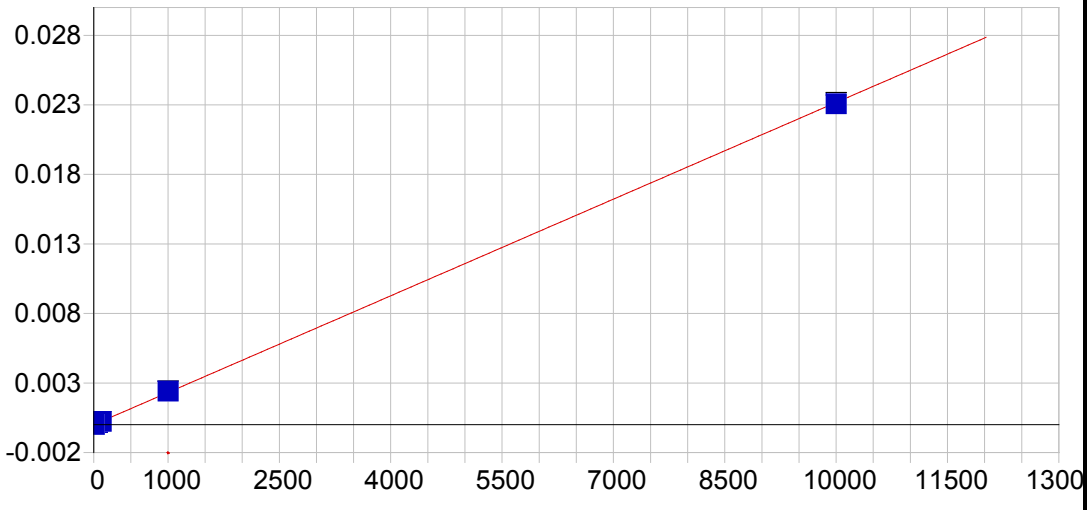


Cr 205.560 {464}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000020	Re-Slope:	1.000000
A1 (Gain):	0.000012	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998936	Status:	OK.
Std Error of Est:	0.000095		
Predicted MDL:	0.313714		
Predicted MQL:	1.045712		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.9522	-1.95	.000	-.00000	.000	1
CalStd5=10	10.000	8.5452	-1.45	-14.5	.00012	.000	1
CalStd7=50	50.000	52.113	2.11	4.23	.00063	.000	1
CalStd9=100	1000.0	1082.1	82.1	8.21	.01267	.000	1
CalStd8=100	100.00	104.17	4.17	4.17	.00124	.000	1
CalStd4=5	5.0000	4.5255	-.475	-9.49	.00007	.000	1
CalStd3=1	1.0000	-1.0855	-2.09	-209.	.00001	.000	1
CalStd10=10	10000.	10223.	223.	2.23	.11951	.000	1
CalStd12=10	100000.	95911.	-4090.	-4.09	1.1211	.001	1

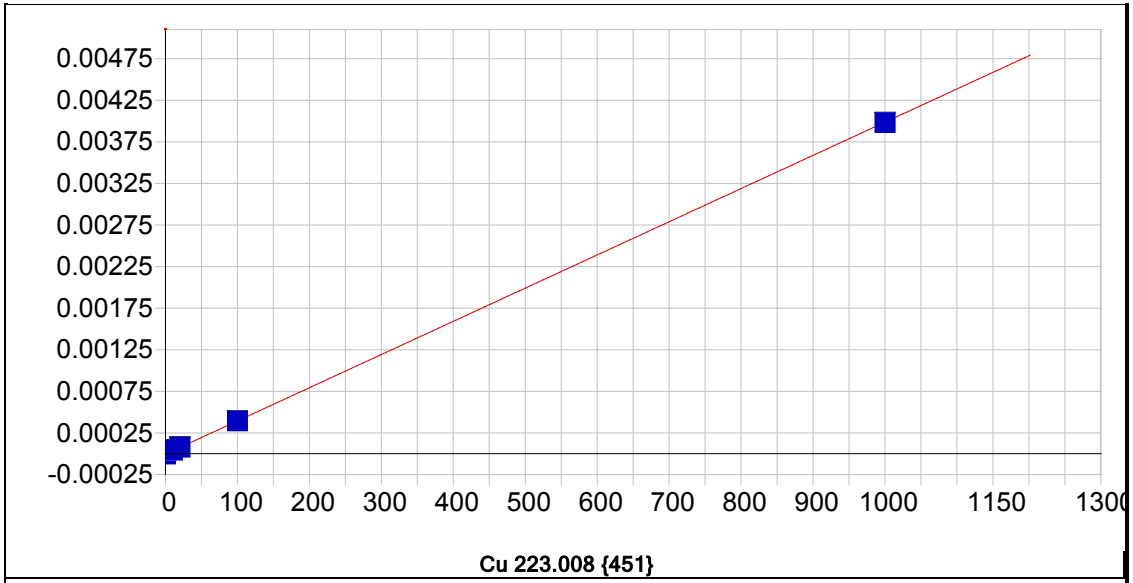


Cr 267.716 {126}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999913	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.759322		
Predicted MQL:	2.531075		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00122	-.001	.000	.00000	.000	1
CalStd5=10	10.000	9.9941	-.006	-.059	.00002	.000	1
CalStd7=50	50.000	51.604	1.60	3.21	.00012	.000	1
CalStd9=100	1000.0	1039.0	39.0	3.90	.00241	.000	1
CalStd8=100	100.00	102.73	2.73	2.73	.00024	.000	1
CalStd4=5	5.0000	5.7568	.757	15.1	.00001	.000	1
CalStd10=10	10000.	9955.9	-44.1	-.441	.02308	.000	1

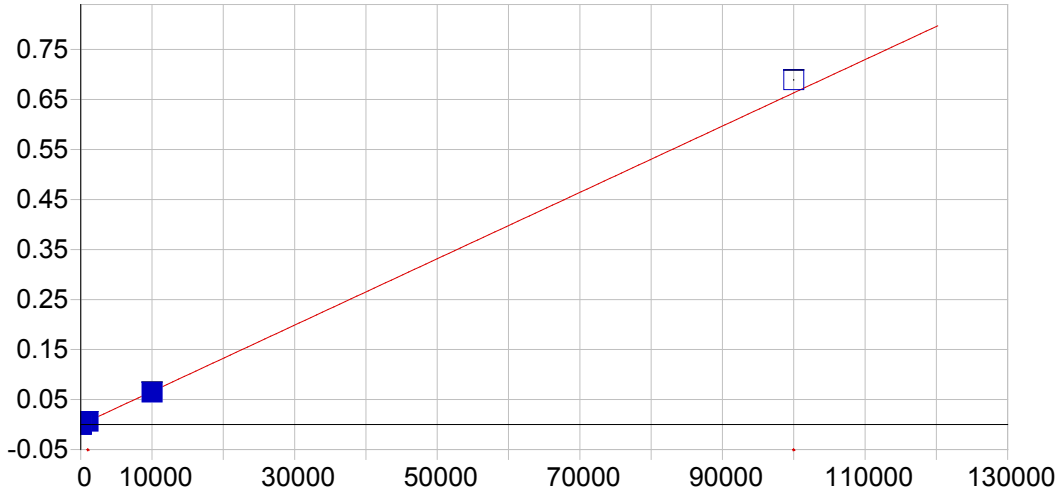


Cu 223.008 {451}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.195634		
Predicted MQL:	3.985446		

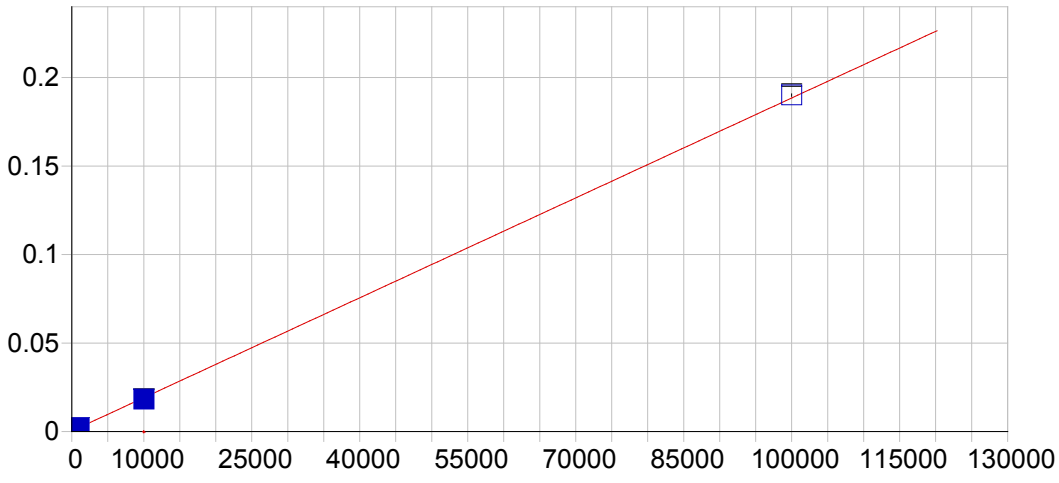
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00168	-.002	.000	-.00000	.000	1
CalStd9=100	1000.0	998.12	-1.88	-.188	.00398	.000	1
CalStd8=100	100.00	99.777	-.223	-.223	.00039	.000	1
CalStd6=20	20.000	20.760	.760	3.80	.00008	.000	1
CalStd5=10	10.000	11.346	1.35	13.5	.00004	.000	1



Cu 224.700 {450}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	-0.000202		Re-Slope:	1.000000	
A1 (Gain):	0.000007		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.996196		Status:	OK.	
Std Error of Est:	0.000160				
Predicted MDL:	0.409265				
Predicted MQL:	1.364215				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	30.336	30.3	.000	-.00000	.000	1
CalStd9=100	1000.0	982.68	-17.3	-1.73	.00629	.000	1
CalStd7=50	50.000	36.493	-13.5	-27.0	.00004	.000	1
CalStd8=100	100.00	46.593	-53.4	-53.4	.00010	.000	1
CalStd6=20	20.000	32.910	12.9	64.6	.00002	.000	1
CalStd12=10	100000.	103910.	3910.	3.91	.68930	.001	1
CalStd10=10	10000.	9791.7	-208.	-2.08	.06451	.000	1

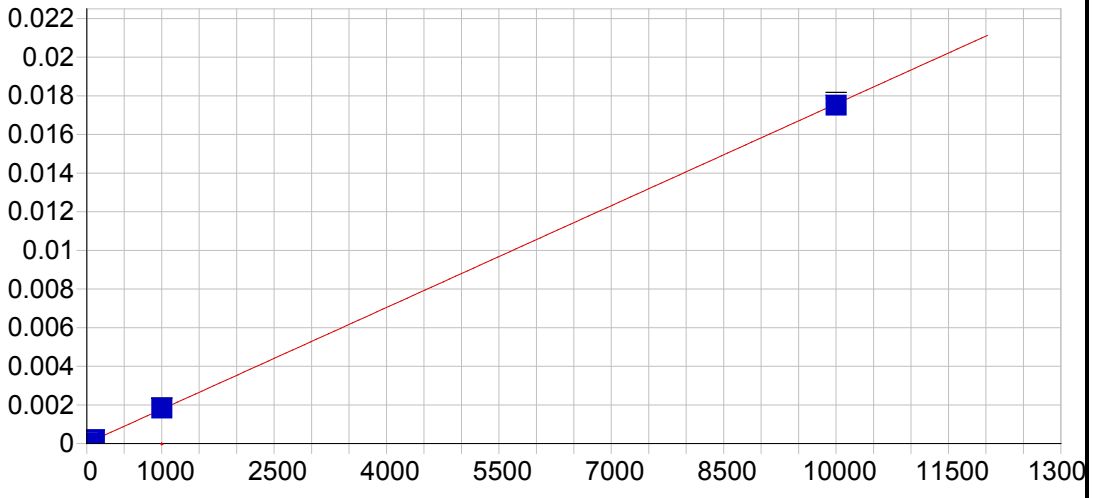


Cu 324.754 {104}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000297	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999839	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	2.555451		
Predicted MQL:	8.518171		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.63640	.636	.000	.00030	.000	1
CalStd9=100	1000.0	982.25	-17.7	-1.77	.00214	.000	1
CalStd8=100	100.00	98.510	-1.49	-1.49	.00048	.000	1
CalStd10=10	10000.	9551.1	-449.	-4.49	.01827	.000	1
CalStd12=10	100000.	100870.	869.	.869	.19009	.001	1
CalStd5=10	10.000	8.7402	-1.26	-12.6	.00031	.000	1
CalStd6=20	20.000	19.828	-.172	-.859	.00033	.000	1
CalStd7=50	50.000	50.761	.761	1.52	.00039	.000	1

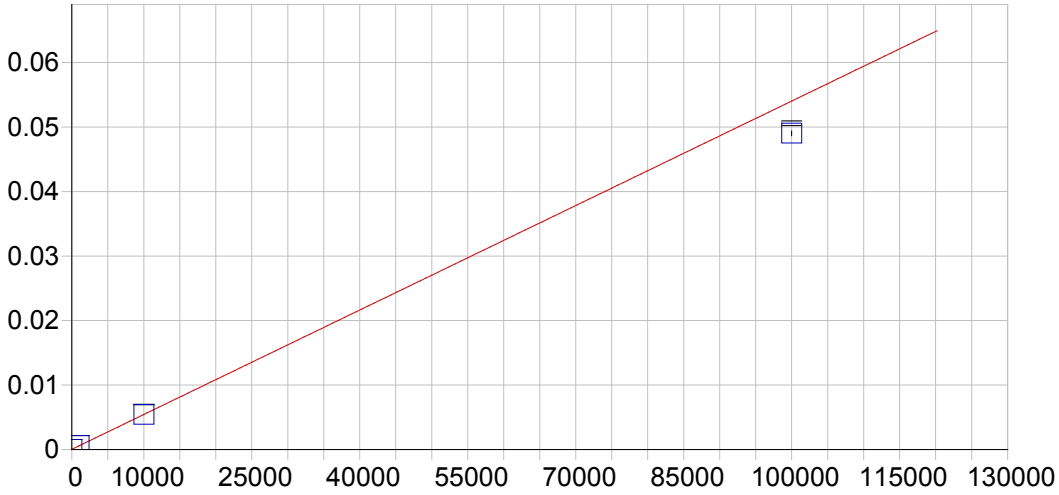


Cu 327.396 {103}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000016	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999859	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.596841		
Predicted MQL:	15.322805		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00046	.000	.000	.00002	.000	1
CalStd6=20	20.000	20.885	.885	4.43	.00005	.000	1
CalStd7=50	50.000	51.748	1.75	3.50	.00011	.000	1
CalStd8=100	100.00	105.07	5.07	5.07	.00020	.000	1
CalStd9=100	1000.0	1032.2	32.2	3.22	.00183	.000	1
CalStd10=10	10000.	9960.3	-39.7	-.397	.01751	.000	1
CalStd4=5	5.0000	2.6436	-2.36	-47.1	.00002	.000	1
CalStd5=10	10.000	12.217	2.22	22.2	.00004	.000	1

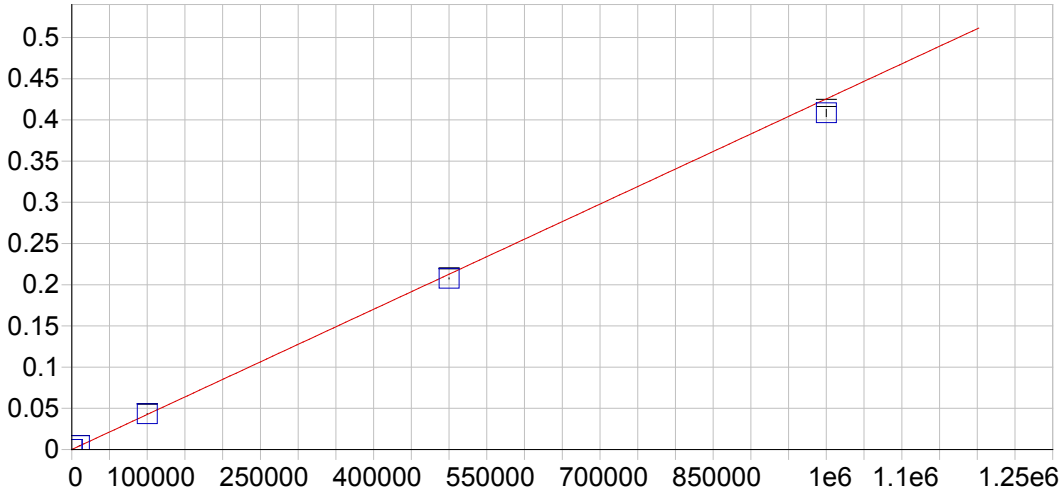


Fe 234.349 {144}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000034	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998677	Status:	OK.
Std Error of Est:	0.000013		
Predicted MDL:	1.509400		
Predicted MQL:	5.031332		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.2976	-2.30	.000	.00003	.000	1
CalStd10=10	10000.	9993.7	-6.29	-.063	.00543	.000	1
CalStd13=10	100000.	90735.	-9260.	-9.26	.04903	.000	1
CalStd9=100	1000.0	1035.8	35.8	3.58	.00059	.000	1

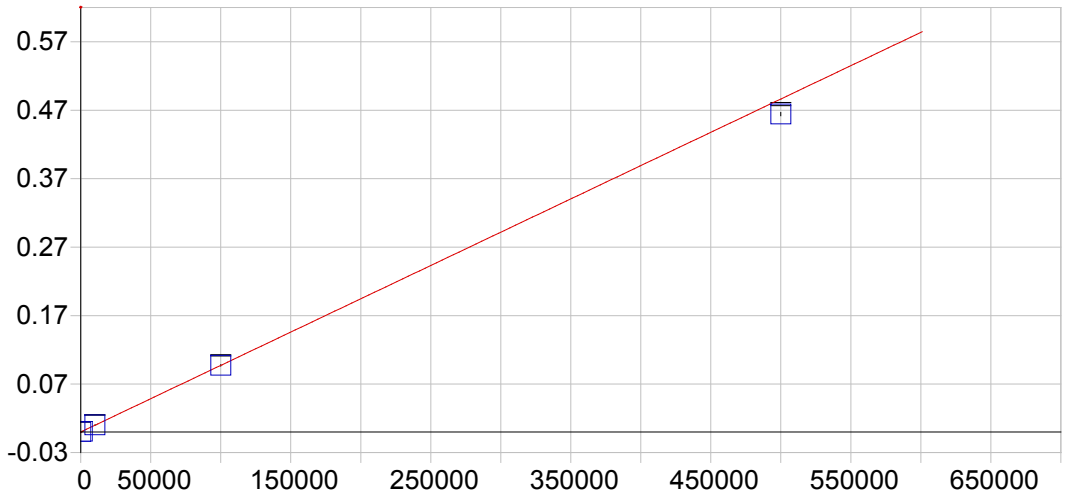


Fe 239.562 {140}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998962	Status:	OK.
Std Error of Est:	0.000011		
Predicted MDL:	5.588884		
Predicted MQL:	18.629614		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-1.5717	-1.57	.000	.00000	.000	1
CalStd10=10	10000.	10799.	799.	7.99	.00460	.000	1
CalStd13=10	100000.	101800.	1800.	1.80	.04332	.000	1
CalStd14=50	500000.	487910.	-12100.	-2.42	.20760	.001	1
CalStd9=100	1000.0	1110.1	110.	11.0	.00048	.000	1
CalibStd15=	1000000.	959970.	-40000.	-4.00	.40845	.004	1

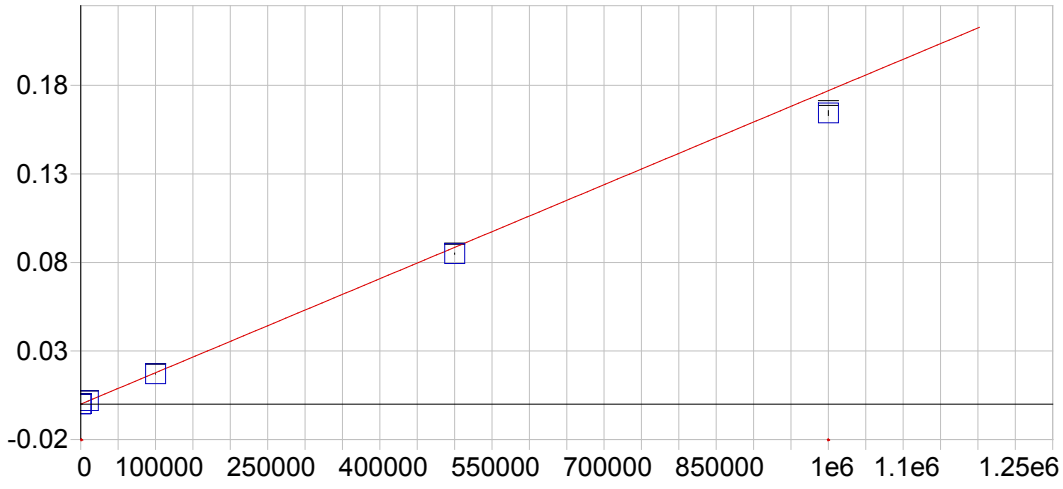


Fe 259.940 {129}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.998761	Status:	OK.
Std Error of Est:	0.000032		
Predicted MDL:	2.948623		
Predicted MQL:	9.828743		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-2.4528	-2.45	.000	-.00000	.000	1
CalStd10=10	10000.	10534.	534.	5.34	.01025	.000	1
CalStd13=10	100000.	99912.	-87.7	-.088	.09719	.001	1
CalStd14=50	500000.	477420.	-22600.	-4.52	.46440	.002	1
CalStd9=100	1000.0	1082.2	82.2	8.22	.00105	.000	1

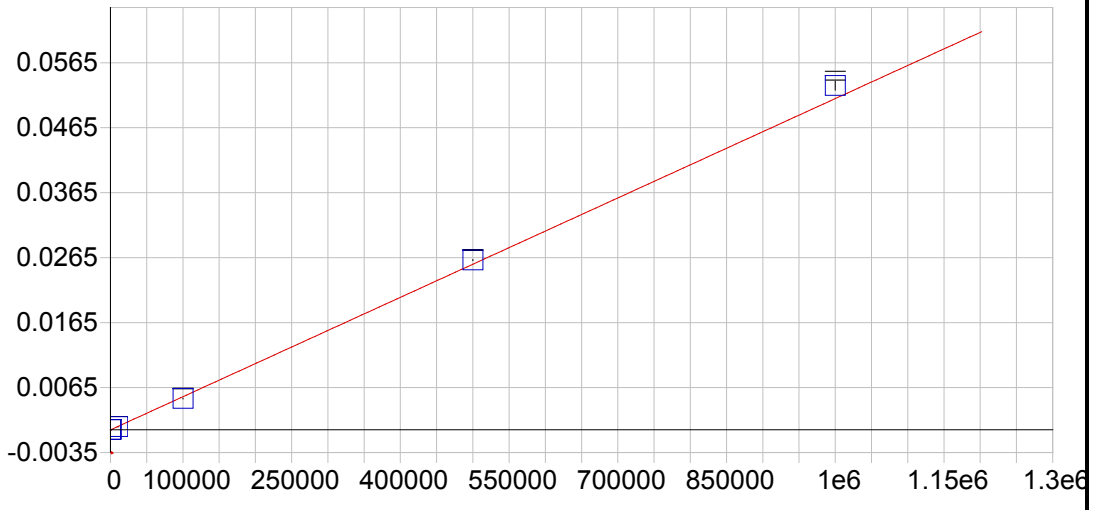


Mg 202.582 {466}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000009	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.997979	Status:	OK.
Std Error of Est:	0.000014		
Predicted MDL:	3.097643		
Predicted MQL:	10.325476		

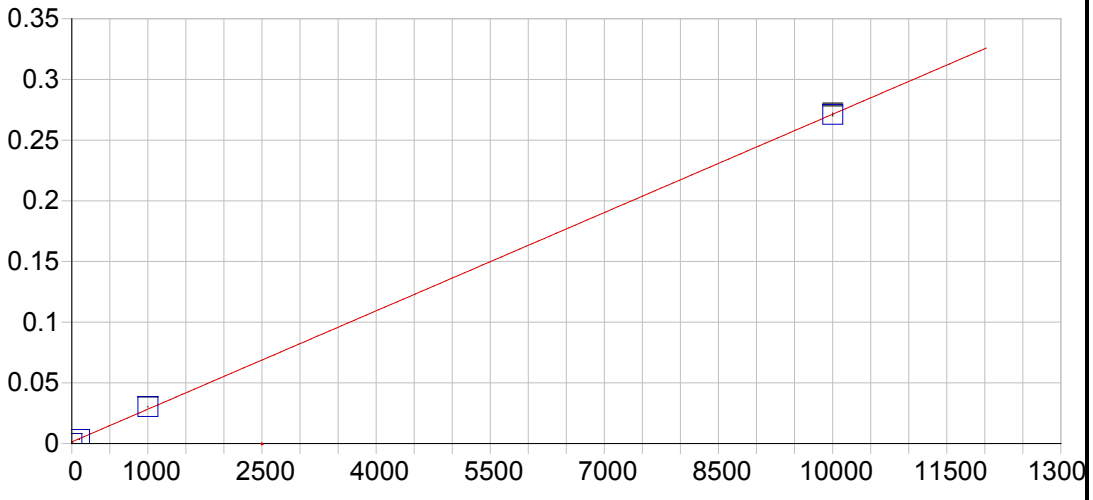
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-56.804	-56.8	.000	-.00000	.000	1
CalStd13=10	100000.	96373.	-3630.	-3.63	.01707	.000	1
CalStd10=10	10000.	10272.	272.	2.72	.00183	.000	1
CalStd14=50	500000.	479910.	-20100.	-4.02	.08495	.000	1
CalStd9=100	1000.0	1048.6	48.6	4.86	.00019	.000	1
CalibStd15=	1000000.	928590.	-71400.	-7.14	.16436	.001	1



Mg 279.079 {121}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	-0.000006		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999160		Status:	OK.	
Std Error of Est:	0.000017				
Predicted MDL:	31.065663				
Predicted MQL:	103.552212				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	146.75	147.	.000	.00000	.000	1
CalStd13=10	100000.	94581.	-5420.	-5.42	.00482	.000	1
CalStd10=10	10000.	9458.6	-541.	-5.41	.00048	.000	1
CalStd14=50	500000.	512630.	12600.	2.53	.02613	.000	1
CalStd9=100	1000.0	1038.9	38.9	3.89	.00005	.000	1
CalibStd15=	1000000.	1039100.	39100.	3.91	.05297	.001	1

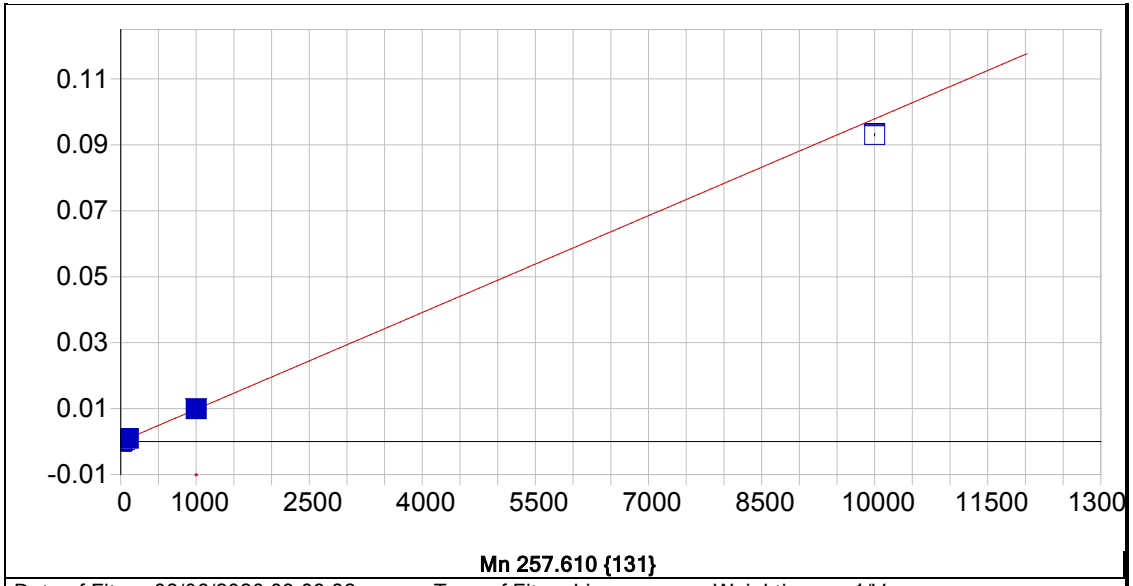


Mg 280.270 {120}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	None

A0 (Offset):	0.001310	Re-Slope:	1.000000
A1 (Gain):	0.000027	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999945	Status:	OK.
Std Error of Est:	0.001680		
Predicted MDL:	0.037916		
Predicted MQL:	0.126387		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-40.841	-40.8	.000	.00021	.000	1
CalStd9=100	1000.0	1073.3	73.3	7.33	.03029	.000	1
CalStd10=10	10000.	9992.9	-7.08	-.071	.27113	.001	1
CalStd8=100	100.00	74.584	-25.4	-25.4	.00332	.000	1

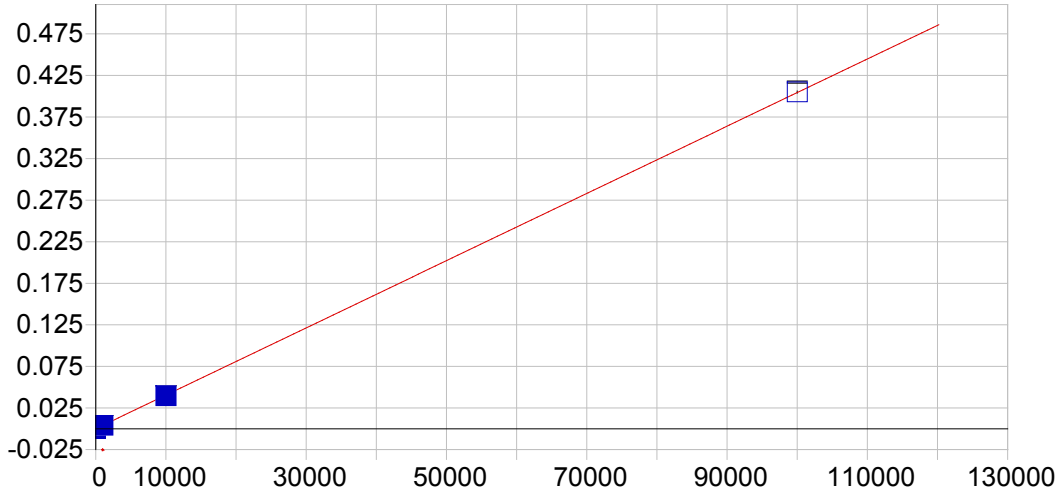


Mn 257.610 {131}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999086	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.100240		
Predicted MQL:	0.334132		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.26401	-.264	.000	-.00000	.000	1
CalStd5=10	10.000	10.096	.096	.955	.00010	.000	1
CalStd7=50	50.000	51.257	1.26	2.51	.00050	.000	1
CalStd6=20	20.000	20.204	.204	1.02	.00020	.000	1
CalStd8=100	100.00	101.45	1.45	1.45	.00099	.000	1
CalStd4=5	5.0000	6.2717	1.27	25.4	.00006	.000	1
CalStd9=100	1000.0	1012.8	12.8	1.28	.00992	.000	1
CalStd10=10	10000.	9508.5	-492.	-4.92	.09309	.000	1

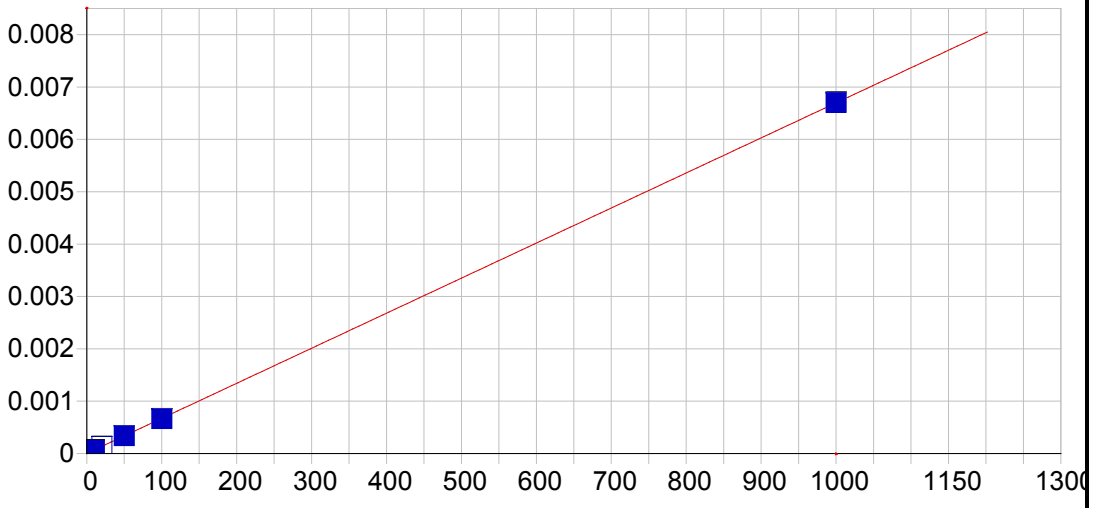


Mn 259.373 {130}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999931	Status:	OK.
Std Error of Est:	0.000012		
Predicted MDL:	0.666279		
Predicted MQL:	2.220931		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.07251	-.073	.000	.00000	.000	1
CalStd10=10	10000.	9790.0	-210.	-2.10	.03964	.000	1
CalStd9=100	1000.0	1019.7	19.7	1.97	.00413	.000	1
CalStd12=10	100000.	100160.	157.	.157	.40501	.001	1

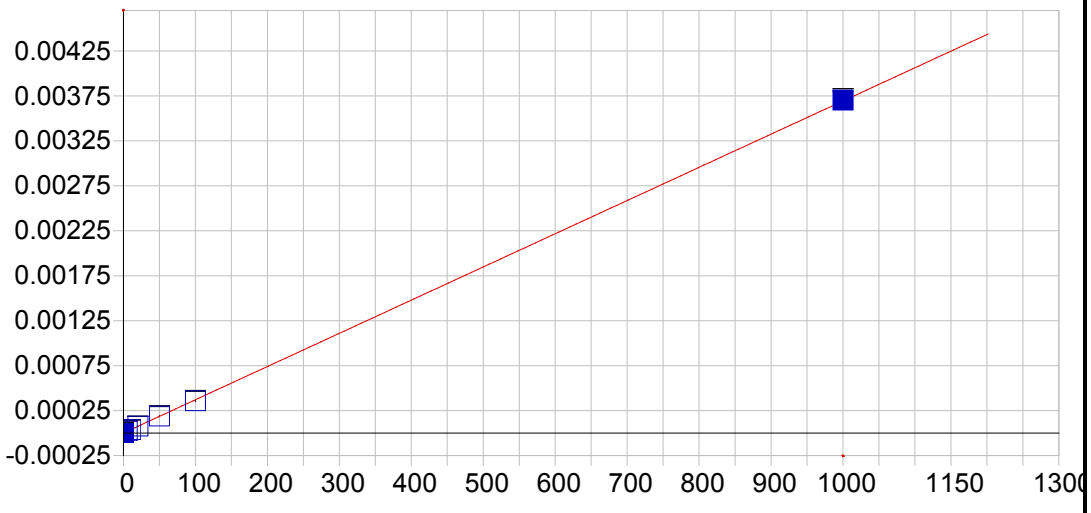


Mo 202.030 {466}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000007	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999899	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.510123		
Predicted MQL:	1.700410		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00085	-.001	.000	.00000	.000	1
CalStd7=50	50.000	50.072	.072	.144	.00034	.000	1
CalStd6=20	20.000	19.929	-.071	-.356	.00014	.000	1
CalStd5=10	10.000	9.7380	-.262	-2.62	.00007	.000	1
CalStd8=100	100.00	98.833	-1.17	-1.17	.00066	.000	1
CalStd4=5	5.0000	6.0470	1.05	20.9	.00004	.000	1
CalStd9=100	1000.0	1000.4	.382	.038	.00671	.000	1

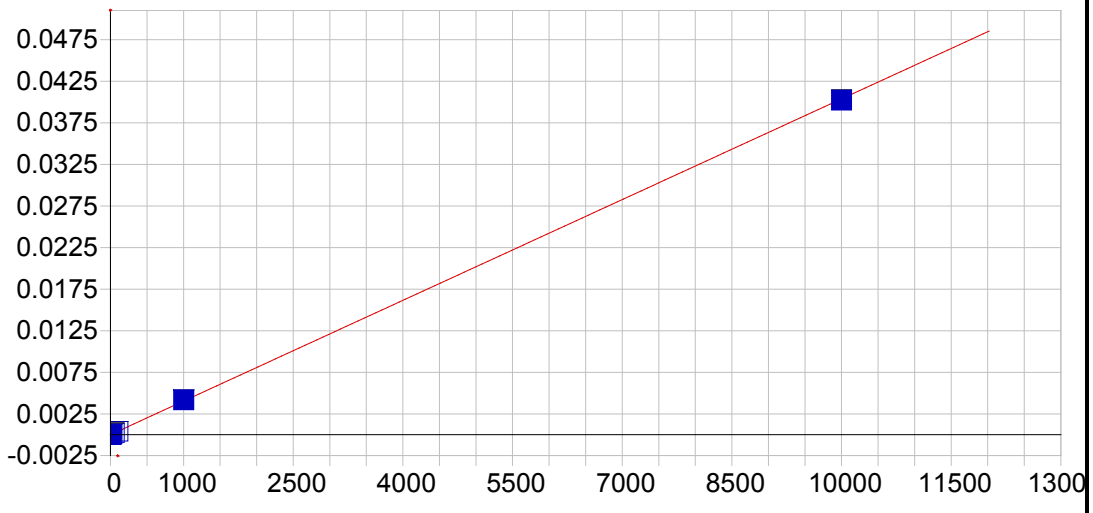


Mo 203.844 {465}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999933	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.076542		
Predicted MQL:	3.588473		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.28547	-.285	.000	.00000	.000	1
CalStd7=50	50.000	50.467	.467	.933	.00019	.000	1
CalStd6=20	20.000	20.105	.105	.524	.00008	.000	1
CalStd5=10	10.000	9.6736	-.326	-3.26	.00004	.000	1
CalStd8=100	100.00	96.618	-3.38	-3.38	.00036	.000	1
CalStd4=5	5.0000	6.0301	1.03	20.6	.00002	.000	1
CalStd9=100	1000.0	1002.3	2.30	.230	.00370	.000	1

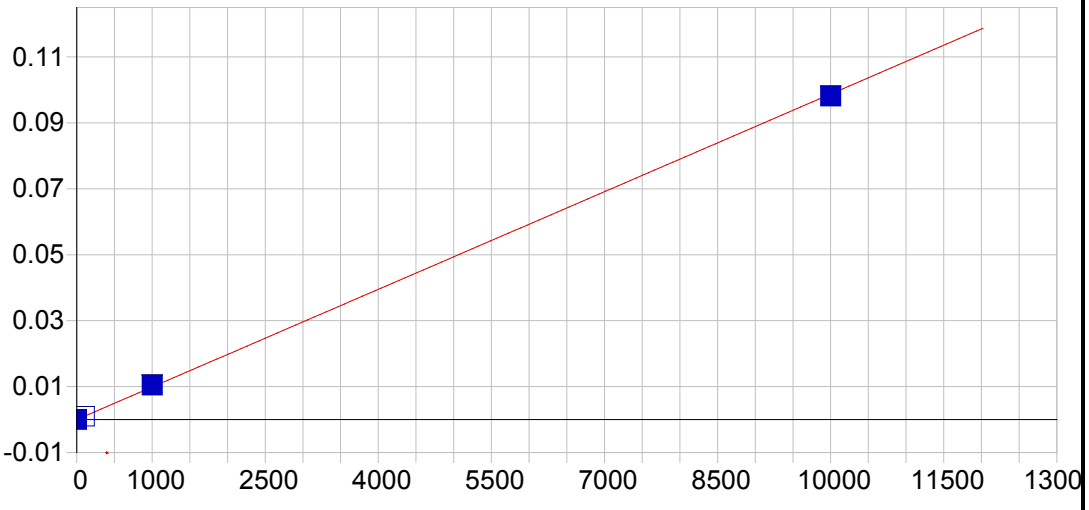


Mo 204.598 {464}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999917	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	0.915793		
Predicted MQL:	3.052642		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00160	-.002	.000	-.00000	.000	1
CalStd7=50	50.000	51.873	1.87	3.75	.00021	.000	1
CalStd6=20	20.000	20.199	.199	.995	.00008	.000	1
CalStd5=10	10.000	10.363	.363	3.63	.00004	.000	1
CalStd8=100	100.00	101.71	1.71	1.71	.00041	.000	1
CalStd4=5	5.0000	5.9347	.935	18.7	.00002	.000	1
CalStd9=100	1000.0	1037.3	37.3	3.73	.00419	.000	1
CalStd10=10	10000.	9957.7	-42.3	-.423	.04021	.000	1

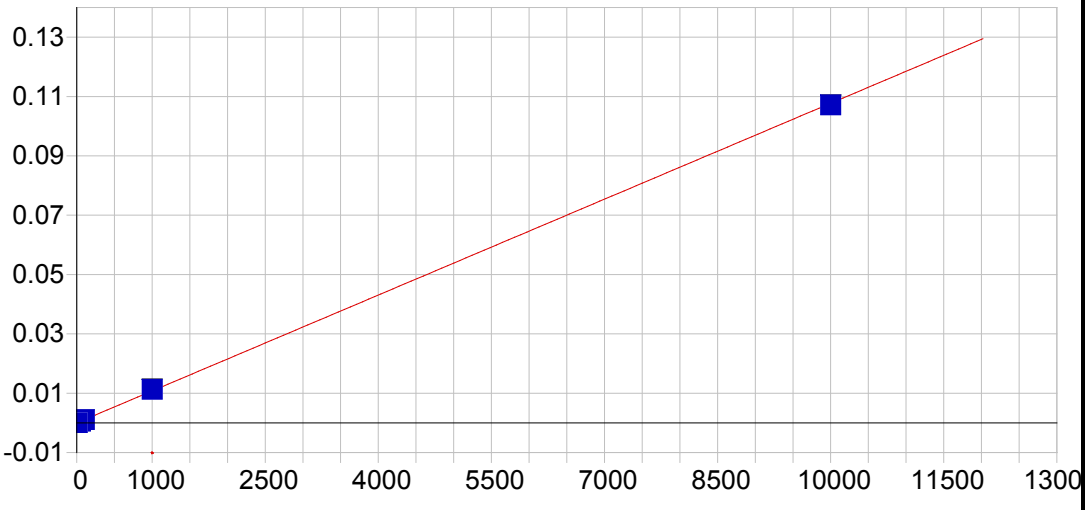


Ni 221.647 {452}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000010	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999809	Status:	OK.
Std Error of Est:	0.000009		
Predicted MDL:	0.605143		
Predicted MQL:	2.017143		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.01060	-.011	.000	.00000	.000	1
CalStd10=10	10000.	9935.2	-64.8	-.648	.09811	.000	1
CalStd8=100	100.00	105.30	5.30	5.30	.00104	.000	1
CalStd9=100	1000.0	1059.5	59.5	5.95	.01047	.000	1

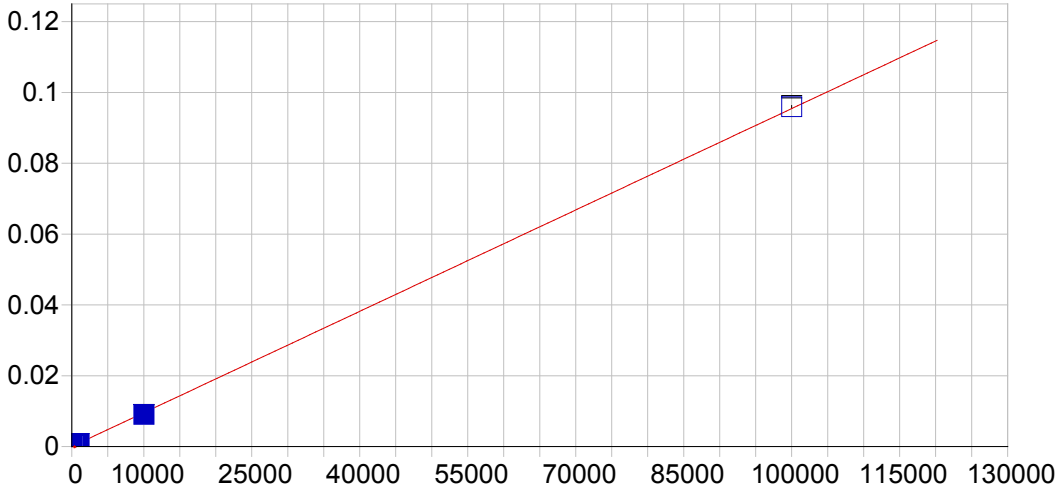


Ni 231.604 {445}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000018	Re-Slope:	1.000000
A1 (Gain):	0.000011	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999862	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.551336		
Predicted MQL:	1.837785		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00023	-.000	.000	-.00002	.000	1
CalStd7=50	50.000	52.379	2.38	4.76	.00055	.000	1
CalStd5=10	10.000	10.391	.391	3.91	.00009	.000	1
CalStd8=100	100.00	102.45	2.45	2.45	.00109	.000	1
CalStd4=5	5.0000	5.9371	.937	18.7	.00005	.000	1
CalStd9=100	1000.0	1049.1	49.1	4.91	.01129	.000	1
CalStd3=1	1.0000	.88369	-.116	-11.6	-.00001	.000	1
CalStd10=10	10000.	9944.9	-55.1	-.551	.10711	.000	1

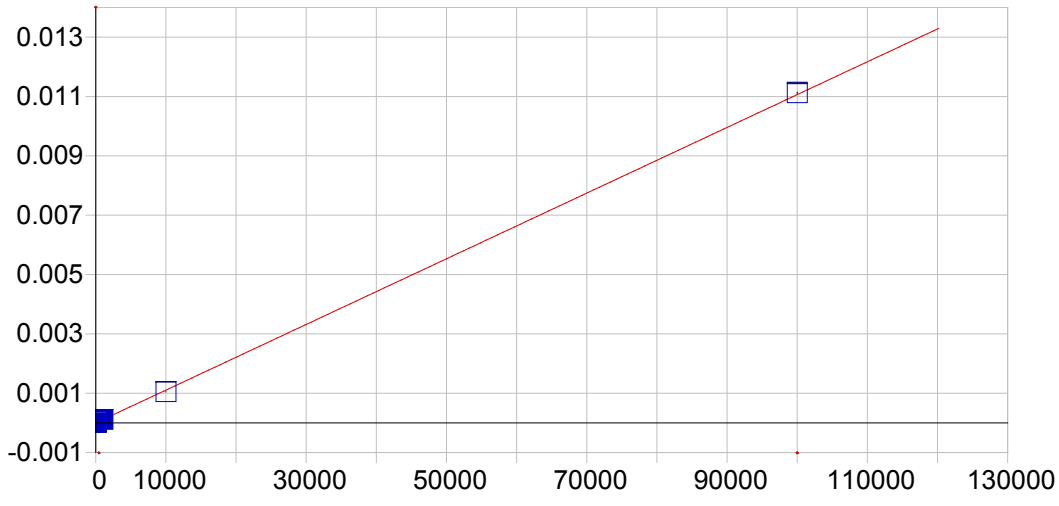


Pb 216.999 {455}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999850	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	5.074615		
Predicted MQL:	16.915383		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00343	-.003	.000	.00001	.000	1
CalStd9=100	1000.0	993.63	-6.37	-.637	.00096	.000	1
CalStd10=10	10000.	9463.6	-536.	-5.36	.00904	.000	1
CalStd8=100	100.00	99.588	-.412	-.412	.00010	.000	1
CalStd5=10	10.000	14.018	4.02	40.2	.00002	.000	1
CalStd12=10	100000.	100540.	539.	.539	.09595	.000	1

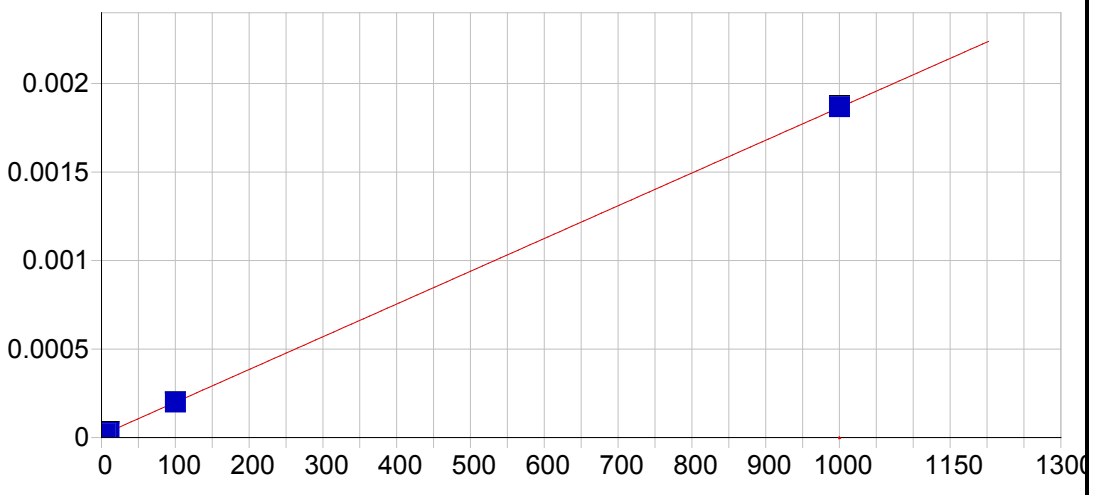


Pb 216.999 {456}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999854	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	20.940061		
Predicted MQL:	69.800203		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00583	-.006	.000	-.00000	.000	1
CalStd9=100	1000.0	1011.1	11.1	1.11	.00011	.000	1
CalStd10=10	10000.	9489.0	-511.	-5.11	.00105	.000	1
CalStd8=100	100.00	101.15	1.15	1.15	.00001	.000	1
CalStd5=10	10.000	16.067	6.07	60.7	-.00000	.000	1
CalStd12=10	100000.	100490.	493.	.493	.01112	.000	1

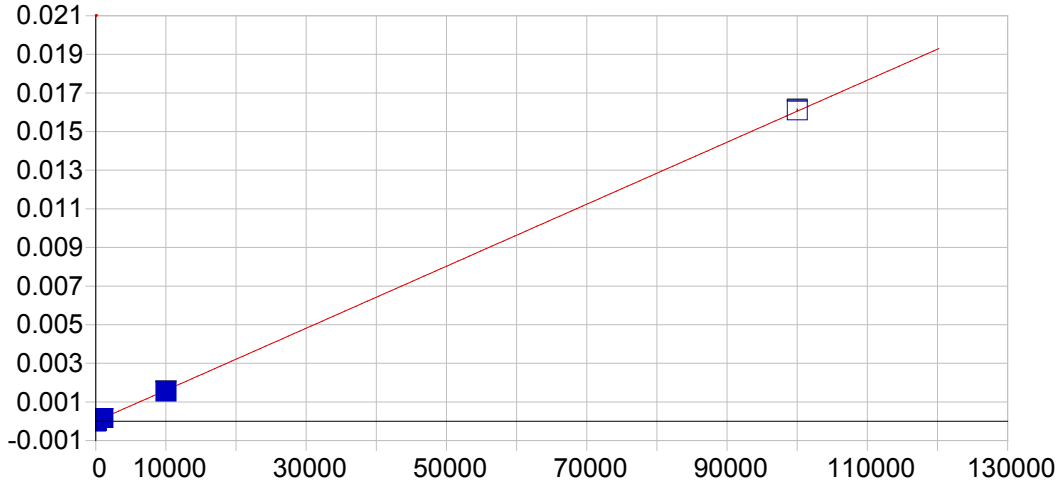


Pb 220.353 {453}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000014	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999822	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.965524		
Predicted MQL:	9.885079		

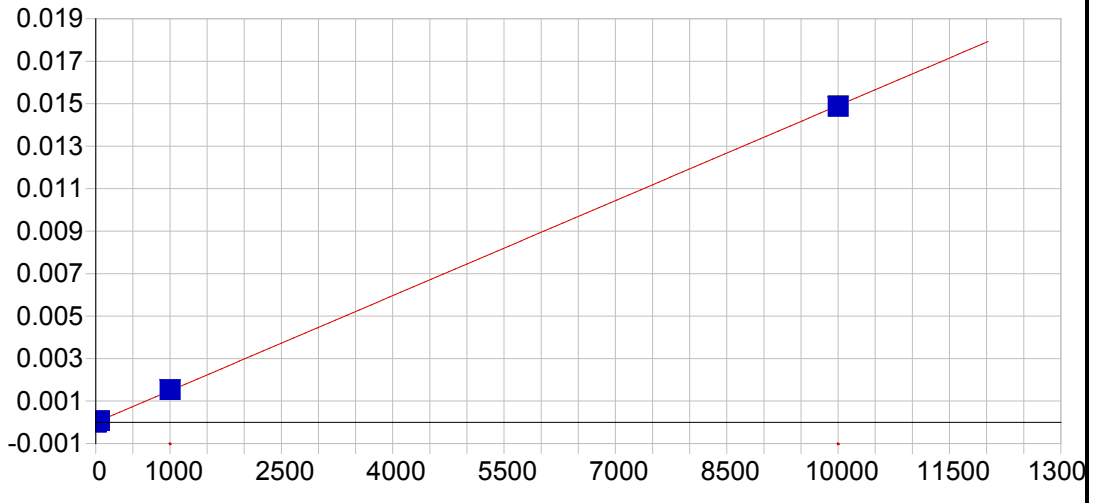
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00167	.002	.000	.00001	.000	1
CalStd5=10	10.000	8.6538	-1.35	-13.5	.00003	.000	1
CalStd8=100	100.00	100.30	.297	.297	.00020	.000	1
CalStd4=5	5.0000	3.9759	-1.02	-20.5	.00002	.000	1
CalStd9=100	1000.0	1002.1	2.07	.207	.00187	.000	1



Pb 220.353 {153}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999931		Status:	OK.	
Std Error of Est:	0.000000				
Predicted MDL:	5.339024				
Predicted MQL:	17.796748				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00217	.002	.000	.00000	.000	1
CalStd9=100	1000.0	1014.2	14.2	1.42	.00016	.000	1
CalStd10=10	10000.	9628.6	-371.	-3.71	.00155	.000	1
CalStd8=100	100.00	99.766	-.234	-.234	.00002	.000	1
CalStd12=10	100000.	100360.	357.	.357	.01611	.000	1

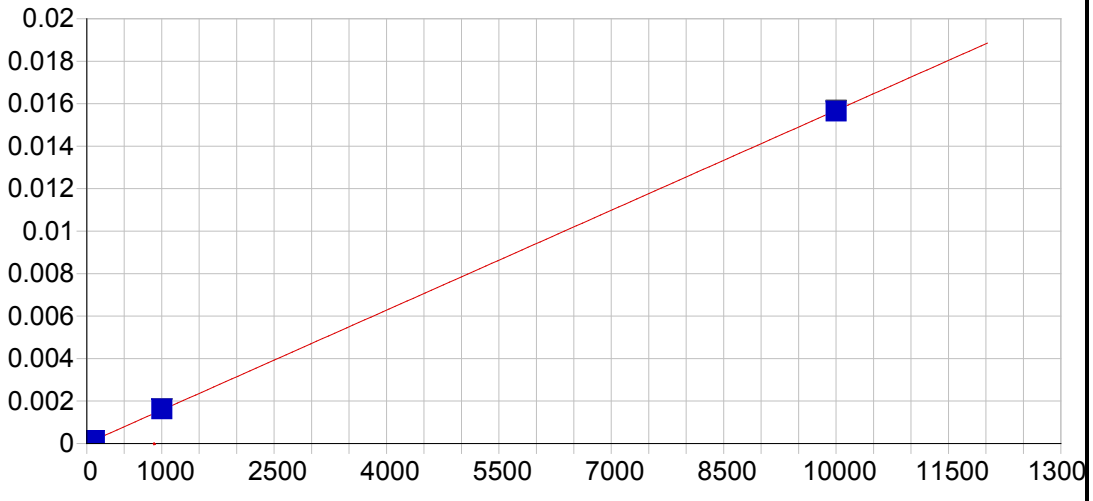


Sb 206.833 {463}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000006	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999933	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.519009		
Predicted MQL:	8.396696		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00145	.001	.000	-.00001	.000	1
CalStd9=100	1000.0	1032.6	32.6	3.26	.00153	.000	1
CalStd5=10	10.000	8.2312	-1.77	-17.7	.00001	.000	1
CalStd7=50	50.000	50.109	.109	.218	.00007	.000	1
CalStd10=10	10000.	9969.1	-30.9	-.309	.01487	.000	1

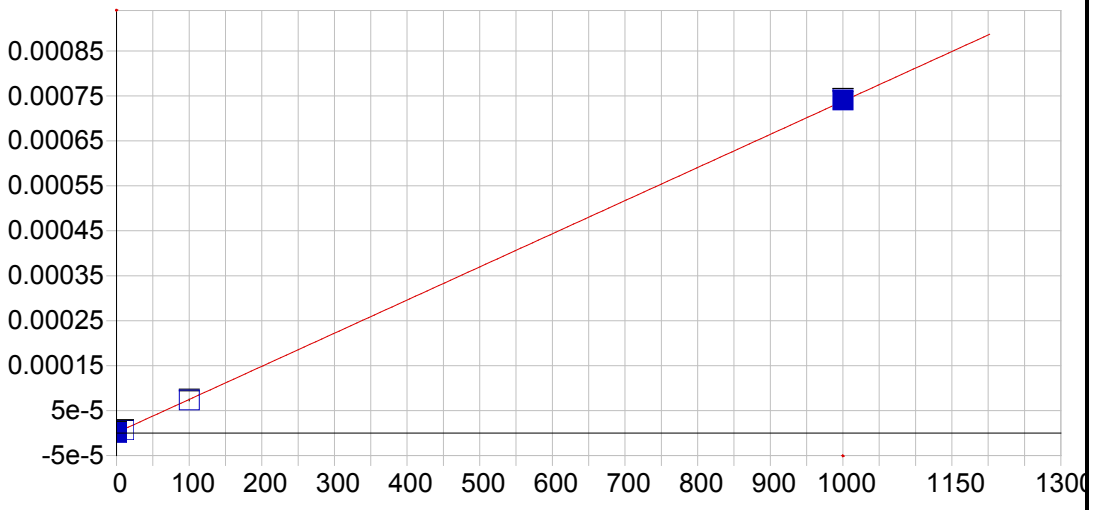


Sb 217.581 {455}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999871	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.655724		
Predicted MQL:	8.852412		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00334	.003	.000	.00001	.000	1
CalStd9=100	1000.0	1032.6	32.6	3.26	.00163	.000	1
CalStd6=20	20.000	19.374	-.626	-3.13	.00004	.000	1
CalStd5=10	10.000	6.4585	-3.54	-35.4	.00002	.000	1
CalStd8=100	100.00	98.092	-1.91	-1.91	.00016	.000	1
CalStd4=5	5.0000	3.5286	-1.47	-29.4	.00001	.000	1
CalStd10=10	10000.	9975.0	-25.0	-.250	.01565	.000	1

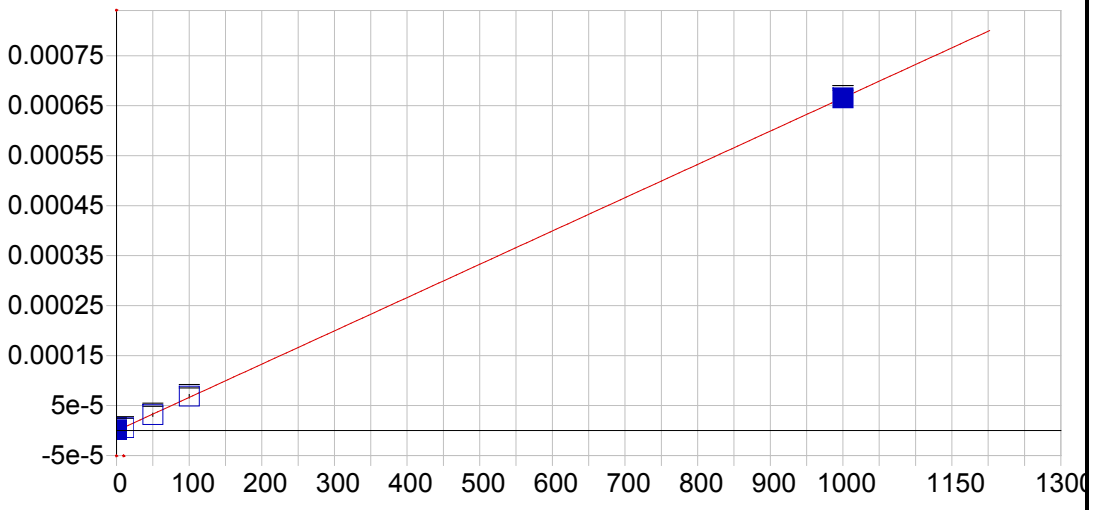


Se 196.090 {472}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999788	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	4.124128		
Predicted MQL:	13.747094		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00220	.002	.000	.00000	.000	1
CalStd9=100	1000.0	1003.7	3.74	.374	.00074	.000	1
CalStd5=10	10.000	7.9308	-2.07	-20.7	.00001	.000	1
CalStd8=100	100.00	98.334	-1.67	-1.67	.00007	.000	1

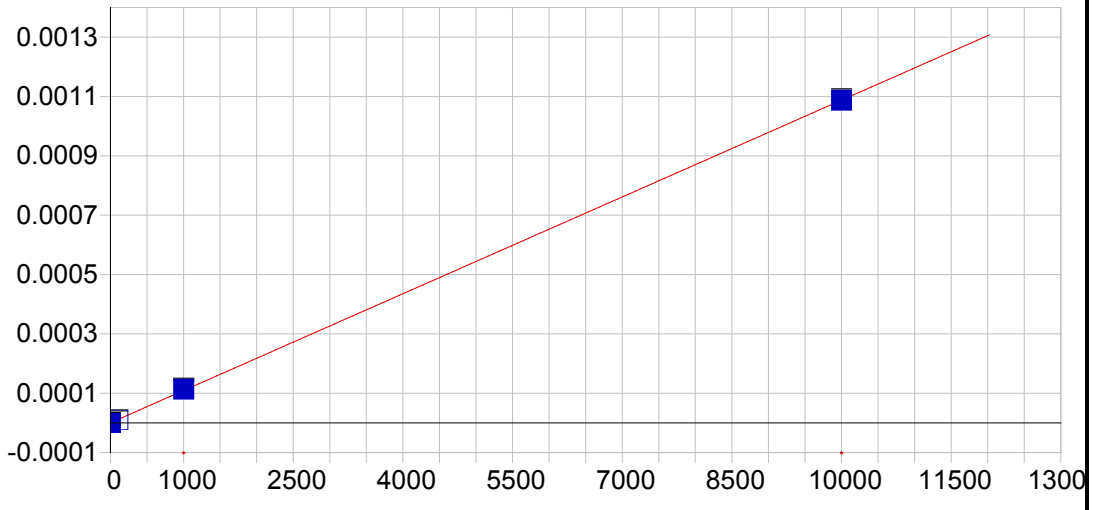


Se 203.985 {465}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	-0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999974	Status:	OK.
Std Error of Est:	0.000002		
Predicted MDL:	8.261510		
Predicted MQL:	27.538366		

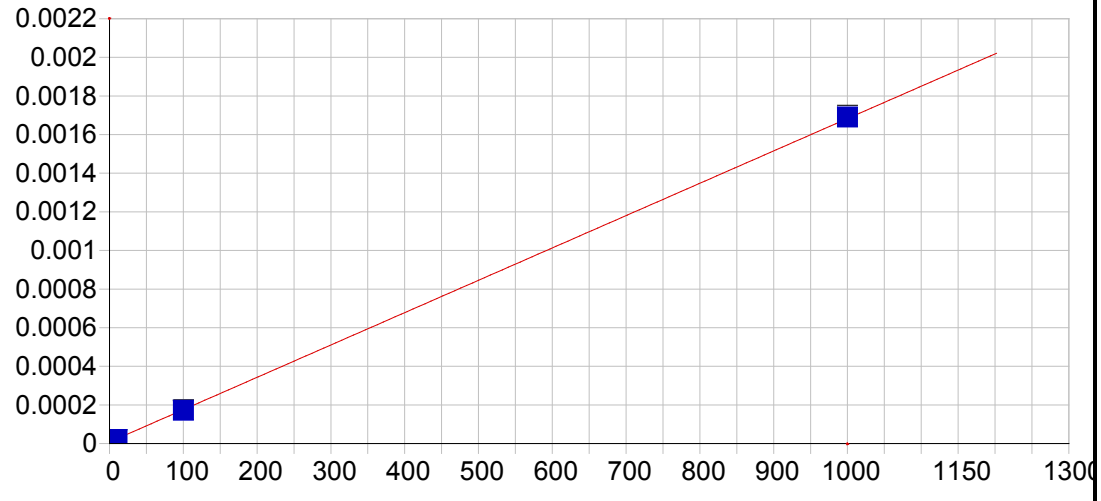
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	2.4483	2.45	.000	.00000	.000	1
CalStd7=50	50.000	47.889	-2.11	-4.22	.00003	.000	1
CalStd9=100	1000.0	999.68	-.323	-.032	.00067	.000	1
CalStd5=10	10.000	9.0334	-.967	-9.67	.00001	.000	1
CalStd8=100	100.00	103.39	3.39	3.39	.00007	.000	1



Se 206.279 {463}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999983		Status:	OK.	
Std Error of Est:	0.000003				
Predicted MDL:	37.901973				
Predicted MQL:	126.339910				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-8.3137	-8.31	.000	-.00000	.000	1
CalStd9=100	1000.0	1039.6	39.6	3.96	.00011	.000	1
CalStd10=10	10000.	9994.6	-5.41	-.054	.00109	.000	1
CalStd8=100	100.00	86.786	-13.2	-13.2	.00001	.000	1

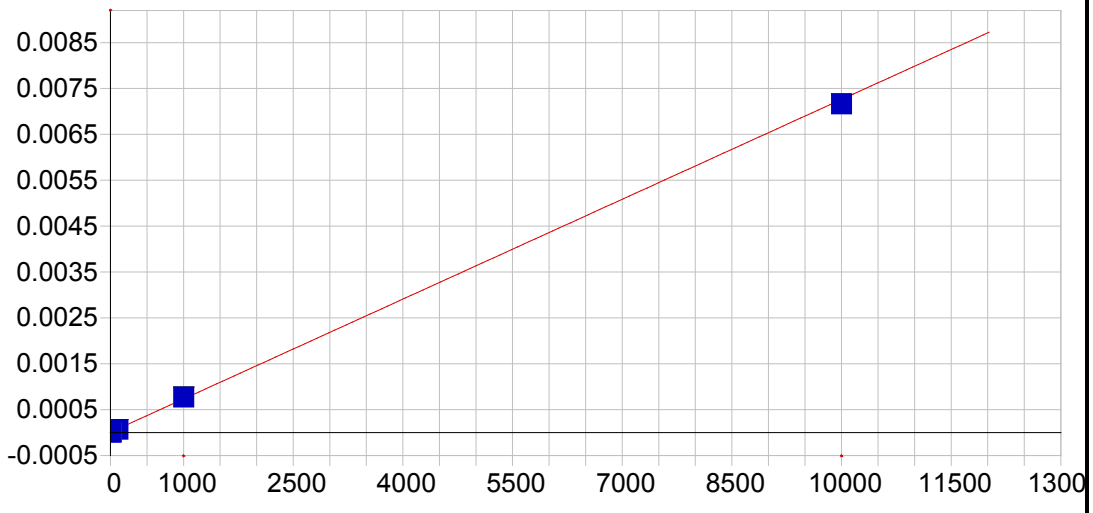


Tl 190.856 {476}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999790	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	2.211675		
Predicted MQL:	7.372249		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00218	.002	.000	.00001	.000	1
CalStd9=100	1000.0	1004.1	4.14	.414	.00169	.000	1
CalStd8=100	100.00	97.876	-2.12	-2.12	.00017	.000	1
CalStd5=10	10.000	7.9877	-2.01	-20.1	.00002	.000	1

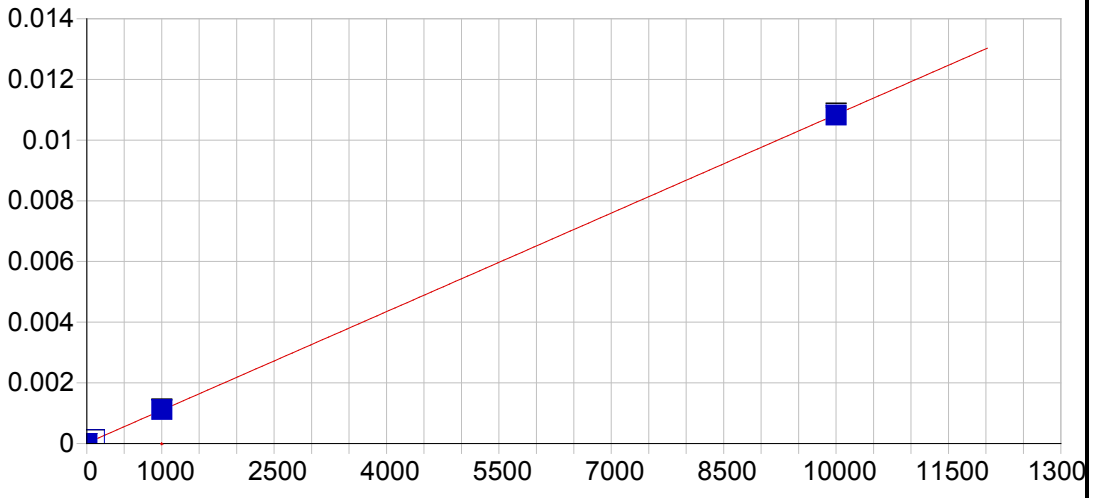


Tl 190.856 {477}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000008	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999507	Status:	OK.
Std Error of Est:	0.000029		
Predicted MDL:	4.092537		
Predicted MQL:	13.641791		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-13.842	-13.8	.000	-.00000	.000	1
CalStd9=100	1000.0	1053.7	53.7	5.37	.00077	.000	1
CalStd8=100	100.00	86.924	-13.1	-13.1	.00007	.000	1
CalStd5=10	10.000	-3.3417	-13.3	-133.	.00001	.000	1
CalStd10=10	10000.	9859.3	-141.	-1.41	.00716	.000	1

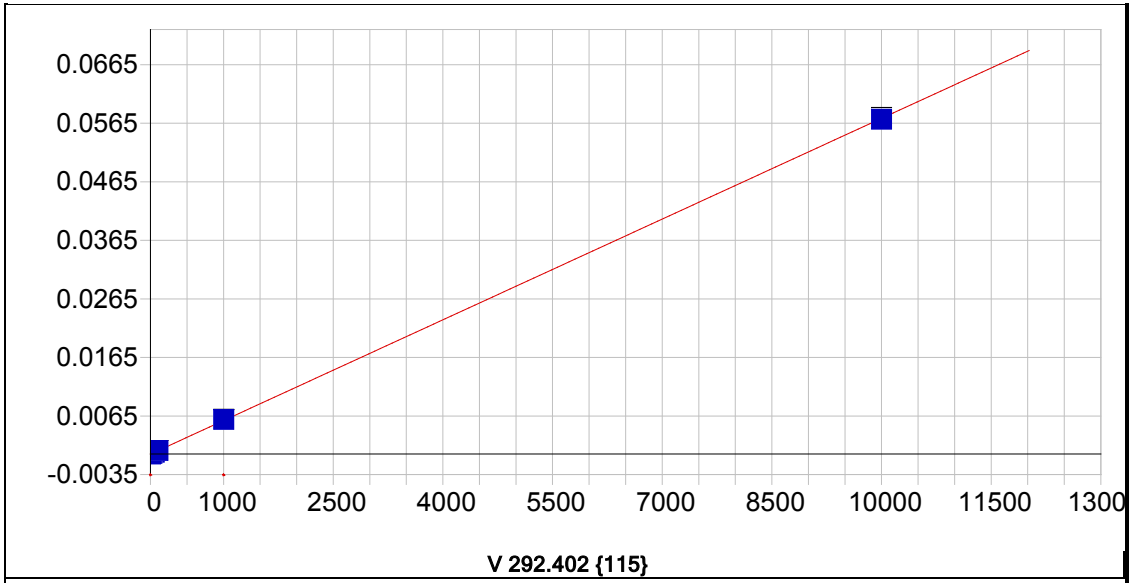


V 290.882 {116}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000015	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999979	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	3.495241		
Predicted MQL:	11.650803		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00240	-.002	.000	.00001	.000	1
CalStd9=100	1000.0	1020.3	20.3	2.03	.00112	.000	1
CalStd10=10	10000.	9979.1	-20.9	-.209	.01082	.000	1
CalStd8=100	100.00	100.58	.580	.580	.00012	.000	1

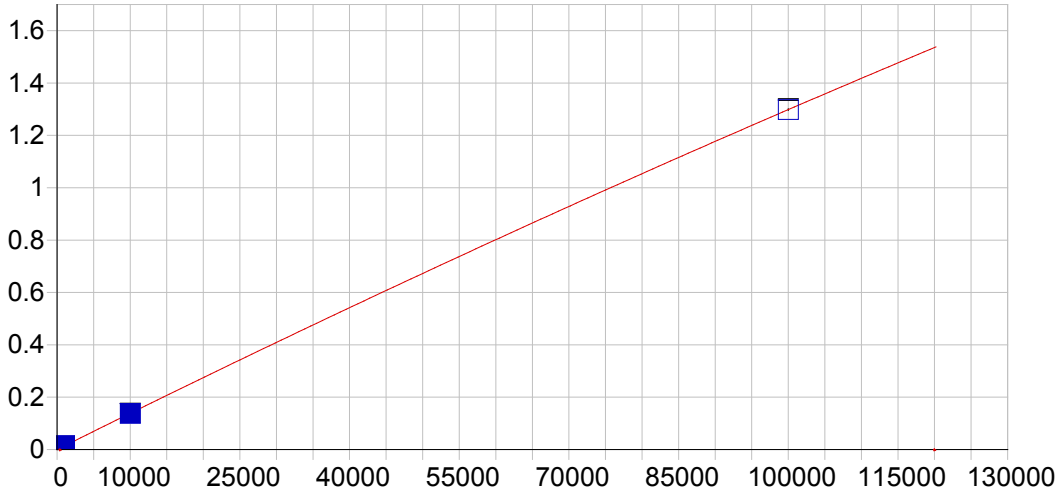


V 292.402 {115}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000004	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999960	Status:	OK.
Std Error of Est:	0.000001		
Predicted MDL:	0.570939		
Predicted MQL:	1.903130		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00033	-.000	.000	-.00000	.000	1
CalStd7=50	50.000	51.361	1.36	2.72	.00029	.000	1
CalStd9=100	1000.0	1026.9	26.9	2.69	.00588	.000	1
CalStd6=20	20.000	19.813	-.187	-.933	.00011	.000	1
CalStd5=10	10.000	9.7199	-.280	-2.80	.00005	.000	1
CalStd8=100	100.00	101.96	1.96	1.96	.00058	.000	1
CalStd10=10	10000.	9970.2	-29.8	-.298	.05718	.000	1

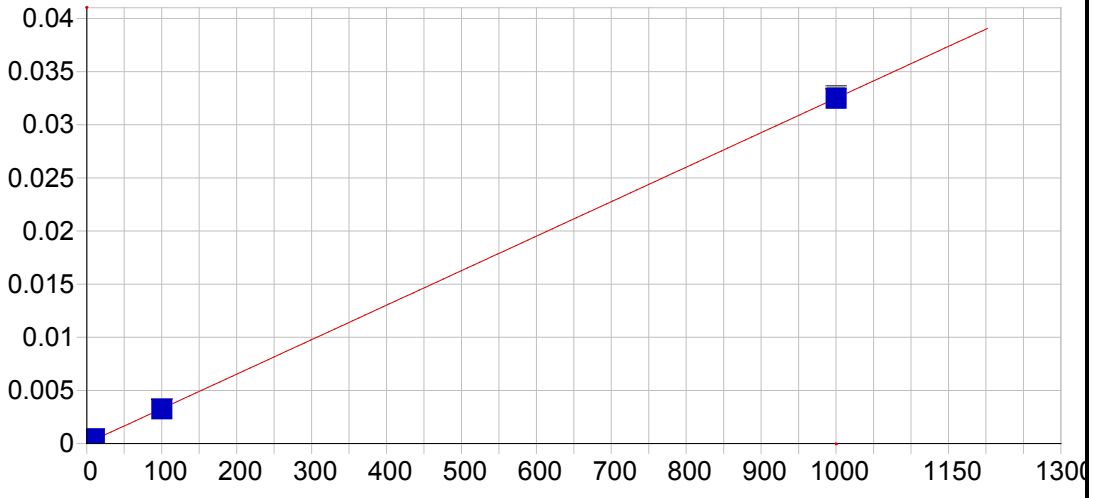


Zn 206.200 {463}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Curvilinear	Weighting:	1/Conc

A0 (Offset):	0.000012	Re-Slope:	1.000000
A1 (Gain):	0.000014	Y-int:	0.000000
A2 (Curvature):	-0.000000		
n (Exponent):	1.000000		
Correlation:	0.999985	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.294482		
Predicted MQL:	0.981605		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
CalStd10=10	10000.	9946.0	-54.0	-.540	.13755	.000	1
Blank	.00000	-.00336	-.003	.000	.00001	.000	1
CalStd9=100	1000.0	1043.1	43.1	4.31	.01452	.000	1
CalStd12=10	100000.	100010.	5.66	.006	1.2985	.003	1
CalStd5=10	10.000	12.723	2.72	27.2	.00019	.000	1
CalStd8=100	100.00	102.63	2.63	2.63	.00144	.000	1

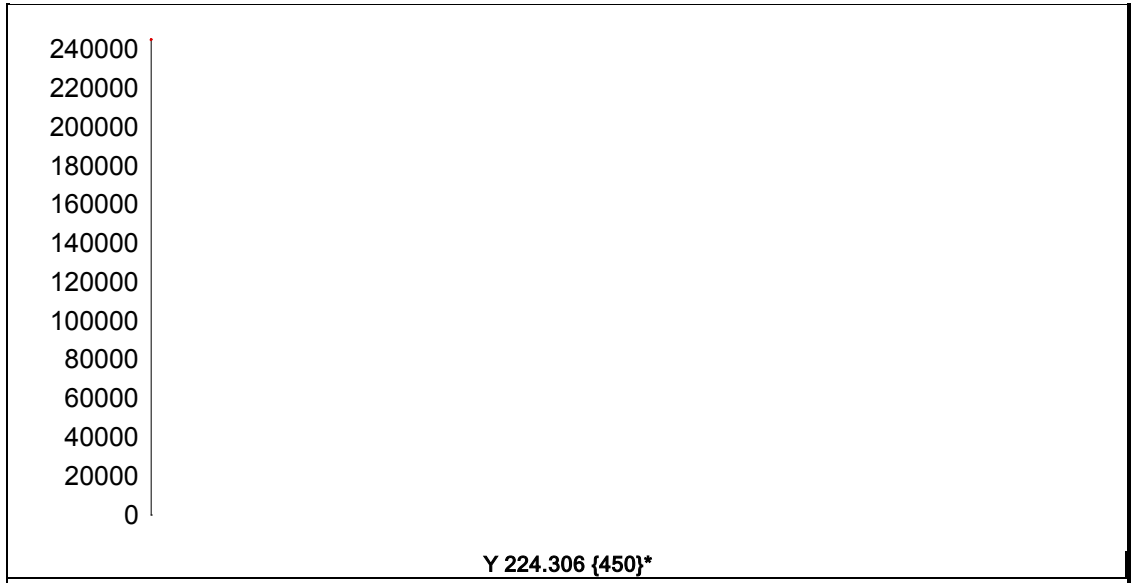


Zn 213.856 {457}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

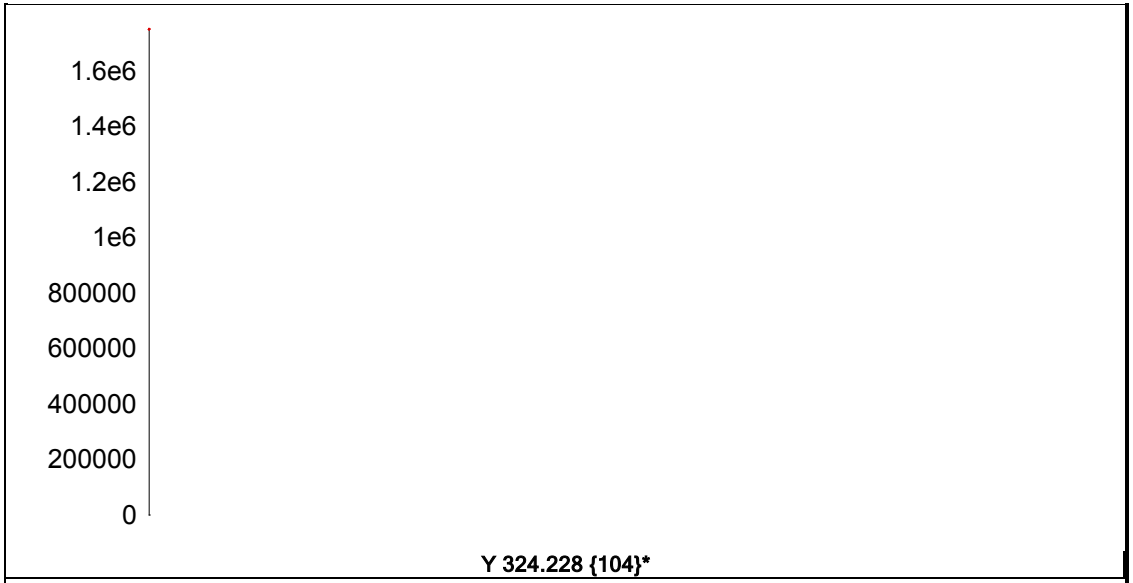
A0 (Offset):	0.000033	Re-Slope:	1.000000
A1 (Gain):	0.000032	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999748	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.135864		
Predicted MQL:	0.452881		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00223	-.002	.000	.00003	.000	1
CalStd9=100	1000.0	998.76	-1.24	-.124	.03267	.000	1
CalStd5=10	10.000	12.352	2.35	23.5	.00043	.000	1
CalStd8=100	100.00	98.901	-1.10	-1.10	.00326	.000	1



Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

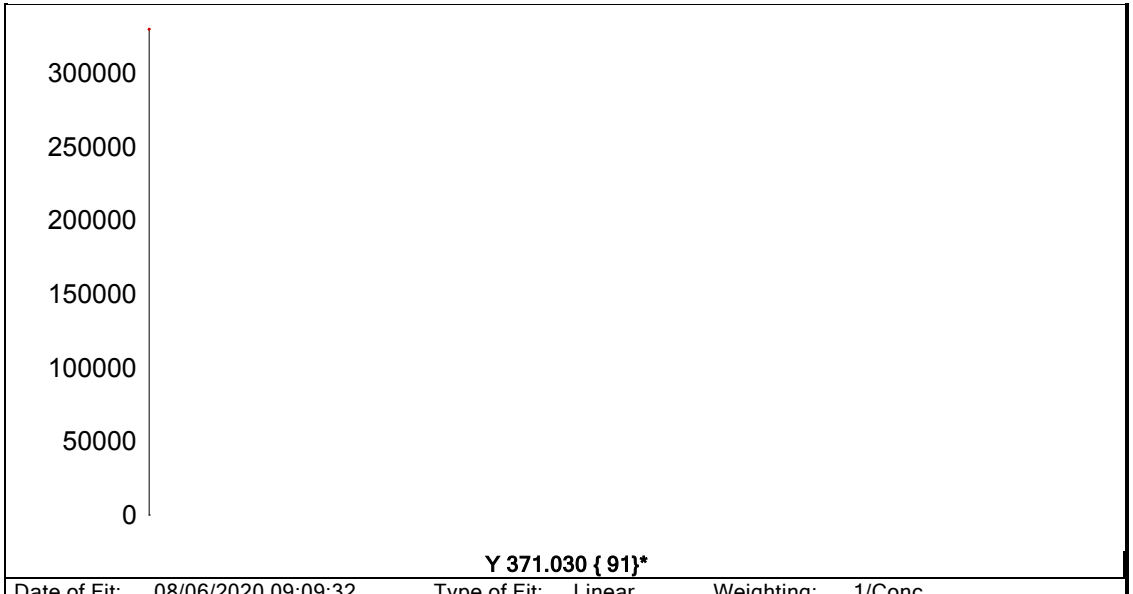
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	228930.	518.	1



Y 324.228 {104}*

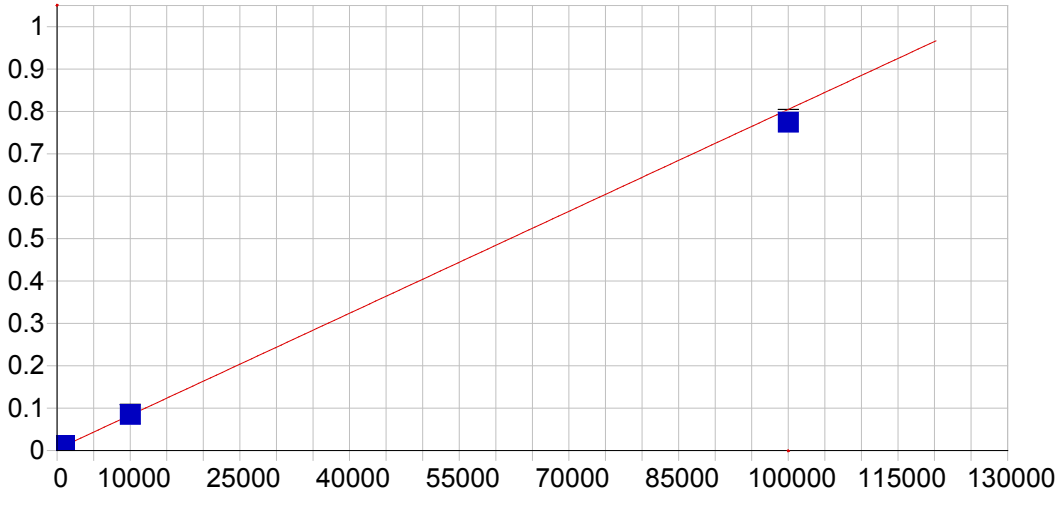
Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000000		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.000000		Status:	Warning	Zero Gain
Std Error of Est:	0.000000				
Predicted MDL:	n/a				
Predicted MQL:	n/a				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	1619500.	4870.	1



Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc	
A0 (Offset):	0.000000		Re-Slope:	1.000000		
A1 (Gain):	0.000000		Y-int:	0.000000		
A2 (Curvature):	0.000000					
n (Exponent):	1.000000					
Correlation:	0.000000		Status:	Warning	Zero Gain	
Std Error of Est:	0.000000					
Predicted MDL:	n/a					
Predicted MQL:	n/a					

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	309230.	1310.	1

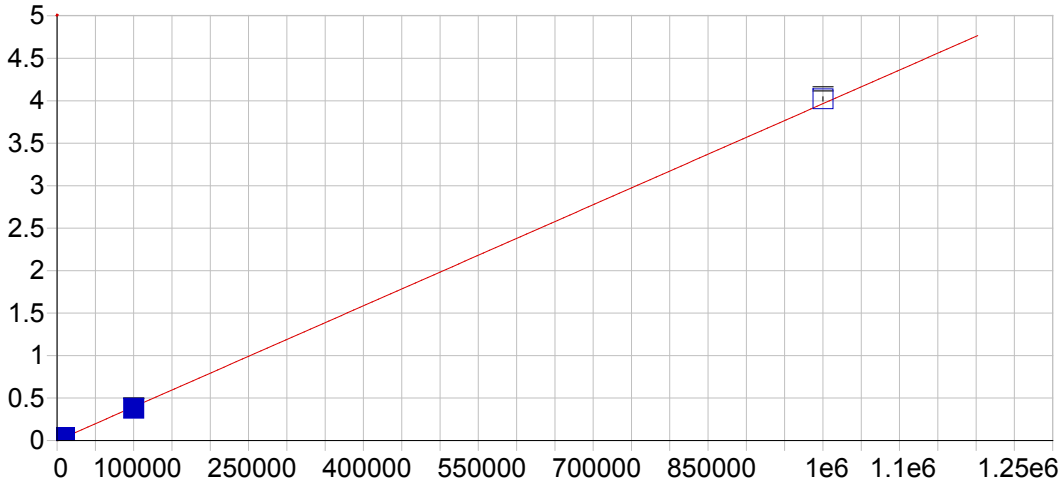


Na 588.995 { 57}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.003362	Re-Slope:	1.000000
A1 (Gain):	0.000008	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999487	Status:	OK.
Std Error of Est:	0.000203		
Predicted MDL:	3.776969		
Predicted MQL:	12.589896		

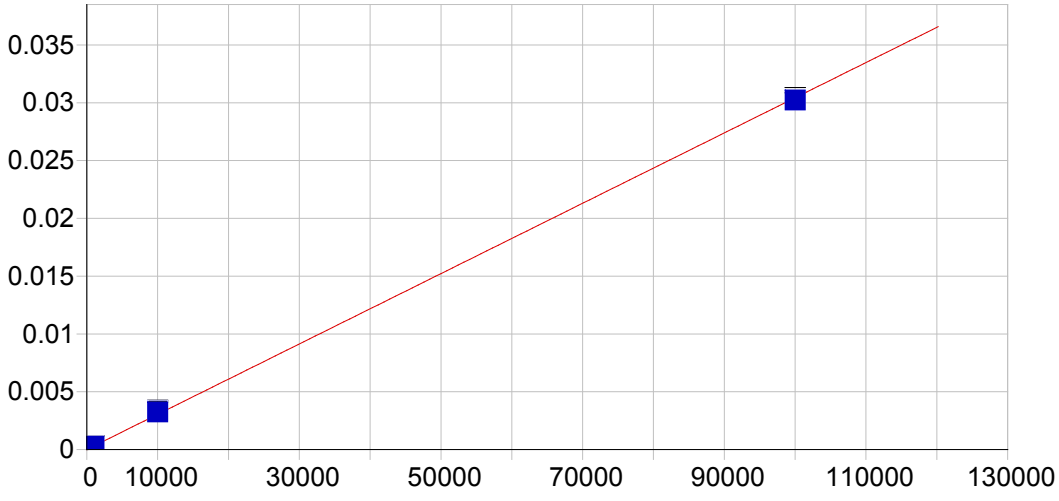
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.0922	-3.09	.000	.00334	.000	1
CalStd9=100	1000.0	1036.7	36.7	3.67	.01167	.000	1
CalStd10=10	10000.	10167.	167.	1.67	.08485	.001	1
CalStd13=10	100000.	96221.	-3780.	-3.78	.77462	.007	1



Na 589.592 { 57}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var
A0 (Offset):	0.000045		Re-Slope:	1.000000	
A1 (Gain):	0.000004		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999718		Status:	OK.	
Std Error of Est:	0.000132				
Predicted MDL:	4.667985				
Predicted MQL:	15.559950				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-3.7795	-3.78	.000	.00003	.000	1
CalStd9=100	1000.0	1019.1	19.1	1.91	.00409	.000	1
CalStd10=10	10000.	10030.	29.7	.297	.03983	.000	1
CalibStd15=	1000000.	1014200.	14200.	1.42	4.0219	.025	1
CalStd13=10	100000.	95395.	-4610.	-4.61	.37845	.003	1

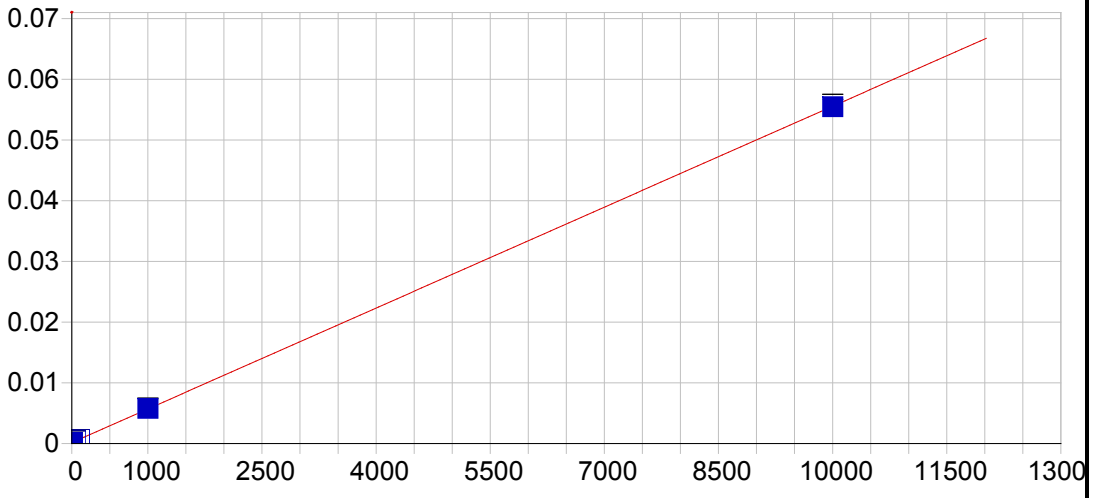


Si 251.611 {134}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000003	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999789	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	9.078807		
Predicted MQL:	30.262692		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.05489	-.055	.000	.00000	.000	1
CalStd9=100	1000.0	996.41	-3.59	-.359	.00033	.000	1
CalStd10=10	10000.	10653.	653.	6.53	.00339	.000	1
CalStd13=10	100000.	99320.	-680.	-.680	.03023	.000	1

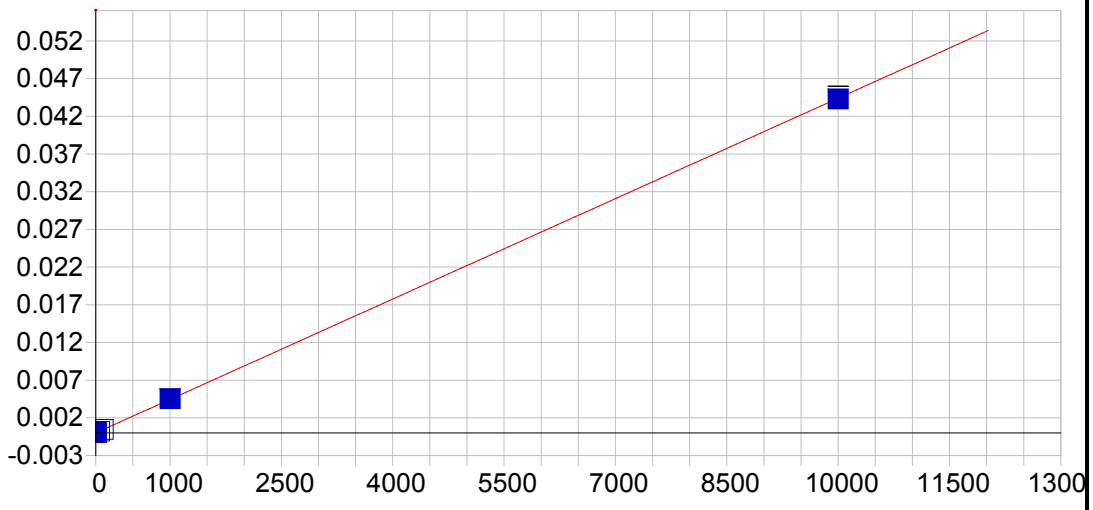


Ti 323.452 {104}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000157	Re-Slope:	1.000000
A1 (Gain):	0.000006	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999980	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.105252		
Predicted MQL:	3.684172		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00114	-.001	.000	.00016	.000	1
CalStd5=10	10.000	9.9742	-.026	-.258	.00021	.000	1
CalStd8=100	100.00	100.94	.941	.941	.00072	.000	1
CalStd9=100	1000.0	1014.3	14.3	1.43	.00578	.000	1
CalStd10=10	10000.	9983.3	-16.7	-.167	.05547	.000	1
CalStd7=50	50.000	50.488	.488	.976	.00044	.000	1
CalStd4=5	5.0000	5.9911	.991	19.8	.00019	.000	1

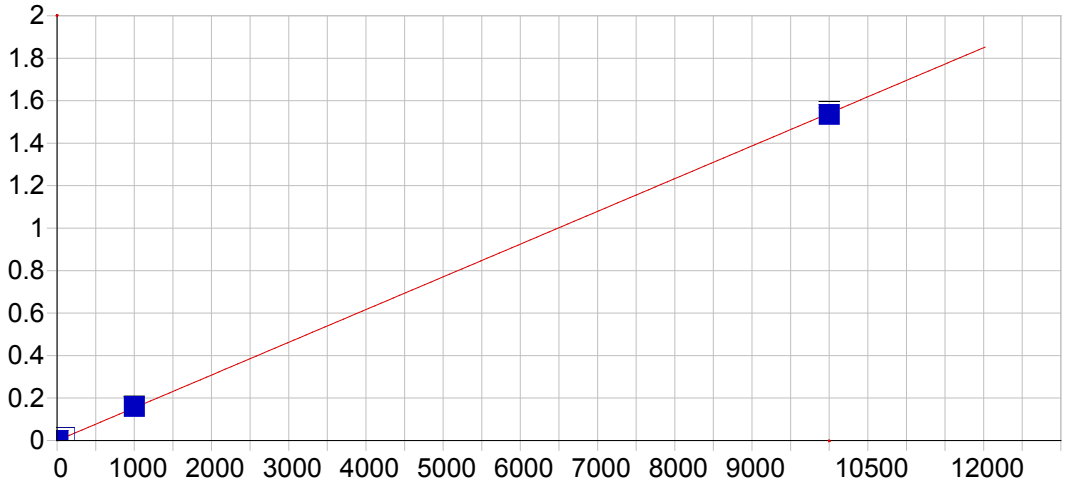


Ti 334.941 {101}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000004	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999963	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.016618		
Predicted MQL:	3.388727		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00182	-.002	.000	.00000	.000	1
CalStd5=10	10.000	10.892	.892	8.92	.00005	.000	1
CalStd8=100	100.00	101.98	1.98	1.98	.00045	.000	1
CalStd9=100	1000.0	1019.2	19.2	1.92	.00453	.000	1
CalStd10=10	10000.	9975.2	-24.8	-.248	.04429	.000	1
CalStd7=50	50.000	51.715	1.71	3.43	.00023	.000	1
CalStd4=5	5.0000	6.0183	1.02	20.4	.00003	.000	1

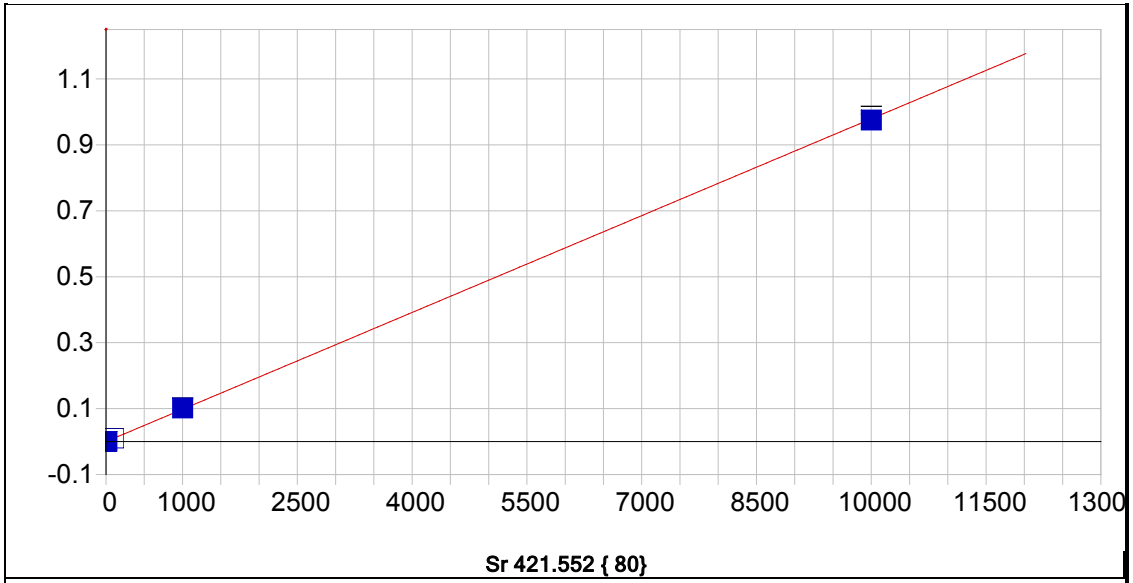


Sr 407.771 { 83}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000032	Re-Slope:	1.000000
A1 (Gain):	0.000154	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999905	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	0.065940		
Predicted MQL:	0.219799		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00048	-.000	.000	.00003	.000	1
CalStd3=1	1.0000	1.1006	.101	10.1	.00020	.000	1
CalStd4=5	5.0000	6.2984	1.30	26.0	.00100	.000	1
CalStd5=10	10.000	10.437	.437	4.37	.00164	.000	1
CalStd8=100	100.00	104.34	4.34	4.34	.01611	.000	1
CalStd9=100	1000.0	1036.9	36.9	3.69	.15985	.001	1
CalStd10=10	10000.	9956.9	-43.1	-.431	1.5347	.015	1

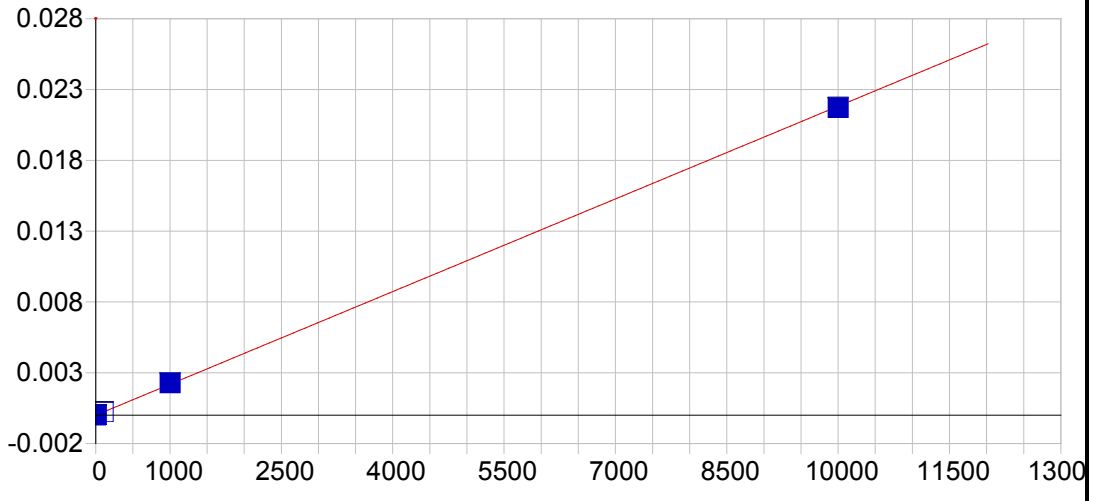


Sr 421.552 { 80}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000005	Re-Slope:	1.000000
A1 (Gain):	0.000098	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999907	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.091539		
Predicted MQL:	0.305130		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00048	-.000	.000	-.00001	.000	1
CalStd3=1	1.0000	1.0920	.092	9.20	.00010	.000	1
CalStd4=5	5.0000	6.3707	1.37	27.4	.00062	.000	1
CalStd5=10	10.000	10.421	.421	4.21	.00102	.000	1
CalStd8=100	100.00	104.49	4.49	4.49	.01023	.000	1
CalStd9=100	1000.0	1035.8	35.8	3.58	.10142	.001	1
CalStd10=10	10000.	9957.8	-42.2	-.422	.97499	.012	1

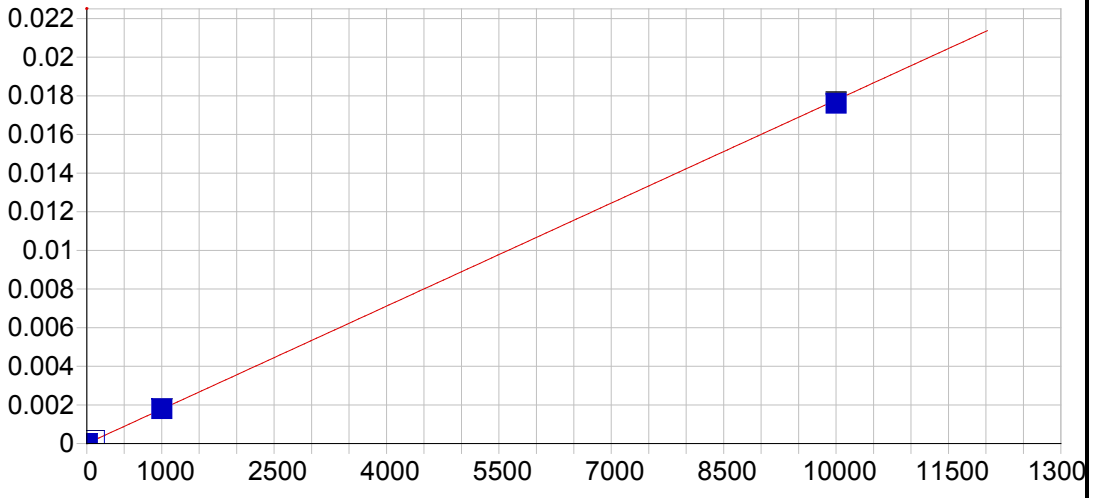


Sn 189.989 {477}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999885	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.311550		
Predicted MQL:	4.371832		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00279	-.003	.000	.00000	.000	1
CalStd10=10	10000.	9951.9	-48.1	-.481	.02172	.000	1
CalStd9=100	1000.0	1041.9	41.9	4.19	.00228	.000	1
CalStd8=100	100.00	104.19	4.19	4.19	.00023	.000	1
CalStd5=10	10.000	11.997	2.00	20.0	.00003	.000	1

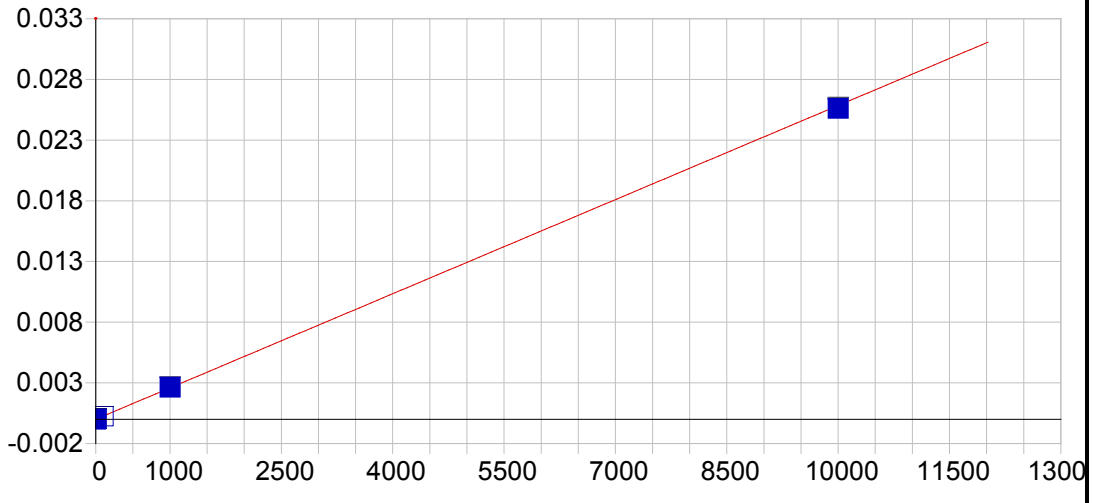


B 249.678 {135}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000002	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999935	Status:	OK.
Std Error of Est:	0.000004		
Predicted MDL:	1.009653		
Predicted MQL:	3.365511		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.61045	.610	.000	.00000	.000	1
CalStd8=100	100.00	99.106	-.894	-.894	.00018	.000	1
CalStd5=10	10.000	11.558	1.56	15.6	.00002	.000	1
CalStd9=100	1000.0	1010.9	10.9	1.09	.00180	.000	1
CalStd10=10	10000.	9904.2	-95.8	-.958	.01761	.000	1

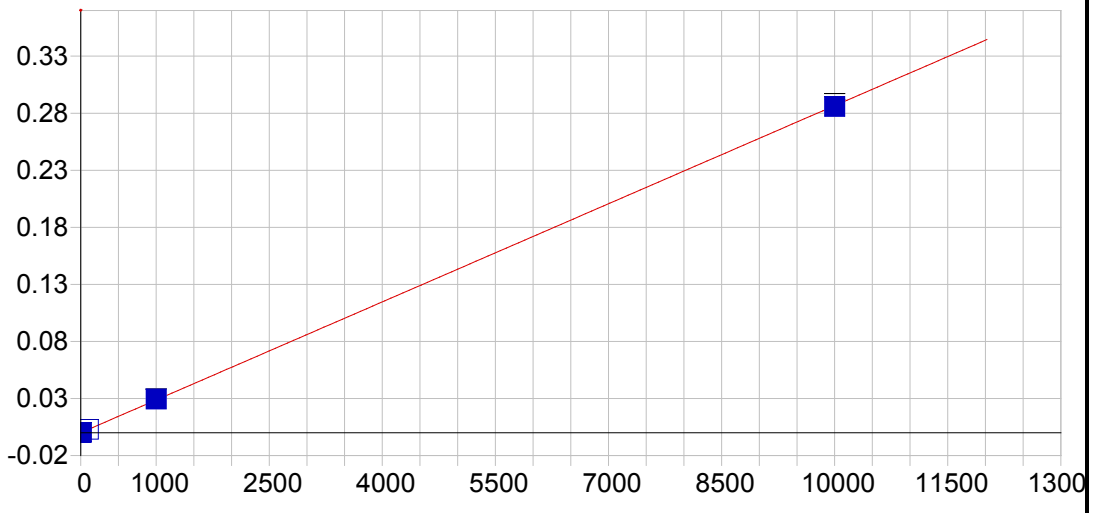


B 249.773 {135}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000002	Re-Slope:	1.000000
A1 (Gain):	0.000003	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999918	Status:	OK.
Std Error of Est:	0.000005		
Predicted MDL:	0.616277		
Predicted MQL:	2.054257		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.31192	-.312	.000	.00000	.000	1
CalStd8=100	100.00	100.73	.726	.726	.00026	.000	1
CalStd5=10	10.000	9.7242	-.276	-2.76	.00003	.000	1
CalStd9=100	1000.0	1018.6	18.6	1.86	.00264	.000	1
CalStd10=10	10000.	9904.7	-95.3	-.953	.02563	.000	1

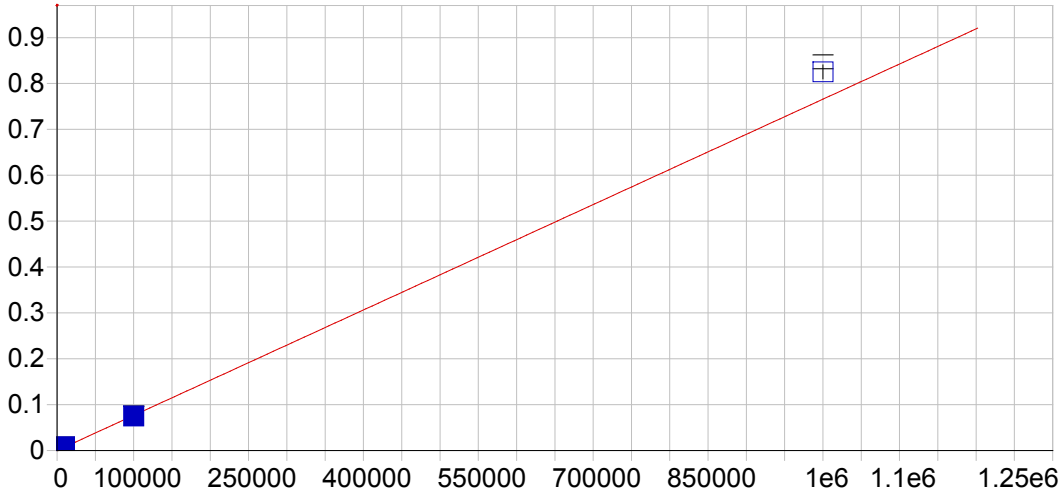


Li 670.784 { 50}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000007	Re-Slope:	1.000000
A1 (Gain):	0.000029	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999961	Status:	OK.
Std Error of Est:	0.000003		
Predicted MDL:	0.802296		
Predicted MQL:	2.674319		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.00149	-.001	.000	-.00001	.000	1
CalStd5=10	10.000	11.047	1.05	10.5	.00031	.000	1
CalStd8=100	100.00	102.20	2.20	2.20	.00292	.000	1
CalStd9=100	1000.0	1025.0	25.0	2.50	.02937	.000	1
CalStd10=10	10000.	9971.8	-28.2	-.282	.28583	.003	1

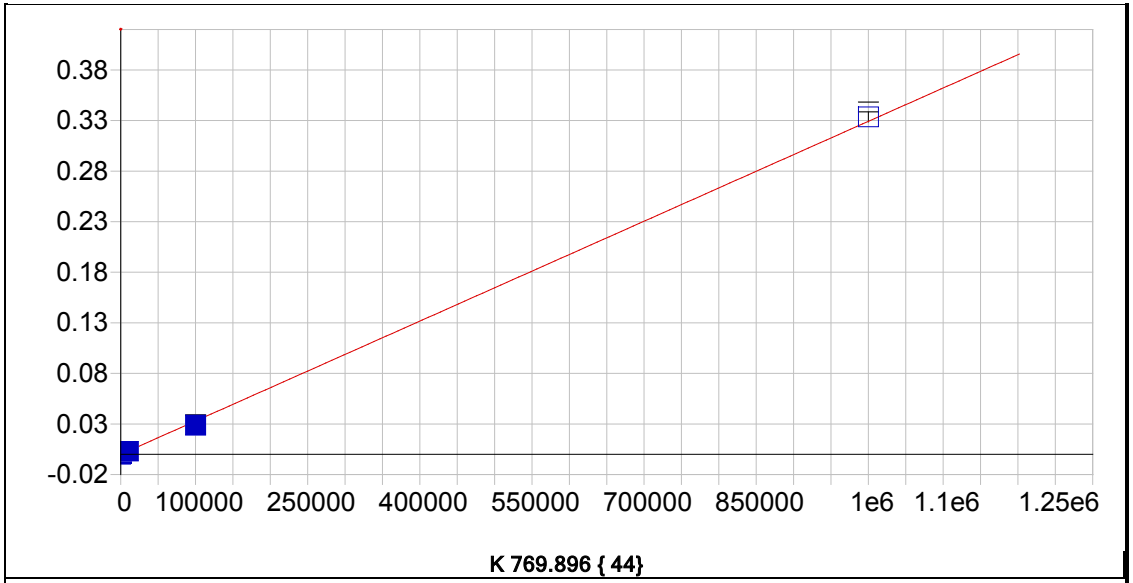


K 766.490 { 44}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Var

A0 (Offset):	0.000046	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999464	Status:	OK.
Std Error of Est:	0.000102		
Predicted MDL:	28.006526		
Predicted MQL:	93.355088		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-24.474	-24.5	.000	.00003	.000	1
CalStd9=100	1000.0	1009.9	9.87	.987	.00082	.000	1
CalStd10=10	10000.	10345.	345.	3.45	.00797	.000	1
CalibStd15=	1000000.	1077600.	77600.	7.76	.82530	.015	1
CalStd13=10	100000.	97773.	-2230.	-2.23	.07491	.000	1

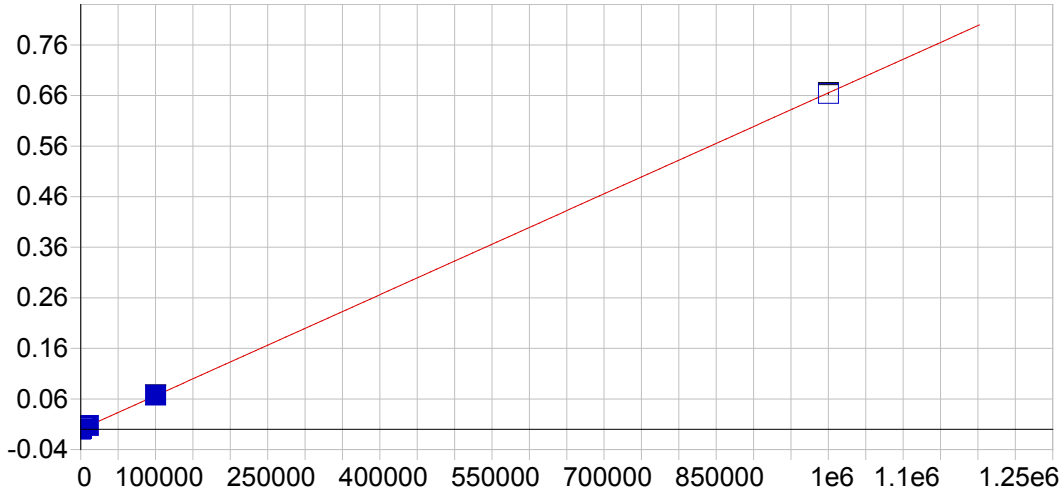


K 769.896 { 44}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	-0.000034	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999141	Status:	OK.
Std Error of Est:	0.000019		
Predicted MDL:	45.978085		
Predicted MQL:	153.260285		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.16549	-.165	.000	-.00003	.000	1
CalStd9=100	1000.0	1313.3	313.	31.3	.00040	.000	1
CalStd10=10	10000.	9673.1	-327.	-3.27	.00315	.000	1
CalibStd15=	1000000.	1012800.	12800.	1.28	.33346	.005	1
CalStd13=10	100000.	87203.	-12800.	-12.8	.02869	.000	1

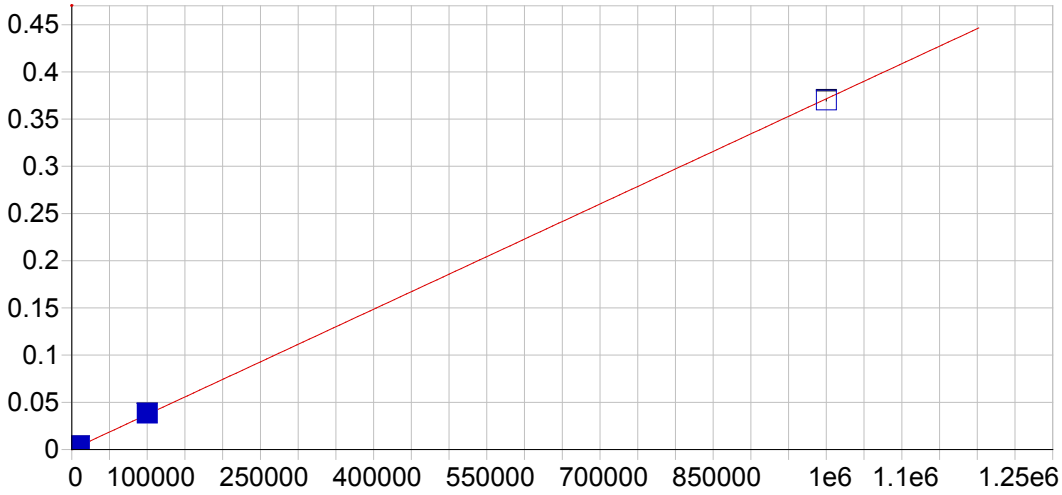


P 213.618 {457}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000001	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999962	Status:	OK.
Std Error of Est:	0.000008		
Predicted MDL:	6.145382		
Predicted MQL:	20.484608		

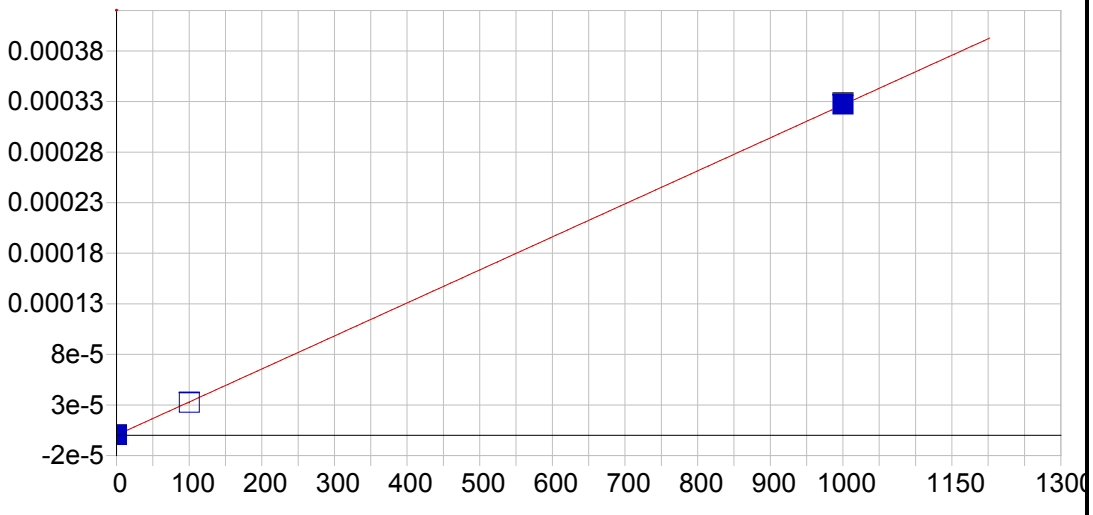
Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.17333	-.173	.000	.00000	.000	1
CalStd10=10	10000.	10723.	723.	7.23	.00713	.000	1
CalStd9=100	1000.0	1089.1	89.1	8.91	.00073	.000	1
CalStd13=10	100000.	101410.	1410.	1.41	.06746	.000	1
CalibStd15=	1000000.	997780.	-2220.	-.222	.66375	.002	1



S 182.034 {485}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc
A0 (Offset):	0.000003		Re-Slope:	1.000000	
A1 (Gain):	0.000000		Y-int:	0.000000	
A2 (Curvature):	0.000000				
n (Exponent):	1.000000				
Correlation:	0.999931		Status:	OK.	
Std Error of Est:	0.000006				
Predicted MDL:	7.110205				
Predicted MQL:	23.700684				

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	-.13575	-.136	.000	.00000	.000	1
CalStd9=100	1000.0	1058.8	58.8	5.88	.00040	.000	1
CalStd10=10	10000.	10473.	473.	4.73	.00391	.000	1
CalibStd15=	1000000.	996110.	-3890.	-.389	.37004	.001	1
CalStd13=10	100000.	103360.	3360.	3.36	.03845	.000	1

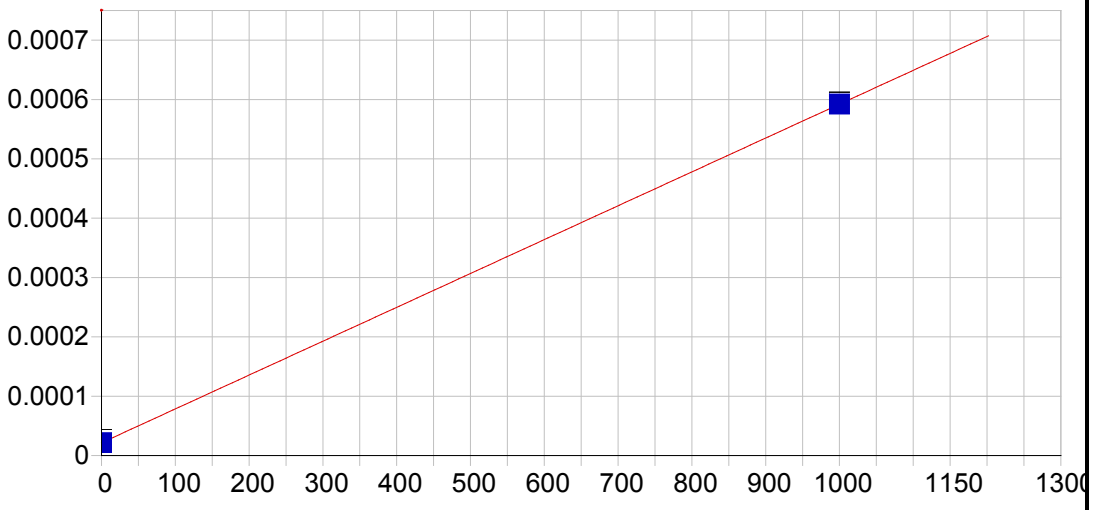


Hg 184.950 {482}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000000	Re-Slope:	1.000000
A1 (Gain):	0.000000	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	0.999987	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	1.186629		
Predicted MQL:	3.955430		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00146	.001	.000	.00000	.000	1
CalStd8=100	100.00	98.378	-1.62	-1.62	.00003	.000	1
CalStd9=100	1000.0	1001.6	1.62	.162	.00033	.000	1



Ce 404.076 { 83}

Date of Fit:	08/06/2020 09:09:32	Type of Fit:	Linear	Weighting:	1/Conc

A0 (Offset):	0.000022	Re-Slope:	1.000000
A1 (Gain):	0.000001	Y-int:	0.000000
A2 (Curvature):	0.000000		
n (Exponent):	1.000000		
Correlation:	1.000000	Status:	OK.
Std Error of Est:	0.000000		
Predicted MDL:	15.670593		
Predicted MQL:	52.235310		

Std. Name	Stated Conc.	Found Conc.	Difference	% Diff.	(S)IR	Std Dev	Emphasis
Blank	.00000	.00000	.000	.000	.00002	.000	1
CalStd9=100	1000.0	1000.00	.000	.000	.00059	.000	1

Sample Name: Blank Acquired: 07/28/2020 08:40:07 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**-.000**	**.000**	**-.000**	**.000**	**.008**	**-.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	108.	15.7	4.55	43.3	58.6	132.	399.	.402	3.04	133.	10.8	13.2

Elem	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2230	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**-.000**	**.000**	**-.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	220.	70.0	962.	138.	268.	50.8	.645	232.	151.	2.22	17.2	135.

Elem	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**.000**	**-.000**	**-.000**	**.000**	**-.000**	**.000**	**.000**	**-.000**	**.000**	**-.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	31.5	588.	143.	12.5	77.4	26.2	36.0	44.6	186.	297.	65.1	103.

Elem	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000
%RSD	17.7	61.7	19.7	8.62

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**228930.**	**1619500.**	**309230.**
Stddev	518.	4871.	1305.
%RSD	.22629	.30079	.42213

Sample Name: CalStd2=0.5 Acquired: 07/28/2020 08:46:33 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Be3130	Cd2265	Cd2288
Units	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**
Stddev	.000	.000	.000
%RSD	15.5	32.9	4.54

Int. Std.	Y_2243	Y_3242
Units	Cts/S	Cts/S
Avg	**221750.**	**1584900.**
Stddev	782.	1543.
%RSD	.35245	.09734

Sample Name: CalStd3=1 Acquired: 07/28/2020 08:52:55 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Ni2316
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**-.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**-.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	177.	40.3	2.29	7.90	18.6	17.1	58.0	53.6

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**221430.**	**1575600.**	**301480.**
Stddev	797.	3035.	2308.
%RSD	.36013	.19261	.76559

Sample Name: CalStd4=5 Acquired: 07/28/2020 08:59:14 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Mn2576	Mo2020	Mo2045	Ni2316	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	5.81	.769	5.19	2.28	4.43	3.74	6.97	1.64	6.45	12.4	9.00	30.9

Elem	Sb2175
Units	Cts/S
Avg	**.000**
Stddev	.000
%RSD	26.4

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**222280.**	**1584400.**	**299660.**
Stddev	410.	7433.	1249.
%RSD	.18431	.46912	.41666

Sample Name: CalStd5=10 Acquired: 07/28/2020 09:05:56 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	As1937	As1972	Ba2335	Be3130	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2230	Cu3247
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.59	53.3	31.3	3.96	.854	1.14	2.61	1.57	1.52	1.54	11.2	1.14

Elem	Mn2576	Mo2020	Mo2045	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Tl1908	Tl1908	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**-.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	1.45	5.84	4.42	7.14	468.	13.4	24.5	18.3	18.4	9.06	28.8	1.59

Elem	Zn2062	Zn2138
Units	Cts/S	Cts/S
Avg	**.000**	**.000**
Stddev	.000	.000
%RSD	2.43	.427

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**220720.**	**1573900.**	**300440.**
Stddev	375.	9245.	2233.
%RSD	.17003	.58737	.74310

Sample Name: CalStd6=20 Acquired: 07/28/2020 09:12:19 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba2335	Cu2230	Cu3247	Mn2576	Mo2020	Mo2045	Sb2175	V_2924
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.15	5.20	1.38	.422	2.23	3.64	3.78	1.00

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**221570.**	**1584400.**	**299740.**
Stddev	373.	5533.	1508.
%RSD	.16814	.34924	.50319

Sample Name: CalStd7=50 Acquired: 07/28/2020 09:18:36 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	As1937	As1972	Cd2288	Co2286	Cr2055	Cr2677	Cu3247	Mn2576	Mo2020	Mo2045	Ni2316	Sb2068
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.002**	**.001**	**.001**	**.000**	**.000**	**.001**	**.000**	**.000**	**.001**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	5.84	15.1	1.09	.282	.416	1.39	1.20	.318	.515	1.26	1.57	6.41

Elem	V_2924
Units	Cts/S
Avg	**.000**
Stddev	.000
%RSD	.821

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**221370.**	**1577800.**	**302490.**
Stddev	397.	7975.	1322.
%RSD	.17918	.50547	.43699

Sample Name: CalStd8=100 Acquired: 07/28/2020 09:24:52 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3933	Cd2265	Cd2288	Co2286
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.001**	**.013**	**.006**	**.000**	**.016**	**.002**	**.004**	**.002**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.998	.784	2.40	6.90	.453	.818	.817	1.13	.800	.562	.304	.147

Elem	Cr2055	Cr2677	Cu2230	Cu3247	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.001**	**.000**	**.000**	**.000**	**.003**	**.001**	**.001**	**.000**	**.001**	**.001**	**.000**	**.000**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.348	1.60	.839	1.25	.827	1.17	.534	.897	.499	.514	30.9	1.56

Elem	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.000**	**.000**	**.000**	**.000**	**.000**	**.000**	**.001**	**.001**	**.003**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	2.06	2.66	31.7	1.47	6.59	2.53	.505	.219	.269

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**221230.**	**1570300.**	**294430.**
Stddev	525.	9823.	2464.
%RSD	.23736	.62556	.83679

Sample Name: CalStd9=1000 Acquired: 07/28/2020 09:31:09 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al1670	Al3082	Al3961	As1937	As1972	Ba2335	Ba4934	Be3130	Be2348	Ca3158	Ca3933	Cd2265
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.000**	**.002**	**.001**	**.000**	**.006**	**.058**	**.059**	**.003**	**.000**	**.140**	**.018**
Stddev	.000	.000	.000	.000	.000	.000	.001	.000	.000	.000	.001	.000
%RSD	.211	.908	1.32	.433	1.09	.065	.865	.340	.565	.967	1.05	.174

Elem	Cd2288	Co2286	Cr2055	Cr2677	Cu2230	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576	Mn2593	Mo2020
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.036**	**.017**	**.013**	**.002**	**.004**	**.002**	**.001**	**.000**	**.030**	**.010**	**.004**	**.007**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.126	.168	.153	.497	.068	.904	1.03	2.29	.380	.456	.669	.185

Elem	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2068	Sb2175	Se1960	Se2062	Tl1908	Tl1908	V_2908
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.004**	**.010**	**.011**	**.000**	**.002**	**.002**	**.002**	**.001**	**.000**	**.002**	**.001**	**.001**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.360	.349	.250	1.27	.374	.369	.432	.457	2.84	.329	.293	1.34

Elem	V_2924	Zn2062	Zn2138
Units	Cts/S	Cts/S	Cts/S
Avg	**.006**	**.015**	**.033**
Stddev	.000	.000	.000
%RSD	.498	.217	.137

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**220210.**	**1576100.**	**299950.**
Stddev	481.	3891.	1775.
%RSD	.21864	.24689	.59169

Sample Name: CalStd10=10000 Acquired: 07/28/2020 09:36:52 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	As1972	Ca3158	Co2286	Cr2055	Cr2677	Cu3247	Fe2599	Mg2790	Mg2802	Mn2576
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.002**	**.018**	**.005**	**.003**	**.163**	**.120**	**.023**	**.018**	**.010**	**.000**	**.271**	**.093**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.001	.000
%RSD	1.34	.632	.470	.456	.085	.108	.423	1.02	.605	.524	.427	.357

Elem	Mn2593	Mo2045	Ni2216	Ni2316	Pb2169	Sb2068	Sb2175	Se2062	Tl1908	V_2908	V_2924	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.040**	**.040**	**.098**	**.107**	**.001**	**.015**	**.016**	**.001**	**.007**	**.011**	**.057**	**.138**
Stddev	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000	.000
%RSD	.614	.105	.115	.161	.183	.131	.238	.352	.163	.584	.497	.316

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**217160.**	**1545700.**	**297140.**
Stddev	604.	3360.	1419.
%RSD	.27816	.21734	.47761

Sample Name: CalStd12=100K Acquired: 07/28/2020 09:43:38 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Cr2055	Cu3247	Mn2593	Pb2169	Zn2062
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**1.12**	**.190**	**.405**	**.011**	**1.30**
Stddev	.00	.001	.001	.000	.00
%RSD	.092	.365	.315	.230	.250

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**217000.**	**1569100.**	**299380.**
Stddev	309.	5496.	849.
%RSD	.14255	.35024	.28354

Sample Name: CalStd13=100000 Acquired: 07/28/2020 09:50:22 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3082	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.021**	**.171**	**.025**	**.097**	**.005**
Stddev	.000	.001	.000	.001	.000
%RSD	.377	.824	.890	.961	.954

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**210010.**	**1488900.**	**295170.**
Stddev	503.	5754.	2666.
%RSD	.23948	.38643	.90319

Sample Name: CalStd14=500000 Acquired: 07/28/2020 09:57:11 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Fe2599	Mg2790
Units	Cts/S	Cts/S	Cts/S	Cts/S
Avg	**.920**	**.130**	**.464**	**.026**
Stddev	.005	.000	.002	.000
%RSD	.590	.360	.502	.303

Int. Std.	Y_3242	Y_3710
Units	Cts/S	Cts/S
Avg	**1411000.**	**284050.**
Stddev	2515.	612.
%RSD	.17821	.21560

Sample Name: CalibStd15=1000k Acquired: 07/28/2020 10:05:38 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Al3961	Ca3158	Mg2790
Units	Cts/S	Cts/S	Cts/S
Avg	**1.95**	**.262**	**.053**
Stddev	.05	.004	.001
%RSD	2.48	1.53	1.26

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**172180.**	**1256200.**	**260250.**
Stddev	338.	8496.	2768.
%RSD	.19636	.67633	1.0635

Sample Name: Ag Ba 1000, 50000 Acquired: 07/28/2020 10:13:37 Type: Cal
Method: DOD Calibration Updated 060614(v3975) Mode: IR Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ba4934
Units	Cts/S
Avg	**2.52**
Stddev	.01
%RSD	.547

Int. Std.	Y_3710
Units	Cts/S
Avg	**301250.**
Stddev	2469.
%RSD	.81972

Sample Name: icv Acquired: 07/28/2020 10:26:38 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1972	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2055	Cr2677
Avg	**46.1**	**11200.**	**10800.**	**1960.**	**1900.**	**47.8**	**9710.**	**47.1**	**49.6**	**499.**	**207.**	**200.**
Stddev	.4	123.	67.	10.	13.	.2	59.	.2	.4	1.	.	1.
%RSD	.793	1.10	.626	.525	.659	.333	.602	.526	.832	.159	.045	.250
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Cu2230	Fe2599	Mg2025	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se2062
Avg	**238.**	**5200.**	**10100.**	**488.**	**503.**	**521.**	**502.**	**500.**	**495.**	**479.**	**492.**	**1970.**
Stddev	1.	84.	30.	2.	1.	1.	1.	1.	7.	3.	4.	32.
%RSD	.531	1.62	.293	.310	.118	.281	.200	.145	1.45	.618	.769	1.64
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Tl1908	V_2924	Zn2062	Zn2138
Avg	**2010.**	**498.**	**509.**	**488.**
Stddev	8.	4.	2.	1.
%RSD	.418	.760	.366	.248
Check ?	None	None	None	None
Value				
Range				

Sample Name: icv Acquired: 07/28/2020 10:26:38 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**219460.**	**1565100.**	**299720.**
Stddev	867.	5104.	1874.
%RSD	.39525	.32612	.62520

Sample Name: ICVLL Acquired: 07/28/2020 10:39:54 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	As1937	Ba2335	Be3130	Ca3158	Ca3933	Cd2265	Co2286	Cr2677	Cu2230
Avg	F **38.5**	**1300.**	**1320.**	**65.0**	**34.1**	**13.5**	**1690.**	**1510.**	**16.8**	**34.8**	**33.9**	**35.0**
Stddev	.3	5.	37.	5.3	.5	.0	21.	17.	.2	.3	.7	1.3
%RSD	.864	.372	2.76	8.16	1.41	.205	1.23	1.11	1.23	.898	1.95	3.62
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	60.0											
Range	-30.0%											

Elem	Fe2343	Mg2802	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**1030.**	**1780.**	**35.8**	**35.2**	**35.1**	**33.2**	**65.3**	**64.9**	**64.3**	**34.6**	**34.1**
Stddev	6.	5.	.1	.3	.4	2.9	1.6	3.0	2.2	.4	.0
%RSD	.533	.295	.392	.992	1.23	8.63	2.49	4.61	3.47	1.02	.135
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**219290.**	**1578400.**	**299110.**
Stddev	820.	3867.	2305.
%RSD	.37395	.24499	.77046

Sample Name: icb Acquired: 07/28/2020 10:52:55 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	**-.629**	**.224**	**-3.40**	**-.304**	**-.072**	**3.45**	**.135**	**-.035**	**-.157**	**-.040**	**.346**	**-40.6**
Stddev	.279	.208	2.46	.306	.019	2.51	.191	.107	.467	.200	2.82	.2
%RSD	44.4	92.9	72.4	101.	25.9	72.6	142.	304.	297.	496.	815.	.496
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.246**	**-.109**	**-.084**	**-1.10**	**-1.13**	**-3.13**	**-.626**	**-.358**	**-.157**
Stddev	.077	.655	.221	1.98	1.38	2.75	1.35	.167	.084
%RSD	31.5	600.	264.	180.	122.	87.9	216.	46.7	53.6
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**227000.**	**1612600.**	**303870.**
Stddev	251.	2841.	2836.
%RSD	.11076	.17615	.93333

Sample Name: MRL/LLOQ Acquired: 07/28/2020 10:59:17 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	F **30.7**	**409.**	**17.8**	**9.79**	**4.10**	**453.**	**5.12**	**10.5**	**10.1**	**9.76**	**302.**	**523.**
Stddev	.9	2.	2.6	.27	.03	3.	.14	.2	.2	.82	3.	4.
%RSD	2.81	.457	14.4	2.76	.779	.690	2.77	2.07	2.37	8.43	1.13	.739
Check ?	Chk Fail	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value	20.0											
Range	30.0%											

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**10.4**	**11.3**	**10.2**	**8.78**	**21.2**	**20.4**	**18.9**	**10.5**	**10.8**
Stddev	.1	.4	.4	1.99	.9	2.9	1.7	.5	.2
%RSD	.956	3.80	3.99	22.7	4.48	14.2	8.75	4.71	1.58
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**222300.**	**1585300.**	**301840.**
Stddev	283.	7042.	1884.
%RSD	.12722	.44419	.62416

Sample Name: ICSA Acquired: 07/28/2020 11:05:35 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Avg	**-.322**	**480000.**	**.038**	**1.04**	**.000**	**486000.**	**.003**	**-.003**	**.856**	**.004**	**471000.**
Stddev	1.91	3680.	19.4	.72	.078	3360.	1.17	.290	.804	2.17	4790.
%RSD	594.	.767	51300.	68.9	422000.	.691	36400.	8570.	94.0	58500.	1.02
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
High Limit											
Low Limit											

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2908	Zn2138
Avg	**507000.**	**-1.61**	**.389**	**-6.26**	**.922**	**-.671**	**.004**	**.007**	**21200.**	**-12.8**
Stddev	3960.	.25	1.41	.99	3.36	2.15	5.17	2.42	143.	.8
%RSD	.781	15.6	363.	15.9	364.	320.	127000.	32500.	.673	6.60
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	None	Chk Pass
High Limit										
Low Limit										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**195280.**	**1412500.**	**279820.**
Stddev	925.	6111.	2092.
%RSD	.47372	.43267	.74777

Sample Name: ICSAB Acquired: 07/28/2020 11:12:04 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2288	Co2286	Cr2055	Cr2677	Cu2230
Avg	**456.**	**459000.**	**501.**	**473.**	**454.**	**466000.**	**487.**	**474.**	**509.**	**487.**	**410.**
Stddev	4.	2770.	17.	2.	1.	2610.	1.	1.	1.	3.	1.
%RSD	.927	.605	3.39	.404	.248	.560	.280	.195	.182	.521	.359
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Fe2599	Mg2790	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960
Avg	**455000.**	**482000.**	**474.**	**477.**	**506.**	**475.**	**454.**	**543.**	**424.**	**485.**	**468.**
Stddev	3750.	3100.	2.	2.	3.	2.	1.	21.	8.	7.	8.
%RSD	.823	.643	.354	.408	.546	.381	.295	3.86	1.80	1.35	1.67
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value											
Range											

Elem	Tl1908	V_2924	Zn2062	Zn2138
Avg	**523.**	**484.**	**472.**	**418.**
Stddev	3.	2.	1.	2.
%RSD	.627	.405	.165	.425
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value				
Range				

Sample Name: ICSAB Acquired: 07/28/2020 11:12:04 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**196080.**	**1407800.**	**284480.**
Stddev	880.	6642.	1654.
%RSD	.44890	.47180	.58138

Sample Name: ICVLL ag Acquired: 07/28/2020 11:24:26 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**10.0**	**2.76**	**-3.02**	**.462**	**-.028**	**4.28**	**.029**	**.294**	**-.301**	**.881**	**112.**	**-39.0**
Stddev	1.0	.90	5.41	.150	.042	.55	.307	.443	.641	.551	56.	.3
%RSD	10.2	32.6	179.	32.5	149.	12.8	1070.	150.	213.	62.5	50.1	.645

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.071**	**.528**	**-.292**	**-.892**	**-4.77**	**-.753**	**-.746**	**.387**	**.302**
Stddev	.091	.162	.859	2.64	2.06	2.65	3.35	.403	.128
%RSD	129.	30.6	294.	296.	43.2	352.	449.	104.	42.4

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**219680.**	**1567900.**	**296000.**
Stddev	343.	8315.	1949.
%RSD	.15624	.53031	.65845

Sample Name: lcsw77404 Acquired: 07/28/2020 11:31:19 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**21.3**	**752.**	**824.**	**771.**	**19.5**	**199000.**	**18.8**	**201.**	**81.5**	**97.5**	**434.**
Stddev	.6	3.	8.	3.	.1	2170.	.3	1.	1.2	1.1	6.
%RSD	2.81	.378	.939	.381	.297	1.09	1.79	.357	1.45	1.09	1.34

Elem	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**96600.**	**197.**	**2200.**	**200.**	**194.**	**204.**	**803.**	**742.**	**190.**	**204.**
Stddev	950.	.	7.	1.	2.	2.	9.	3.	1.	.
%RSD	.983	.129	.334	.463	.981	1.15	1.07	.344	.363	.169

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**204940.**	**1477300.**	**290160.**
Stddev	1119.	2545.	2865.
%RSD	.54594	.17229	.98749

Sample Name: mbw77404 Acquired: 07/28/2020 11:38:00 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**.571**	**2.33**	**-1.94**	**-.063**	**-.024**	**10.4**	**-.015**	**-.215**	**-.824**	**.876**	**3.41**	**-39.2**
Stddev	1.57	.24	4.98	.309	.021	2.4	.122	.121	.377	.689	3.06	.3
%RSD	275.	10.3	256.	488.	86.3	22.7	797.	56.2	45.8	78.6	89.7	.707

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.297**	**1.53**	**-.104**	**.695**	**-5.61**	**-1.94**	**-.961**	**-.427**	**-.600**
Stddev	.019	.30	.234	2.18	2.07	3.10	1.72	.314	.057
%RSD	6.43	19.3	225.	313.	36.9	160.	178.	73.5	9.44

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**219820.**	**1579900.**	**298260.**
Stddev	216.	2013.	1380.
%RSD	.09810	.12738	.46261

Sample Name: 450344 Acquired: 07/28/2020 11:44:39 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.75**	**4350.**	**2.22**	**151.**	**.130**	**103000.**	**-.528**	**6.12**	**9.17**	**10.8**	**5080.**
Stddev	1.00	27.	2.68	1.	.033	1010.	.063	.07	.81	.8	53.
%RSD	56.9	.613	121.	.502	25.1	.980	11.9	1.19	8.89	7.15	1.04

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**47800.**	**673.**	**.809**	**5.65**	**2.57**	**-3.95**	**-.039**	**.259**	**6.69**	**16.6**
Stddev	366.	1.	.580	1.17	1.49	2.73	5.33	2.56	.31	.1
%RSD	.766	.218	71.8	20.7	57.8	69.0	13800.	989.	4.65	.807

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**206990.**	**1494300.**	**292870.**
Stddev	394.	1227.	2263.
%RSD	.19041	.08208	.77266

Sample Name: I450344 Acquired: 07/28/2020 11:51:54 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	Al3082	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-.356**	**987.**	**1260.**	**-4.03**	**35.0**	**.010**	**30200.**	**-.111**	**1.61**	**1.67**	**3.49**	**1470.**
Stddev	1.52	17.	70.	4.44	.8	.027	1730.	.320	.28	.59	1.21	79.
%RSD	427.	1.71	5.54	110.	2.17	271.	5.74	288.	17.4	35.6	34.6	5.39

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**13900.**	**173.**	**.520**	**1.04**	**-2.00**	**-2.41**	**.696**	**.992**	**1.50**	**8.50**
Stddev	809.	4.	.781	.35	3.37	2.23	1.63	1.87	.31	.13
%RSD	5.82	2.35	150.	33.9	169.	92.3	235.	188.	20.4	1.56

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**215020.**	**1535100.**	**297250.**
Stddev	620.	8921.	1504.
%RSD	.28852	.58114	.50587

Sample Name: dup.450344 Acquired: 07/28/2020 11:58:34 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230	Fe2599
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**-1.20**	**4710.**	**2.03**	**153.**	**.126**	**104000.**	**-.374**	**6.26**	**9.70**	**12.3**	**5210.**
Stddev	.79	15.	4.27	1.	.023	889.	.195	.13	1.01	1.7	36.
%RSD	66.5	.322	211.	.863	18.4	.852	52.2	2.14	10.4	13.5	.698

Elem	Mg2790	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**48200.**	**677.**	**.487**	**5.19**	**5.49**	**-3.51**	**.568**	**-.601**	**7.29**	**16.8**
Stddev	275.	5.	.763	.49	1.88	2.22	6.47	2.58	.38	.1
%RSD	.572	.769	157.	9.41	34.3	63.3	1140.	429.	5.25	.357

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**208010.**	**1503500.**	**293600.**
Stddev	544.	7121.	2133.
%RSD	.26132	.47363	.72658

Sample Name: msw450344 Acquired: 07/28/2020 12:07:11 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.8**	**6090.**	**5880.**	**841.**	**929.**	**19.7**	**298000.**	**18.6**	**207.**	**91.8**	**128.**
Stddev	1.3	78.	74.	7.	2.	.1	3800.	.1	.	1.7	.
%RSD	6.10	1.29	1.26	.822	.227	.606	1.27	.638	.089	1.87	.374

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**5990.**	**147000.**	**863.**	**2220.**	**209.**	**200.**	**213.**	**824.**	**737.**	**199.**	**223.**
Stddev	68.	1930.	6.	7.	1.	4.	1.	10.	6.	1.	1.
%RSD	1.13	1.31	.747	.293	.306	1.89	.251	1.20	.845	.659	.386

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**197380.**	**1432500.**	**284900.**
Stddev	908.	10204.	3174.
%RSD	.46015	.71235	1.1142

Sample Name: msdw450344 Acquired: 07/28/2020 12:14:09 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1937	Ba2335	Be3130	Ca3158	Cd2265	Co2286	Cr2677	Cu2230
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**20.9**	**6200.**	**5950.**	**855.**	**942.**	**20.2**	**303000.**	**18.6**	**211.**	**94.3**	**130.**
Stddev	.8	68.	78.	7.	3.	.1	2690.	.1	1.	.9	2.
%RSD	3.93	1.09	1.31	.763	.327	.567	.887	.339	.353	.974	1.42

Elem	Fe2599	Mg2790	Mn2576	Mo2045	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**6000.**	**149000.**	**866.**	**2260.**	**209.**	**197.**	**213.**	**840.**	**750.**	**204.**	**227.**
Stddev	70.	1350.	3.	5.	1.	2.	1.	5.	4.	1.	1.
%RSD	1.16	.905	.311	.200	.621	1.02	.692	.588	.473	.389	.289

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**198430.**	**1432800.**	**283140.**
Stddev	578.	7200.	2531.
%RSD	.29135	.50248	.89380

Sample Name: pdsw450344 Acquired: 07/28/2020 12:20:23 Type: Unk
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1972	Ba4934	Be3130	Ca3158	Cd2265	Cd2288	Co2286	Cr2055
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**82.7**	**8660.**	**8240.**	**3310.**	**4070.**	**80.4**	**489000.**	**72.1**	**84.0**	**778.**	**337.**
Stddev	2.9	482.	416.	50.	405.	2.0	39600.	1.0	.8	11.	5.
%RSD	3.51	5.56	5.05	1.51	9.95	2.55	8.11	1.40	.926	1.47	1.36

Elem	Cr2677	Cu2230	Fe2599	Mg2790	Mn2593	Mo2020	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**339.**	**381.**	**6930.**	**243000.**	**1330.**	**.412**	**784.**	**763.**	**788.**	**727.**	**822.**
Stddev	8.	5.	210.	20600.	83.	.421	7.	13.	34.	12.	15.
%RSD	2.47	1.29	3.03	8.50	6.20	102.	.929	1.67	4.28	1.65	1.79

Elem	Se2062	Tl1908	V_2908	V_2924	Zn2062	Zn2138
Units	ug/L	ug/L	ug/L	ug/L	ug/L	ug/L
Avg	**3330.**	**2970.**	**1050.**	**868.**	**787.**	**807.**
Stddev	91.	42.	103.	18.	12.	11.
%RSD	2.73	1.41	9.85	2.10	1.47	1.39

Int. Std.	Y_2243	Y_3242	Y_3710
Units	Cts/S	Cts/S	Cts/S
Avg	**195700.**	**1408700.**	**281160.**
Stddev	453.	3593.	2434.
%RSD	.23130	.25502	.86561

Sample Name: ccv1 Acquired: 07/28/2020 12:32:48 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al3082	Al3961	As1972	Ba4934	Be3130	Ca3158	Cd2288	Co2286	Cr2055	Cu2247	Fe2599
Avg	**464.**	**4800.**	**4690.**	**4990.**	**4790.**	**481.**	**4930.**	**484.**	**4930.**	**5120.**	**4920.**	**5080.**
Stddev	2.	46.	15.	18.	19.	2.	5.	1.	6.	7.	23.	16.
%RSD	.530	.965	.327	.367	.403	.419	.100	.212	.126	.128	.462	.323
Check ?	None	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Mg2790	Mn2593	Mo2045	Ni2216	Pb2169	Sb2068	Se2062	Tl1908	V_2908	Zn2062
Avg	**4620.**	**4790.**	**5040.**	**5020.**	**4730.**	**4980.**	**5000.**	**4940.**	**4940.**	**4980.**
Stddev	51.	24.	15.	10.	27.	8.	18.	17.	25.	9.
%RSD	1.10	.490	.298	.205	.576	.165	.351	.352	.501	.175
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value										
Range										

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**213080.**	**1515600.**	**295470.**
Stddev	867.	4689.	495.
%RSD	.40690	.30938	.16738

Sample Name: ccv2 Acquired: 07/28/2020 12:38:21 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Cd2288	Co2286	Cr2055	Cr2677	Cu2230
Avg	**47.8**	**488.**	**492.**	**488.**	**48.8**	**458.**	**48.1**	**49.3**	**506.**	**527.**	**506.**	**487.**
Stddev	1.3	1.	4.	2.	.3	2.	.1	.3	2.	1.	4.	3.
%RSD	2.69	.137	.772	.310	.528	.417	.277	.572	.317	.262	.824	.588
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	Fe2599	Mg2802	Mn2576	Mo2020	Mo2045	Ni2216	Ni2316	Pb2169	Pb2203	Sb2175	Se1960	Tl1908
Avg	**525.**	**499.**	**495.**	**495.**	**516.**	**520.**	**506.**	**474.**	**487.**	**499.**	**497.**	**491.**
Stddev	1.	4.	4.	2.	2.	1.	2.	4.	2.	4.	5.	3.
%RSD	.120	.876	.782	.327	.311	.157	.424	.823	.401	.892	.913	.636
Check ?	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass	Chk Pass
Value												
Range												

Elem	V_2924	Zn2062	Zn2138
Avg	**509.**	**509.**	**489.**
Stddev	3.	1.	1.
%RSD	.679	.194	.243
Check ?	Chk Pass	Chk Pass	Chk Pass
Value			
Range			

Sample Name: ccv2 Acquired: 07/28/2020 12:38:21 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**218250.**	**1550400.**	**297800.**
Stddev	1118.	8493.	766.
%RSD	.51209	.54781	.25737

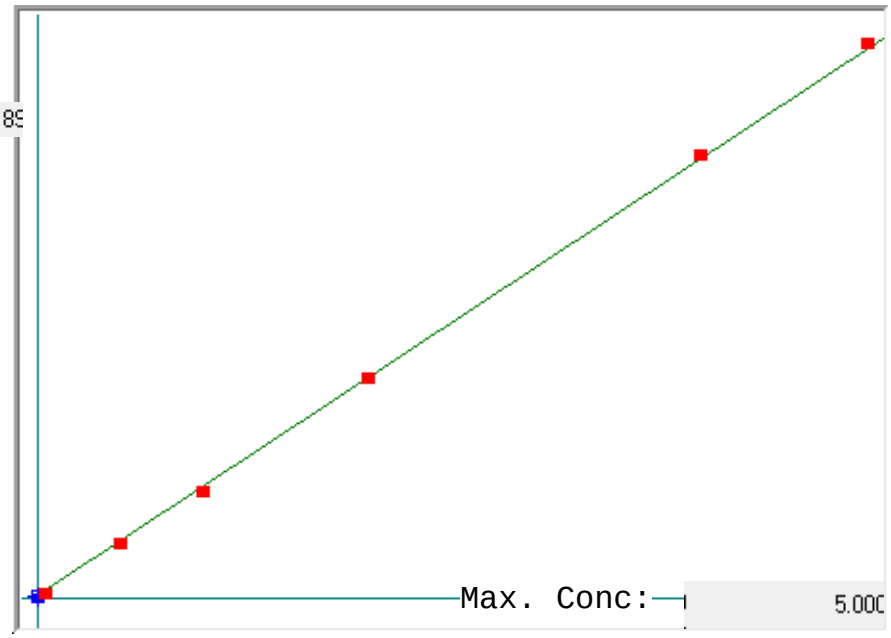
Sample Name: ccb Acquired: 07/28/2020 12:44:13 Type: QC
Method: DOD Calibration Updated 060614(v3975) Mode: CONC Corr. Factor: 1.000000
User: NAH ICAP6500: PrepBatch: Post Digestion dilution: 1
Comment:

Elem	Ag3280	Al1670	As1937	Ba2335	Be3130	Ca3933	Cd2265	Co2286	Cr2677	Cu2230	Fe2599	Mg2802
Avg	**-.282**	**-.201**	**-.182**	**-.005**	**-.038**	**-2.30**	**-.045**	**-.026**	**.304**	**-.332**	**-.847**	**-41.6**
Stddev	1.02	.853	3.38	.483	.028	.08	.284	.162	.607	.548	2.42	.1
%RSD	362.	424.	1860.	10500.	72.5	3.60	624.	623.	200.	165.	286.	.121
Check ?	None	None	None	None	None	None	None	None	None	None	None	None
Value												
Range												

Elem	Mn2576	Mo2020	Ni2316	Pb2203	Sb2175	Se1960	Tl1908	V_2924	Zn2138
Avg	**-.315**	**1.15**	**-.228**	**-2.46**	**-2.23**	**-2.96**	**2.57**	**-.339**	**-.751**
Stddev	.113	.38	.078	1.06	2.16	3.55	1.74	.232	.102
%RSD	36.0	32.7	34.1	43.1	96.7	120.	68.0	68.6	13.6
Check ?	None	None	None	None	None	None	None	None	None
Value									
Range									

Int. Std.	Y_2243	Y_3242	Y_3710
Avg	**225570.**	**1600300.**	**307020.**
Stddev	509.	3852.	2273.
%RSD	.22576	.24069	.74043

Hg WATER



A= 0.0000e+000

B= 1.2985e-004

C= -2.2474e-002

Rho= 0.9997737

Accept= Accepted

Accepted Date=

07/29/20 08:44

Std ID	Conc.	Calc.	Dev.	Mean	SD or %RSD	Rep 1	Rep 2	Rep 3	Rep 4	Rep 5
CALIBRATION BLANK	0.000	0.001	0.001	178	7.886	170	171	184	188	
0.05	0.050	0.046	-0.004	528	3.6 %	502	520	539	553	
0.5	0.500	0.499	-0.001	4019	2.6 %	3880	3966	4071	4161	
1.0	1.000	0.979	-0.021	7712	2.2 %	7492	7627	7774	7956	
2.0	2.000	2.014	0.014	15687	2.1 %	15217	15578	15859	16094	
4.0	4.000	4.054	0.054	31398	2.6 %	30226	31076	31893	32400	
5.0	5.000	5.066	0.066	39188	1.8 %	38190	38953	39509	40102	

072920w

Method: Hg WATER Operator: Admin Date of Analysis: 29 Jul 2020 07:14:14

Sample ID	Date	Element	Units	Extended ID	Mean
CALIBRATION BLANK	29 Jul 2020 08:21:45	Hg			[ ] 178.250
0.05	29 Jul 2020 08:24:55	Hg			[ ] 528.500
0.5	29 Jul 2020 08:28:06	Hg			[ ] 4019.500
1.0	29 Jul 2020 08:31:18	Hg			[ ] 7712.250
2.0	29 Jul 2020 08:34:30	Hg			[ ] 15687.000
4.0	29 Jul 2020 08:37:40	Hg			[ ] 31398.750
5.0	29 Jul 2020 08:40:51	Hg			[ ] 39188.500
ICV	29 Jul 2020 08:44:01	Hg			97.2% 2.917
ICB	29 Jul 2020 08:50:21	Hg			-0.004
450880lcsw 77412	29 Jul 2020 08:53:31	Hg			2.001
450879mbw 77412	29 Jul 2020 08:59:50	Hg			0.006
444185	29 Jul 2020 09:02:59	Hg			0.017
444187	29 Jul 2020 09:06:09	Hg			0.012
444189	29 Jul 2020 09:09:18	Hg			0.022
444321	29 Jul 2020 09:12:28	Hg			0.001
450881msw 444185	29 Jul 2020 09:15:39	Hg			2.025
lcsw	29 Jul 2020 09:18:49	Hg			2.051
CCV	29 Jul 2020 09:25:10	Hg			100.7% 3.020
CCB	29 Jul 2020 09:31:30	Hg			0.001
mbw	29 Jul 2020 09:34:39	Hg			0.007
449215	29 Jul 2020 09:37:50	Hg			0.005
449216	29 Jul 2020 09:41:02	Hg			0.028
449217	29 Jul 2020 09:44:12	Hg			0.002
449218	29 Jul 2020 09:47:22	Hg			0.006
450895dup 449218	29 Jul 2020 09:50:32	Hg			0.003
449219	29 Jul 2020 09:53:42	Hg			0.024
449220	29 Jul 2020 09:56:51	Hg			0.071
448843	29 Jul 2020 10:00:01	Hg			0.009
450890dup 448843	29 Jul 2020 10:03:11	Hg			0.010
CCV	29 Jul 2020 10:06:22	Hg			106.4% 3.193
CCB	29 Jul 2020 10:12:41	Hg			0.006
450344	29 Jul 2020 10:15:51	Hg			0.013
450896msw 449218	29 Jul 2020 10:19:02	Hg			2.117
~~450897msdw 449218~~	~~29 Jul 2020 10:22:12~~	~~Hg~~			~~-0.022 [ ]~~
450897msdw 449218	29 Jul 2020 10:23:18	Hg			2.134
~~450891msw 448843~~	~~29 Jul 2020 10:26:29~~	~~Hg~~			~~-0.022 [ ]~~
450891msw 448843	29 Jul 2020 10:27:26	Hg			2.111
450842msdw 448843	29 Jul 2020 10:30:38	Hg			2.141
449501	29 Jul 2020 10:36:58	Hg			0.004
449514	29 Jul 2020 10:40:08	Hg			-0.025 [ ]
451083	29 Jul 2020 10:43:18	Hg			0.003
447988	29 Jul 2020 10:46:28	Hg			-0.003 [ ]
CCV	29 Jul 2020 10:49:38	Hg			106.2% 3.187
CCB	29 Jul 2020 10:55:57	Hg			0.004
449295	29 Jul 2020 10:59:07	Hg			-0.007 [ ]
450871msw 449501	29 Jul 2020 11:02:17	Hg			2.005
450872msdw 449501	29 Jul 2020 11:05:27	Hg			2.021
450886msw 447988	29 Jul 2020 11:08:37	Hg			1.994
453225msdw 447988	29 Jul 2020 11:11:48	Hg			1.951
451869msw 449295	29 Jul 2020 11:15:00	Hg			1.493
451870msdw 449295	29 Jul 2020 11:18:11	Hg			1.474
CCV	29 Jul 2020 11:21:21	Hg			102.9% 3.087
CCB	29 Jul 2020 11:27:41	Hg			-0.001

072920w detailed

Method: Hg WATER Operator: Admin Date of Analysis: 29 Jul 2020 07:14:14

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
CALIBRATION BLANK - 1	29 Jul 2020 08:21:45	Hg			170	-
CALIBRATION BLANK - 2	29 Jul 2020 08:21:45	Hg			171	-
CALIBRATION BLANK - 3	29 Jul 2020 08:21:45	Hg			184	-
CALIBRATION BLANK - 4	29 Jul 2020 08:21:45	Hg			188	-
0.05 - 1	29 Jul 2020 08:24:55	Hg			502	-
0.05 - 2	29 Jul 2020 08:24:55	Hg			520	-
0.05 - 3	29 Jul 2020 08:24:55	Hg			539	-
0.05 - 4	29 Jul 2020 08:24:55	Hg			553	-
0.5 - 1	29 Jul 2020 08:28:06	Hg			3880	-
0.5 - 2	29 Jul 2020 08:28:06	Hg			3966	-
0.5 - 3	29 Jul 2020 08:28:06	Hg			4071	-
0.5 - 4	29 Jul 2020 08:28:06	Hg			4161	-
1.0 - 1	29 Jul 2020 08:31:18	Hg			7492	-
1.0 - 2	29 Jul 2020 08:31:18	Hg			7627	-
1.0 - 3	29 Jul 2020 08:31:18	Hg			7774	-
1.0 - 4	29 Jul 2020 08:31:18	Hg			7956	-
2.0 - 1	29 Jul 2020 08:34:30	Hg			15217	-
2.0 - 2	29 Jul 2020 08:34:30	Hg			15578	-
2.0 - 3	29 Jul 2020 08:34:30	Hg			15859	-
2.0 - 4	29 Jul 2020 08:34:30	Hg			16094	-
4.0 - 1	29 Jul 2020 08:37:40	Hg			30226	-
4.0 - 2	29 Jul 2020 08:37:40	Hg			31076	-
4.0 - 3	29 Jul 2020 08:37:40	Hg			31893	-
4.0 - 4	29 Jul 2020 08:37:40	Hg			32400	-
5.0 - 1	29 Jul 2020 08:40:51	Hg			38190	-
5.0 - 2	29 Jul 2020 08:40:51	Hg			38953	-
5.0 - 3	29 Jul 2020 08:40:51	Hg			39509	-
5.0 - 4	29 Jul 2020 08:40:51	Hg			40102	-
ICV - 1	29 Jul 2020 08:44:01	Hg			22025	(L)94.6% 2.837
ICV - 2	29 Jul 2020 08:44:01	Hg			22443	96.4% 2.892
ICV - 3	29 Jul 2020 08:44:01	Hg			22796	97.9% 2.937
ICV - 4	29 Jul 2020 08:44:01	Hg			23284	100.0% 3.001
ICB - 1	29 Jul 2020 08:50:21	Hg			133	-0.005
ICB - 2	29 Jul 2020 08:50:21	Hg			135	-0.005
ICB - 3	29 Jul 2020 08:50:21	Hg			142	-0.004
ICB - 4	29 Jul 2020 08:50:21	Hg			147	-0.003
450880lcsw 77412 - 1	29 Jul 2020 08:53:31	Hg			14997	1.925
450880lcsw 77412 - 2	29 Jul 2020 08:53:31	Hg			15409	1.978
450880lcsw 77412 - 3	29 Jul 2020 08:53:31	Hg			15815	2.031
450880lcsw 77412 - 4	29 Jul 2020 08:53:31	Hg			16105	2.069
450879mbw 77412 - 1	29 Jul 2020 08:59:50	Hg			219	0.006
450879mbw 77412 - 2	29 Jul 2020 08:59:50	Hg			220	0.006
450879mbw 77412 - 3	29 Jul 2020 08:59:50	Hg			227	0.007
450879mbw 77412 - 4	29 Jul 2020 08:59:50	Hg			224	0.007
444185 - 1	29 Jul 2020 09:02:59	Hg			293	0.016
444185 - 2	29 Jul 2020 09:02:59	Hg			295	0.016
444185 - 3	29 Jul 2020 09:02:59	Hg			301	0.017
444185 - 4	29 Jul 2020 09:02:59	Hg			316	0.019
444187 - 1	29 Jul 2020 09:06:09	Hg			250	0.010
444187 - 2	29 Jul 2020 09:06:09	Hg			266	0.012
444187 - 3	29 Jul 2020 09:06:09	Hg			262	0.012
444187 - 4	29 Jul 2020 09:06:09	Hg			274	0.013
444189 - 1	29 Jul 2020 09:09:18	Hg			335	0.021
444189 - 2	29 Jul 2020 09:09:18	Hg			335	0.021
444189 - 3	29 Jul 2020 09:09:18	Hg			343	0.022
444189 - 4	29 Jul 2020 09:09:18	Hg			344	0.022
444321 - 1	29 Jul 2020 09:12:28	Hg			185	0.002
444321 - 2	29 Jul 2020 09:12:28	Hg			179	0.001
444321 - 3	29 Jul 2020 09:12:28	Hg			191	0.002
444321 - 4	29 Jul 2020 09:12:28	Hg			183	0.001
450881msw 444185 - 1	29 Jul 2020 09:15:39	Hg			15270	1.960
450881msw 444185 - 2	29 Jul 2020 09:15:39	Hg			15620	2.006
450881msw 444185 - 3	29 Jul 2020 09:15:39	Hg			15990	2.054
450881msw 444185 - 4	29 Jul 2020 09:15:39	Hg			16182	2.079
lcsw - 1	29 Jul 2020 09:18:49	Hg			15468	1.986
lcsw - 2	29 Jul 2020 09:18:49	Hg			15776	2.026
lcsw - 3	29 Jul 2020 09:18:49	Hg			16178	2.078
lcsw - 4	29 Jul 2020 09:18:49	Hg			16442	2.112
CCV - 1	29 Jul 2020 09:25:10	Hg			22842	98.1% 2.943
CCV - 2	29 Jul 2020 09:25:10	Hg			23297	100.1% 3.003
CCV - 3	29 Jul 2020 09:25:10	Hg			23659	101.7% 3.050
CCV - 4	29 Jul 2020 09:25:10	Hg			23937	102.9% 3.086
CCB - 1	29 Jul 2020 09:31:30	Hg			177	0.001
CCB - 2	29 Jul 2020 09:31:30	Hg			179	0.001
CCB - 3	29 Jul 2020 09:31:30	Hg			184	0.001
CCB - 4	29 Jul 2020 09:31:30	Hg			183	0.001
mbw - 1	29 Jul 2020 09:34:39	Hg			236	0.008
mbw - 2	29 Jul 2020 09:34:39	Hg			236	0.008
mbw - 3	29 Jul 2020 09:34:39	Hg			226	0.007

072920w detailed

Method: Hg WATER Operator: Admin Date of Analysis: 29 Jul 2020 07:14:14

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
mbw - 4	29 Jul 2020 09:34:39	Hg			224	0.007
449215 - 1	29 Jul 2020 09:37:50	Hg			204	0.004
449215 - 2	29 Jul 2020 09:37:50	Hg			209	0.005
449215 - 3	29 Jul 2020 09:37:50	Hg			214	0.005
449215 - 4	29 Jul 2020 09:37:50	Hg			210	0.005
449216 - 1	29 Jul 2020 09:41:02	Hg			376	0.026
449216 - 2	29 Jul 2020 09:41:02	Hg			390	0.028
449216 - 3	29 Jul 2020 09:41:02	Hg			393	0.029
449216 - 4	29 Jul 2020 09:41:02	Hg			389	0.028
449217 - 1	29 Jul 2020 09:44:12	Hg			191	0.002
449217 - 2	29 Jul 2020 09:44:12	Hg			196	0.003
449217 - 3	29 Jul 2020 09:44:12	Hg			197	0.003
449217 - 4	29 Jul 2020 09:44:12	Hg			183	0.001
449218 - 1	29 Jul 2020 09:47:22	Hg			214	0.005
449218 - 2	29 Jul 2020 09:47:22	Hg			220	0.006
449218 - 3	29 Jul 2020 09:47:22	Hg			220	0.006
449218 - 4	29 Jul 2020 09:47:22	Hg			227	0.007
450895dup 449218 - 1	29 Jul 2020 09:50:32	Hg			193	0.003
450895dup 449218 - 2	29 Jul 2020 09:50:32	Hg			193	0.003
450895dup 449218 - 3	29 Jul 2020 09:50:32	Hg			197	0.003
450895dup 449218 - 4	29 Jul 2020 09:50:32	Hg			199	0.003
449219 - 1	29 Jul 2020 09:53:42	Hg			359	0.024
449219 - 2	29 Jul 2020 09:53:42	Hg			358	0.024
449219 - 3	29 Jul 2020 09:53:42	Hg			359	0.024
449219 - 4	29 Jul 2020 09:53:42	Hg			361	0.024
449220 - 1	29 Jul 2020 09:56:51	Hg			706	0.069
449220 - 2	29 Jul 2020 09:56:51	Hg			716	0.070
449220 - 3	29 Jul 2020 09:56:51	Hg			732	0.073
449220 - 4	29 Jul 2020 09:56:51	Hg			738	0.073
448843 - 1	29 Jul 2020 10:00:01	Hg			239	0.009
448843 - 2	29 Jul 2020 10:00:01	Hg			243	0.009
448843 - 3	29 Jul 2020 10:00:01	Hg			240	0.009
448843 - 4	29 Jul 2020 10:00:01	Hg			242	0.009
450890dup 448843 - 1	29 Jul 2020 10:03:11	Hg			237	0.008
450890dup 448843 - 2	29 Jul 2020 10:03:11	Hg			245	0.009
450890dup 448843 - 3	29 Jul 2020 10:03:11	Hg			252	0.010
450890dup 448843 - 4	29 Jul 2020 10:03:11	Hg			254	0.011
CCV - 1	29 Jul 2020 10:06:22	Hg			23894	102.7% 3.080
CCV - 2	29 Jul 2020 10:06:22	Hg			24494	105.3% 3.158
CCV - 3	29 Jul 2020 10:06:22	Hg			25108	107.9% 3.238
CCV - 4	29 Jul 2020 10:06:22	Hg			25550	109.8% 3.295
CCB - 1	29 Jul 2020 10:12:41	Hg			214	0.005
CCB - 2	29 Jul 2020 10:12:41	Hg			212	0.005
CCB - 3	29 Jul 2020 10:12:41	Hg			221	0.006
CCB - 4	29 Jul 2020 10:12:41	Hg			221	0.006
450344 - 1	29 Jul 2020 10:15:51	Hg			258	0.011
450344 - 2	29 Jul 2020 10:15:51	Hg			262	0.012
450344 - 3	29 Jul 2020 10:15:51	Hg			276	0.013
450344 - 4	29 Jul 2020 10:15:51	Hg			285	0.015
450896msw 449218 - 1	29 Jul 2020 10:19:02	Hg			15778	2.026
450896msw 449218 - 2	29 Jul 2020 10:19:02	Hg			16265	2.089
450896msw 449218 - 3	29 Jul 2020 10:19:02	Hg			16795	2.158
450896msw 449218 - 4	29 Jul 2020 10:19:02	Hg			17065	2.193
~~450897msdw 449218 - 1~~	~~29 Jul 2020 10:22:12~~	~~Hg~~			~~0~~	~~-0.022 [ ]~~
450897msdw 449218 - 1	29 Jul 2020 10:23:18	Hg			16158	2.076
450897msdw 449218 - 2	29 Jul 2020 10:23:18	Hg			16504	2.120
450897msdw 449218 - 3	29 Jul 2020 10:23:18	Hg			16760	2.154
450897msdw 449218 - 4	29 Jul 2020 10:23:18	Hg			17013	2.187
~~450891msw 448843 - 1~~	~~29 Jul 2020 10:26:29~~	~~Hg~~			~~0~~	~~-0.022 [ ]~~
450891msw 448843 - 1	29 Jul 2020 10:27:26	Hg			15959	2.050
450891msw 448843 - 2	29 Jul 2020 10:27:26	Hg			16280	2.091
450891msw 448843 - 3	29 Jul 2020 10:27:26	Hg			16604	2.133
450891msw 448843 - 4	29 Jul 2020 10:27:26	Hg			16892	2.171
450842msdw 448843 - 1	29 Jul 2020 10:30:38	Hg			16166	2.077
450842msdw 448843 - 2	29 Jul 2020 10:30:38	Hg			16532	2.124
450842msdw 448843 - 3	29 Jul 2020 10:30:38	Hg			16863	2.167
450842msdw 448843 - 4	29 Jul 2020 10:30:38	Hg			17100	2.198
449501 - 1	29 Jul 2020 10:36:58	Hg			199	0.003
449501 - 2	29 Jul 2020 10:36:58	Hg			206	0.004
449501 - 3	29 Jul 2020 10:36:58	Hg			206	0.004
449501 - 4	29 Jul 2020 10:36:58	Hg			218	0.006
449514 - 1	29 Jul 2020 10:40:08	Hg			-29	-0.026 [ ]
449514 - 2	29 Jul 2020 10:40:08	Hg			-25	-0.026 [ ]
449514 - 3	29 Jul 2020 10:40:08	Hg			-13	-0.024 [ ]
449514 - 4	29 Jul 2020 10:40:08	Hg			-25	-0.026 [ ]
451083 - 1	29 Jul 2020 10:43:18	Hg			189	0.002
451083 - 2	29 Jul 2020 10:43:18	Hg			193	0.003
451083 - 3	29 Jul 2020 10:43:18	Hg			204	0.004
451083 - 4	29 Jul 2020 10:43:18	Hg			201	0.004

072920w detailed

Method: Hg WATER Operator: Admin Date of Analysis: 29 Jul 2020 07:14:14

Sample ID	Date	Element	Units	Extended ID	µ Abs.	Conc.
447988 - 1	29 Jul 2020 10:46:28	Hg			139	-0.004 [ ]
447988 - 2	29 Jul 2020 10:46:28	Hg			140	-0.004 [ ]
447988 - 3	29 Jul 2020 10:46:28	Hg			153	-0.003 [ ]
447988 - 4	29 Jul 2020 10:46:28	Hg			153	-0.003 [ ]
CCV - 1	29 Jul 2020 10:49:38	Hg			23889	102.6% 3.079
CCV - 2	29 Jul 2020 10:49:38	Hg			24416	104.9% 3.148
CCV - 3	29 Jul 2020 10:49:38	Hg			25062	107.7% 3.232
CCV - 4	29 Jul 2020 10:49:38	Hg			25498	109.6% 3.288
CCB - 1	29 Jul 2020 10:55:57	Hg			200	0.003
CCB - 2	29 Jul 2020 10:55:57	Hg			199	0.003
CCB - 3	29 Jul 2020 10:55:57	Hg			203	0.004
CCB - 4	29 Jul 2020 10:55:57	Hg			214	0.005
449295 - 1	29 Jul 2020 10:59:07	Hg			109	-0.008 [ ]
449295 - 2	29 Jul 2020 10:59:07	Hg			115	-0.008 [ ]
449295 - 3	29 Jul 2020 10:59:07	Hg			116	-0.007 [ ]
449295 - 4	29 Jul 2020 10:59:07	Hg			126	-0.006 [ ]
450871msw 449501 - 1	29 Jul 2020 11:02:17	Hg			15013	1.927
450871msw 449501 - 2	29 Jul 2020 11:02:17	Hg			15382	1.975
450871msw 449501 - 3	29 Jul 2020 11:02:17	Hg			15844	2.035
450871msw 449501 - 4	29 Jul 2020 11:02:17	Hg			16211	2.082
450872msdw 449501 - 1	29 Jul 2020 11:05:27	Hg			15258	1.959
450872msdw 449501 - 2	29 Jul 2020 11:05:27	Hg			15592	2.002
450872msdw 449501 - 3	29 Jul 2020 11:05:27	Hg			15881	2.040
450872msdw 449501 - 4	29 Jul 2020 11:05:27	Hg			16219	2.083
450886msw 447988 - 1	29 Jul 2020 11:08:37	Hg			15120	1.941
450886msw 447988 - 2	29 Jul 2020 11:08:37	Hg			15457	1.985
450886msw 447988 - 3	29 Jul 2020 11:08:37	Hg			15680	2.013
450886msw 447988 - 4	29 Jul 2020 11:08:37	Hg			15873	2.039
453225msdw 447988 - 1	29 Jul 2020 11:11:48	Hg			14723	1.889
453225msdw 447988 - 2	29 Jul 2020 11:11:48	Hg			14972	1.922
453225msdw 447988 - 3	29 Jul 2020 11:11:48	Hg			15343	1.970
453225msdw 447988 - 4	29 Jul 2020 11:11:48	Hg			15742	2.022
451869msw 449295 - 1	29 Jul 2020 11:15:00	Hg			11238	1.437
451869msw 449295 - 2	29 Jul 2020 11:15:00	Hg			11536	1.475
451869msw 449295 - 3	29 Jul 2020 11:15:00	Hg			11811	1.511
451869msw 449295 - 4	29 Jul 2020 11:15:00	Hg			12109	1.550
451870msdw 449295 - 1	29 Jul 2020 11:18:11	Hg			11068	1.415
451870msdw 449295 - 2	29 Jul 2020 11:18:11	Hg			11375	1.455
451870msdw 449295 - 3	29 Jul 2020 11:18:11	Hg			11691	1.496
451870msdw 449295 - 4	29 Jul 2020 11:18:11	Hg			11981	1.533
CCV - 1	29 Jul 2020 11:21:21	Hg			23074	99.1% 2.974
CCV - 2	29 Jul 2020 11:21:21	Hg			23726	101.9% 3.058
CCV - 3	29 Jul 2020 11:21:21	Hg			24290	104.4% 3.131
CCV - 4	29 Jul 2020 11:21:21	Hg			24689	106.1% 3.183
CCB - 1	29 Jul 2020 11:27:41	Hg			155	-0.002
CCB - 2	29 Jul 2020 11:27:41	Hg			156	-0.002
CCB - 3	29 Jul 2020 11:27:41	Hg			166	-0.001
CCB - 4	29 Jul 2020 11:27:41	Hg			183	0.001

METALS
LOGBOOK
DOCUMENTS

MICP WATER QSM Analytical Run
173504 on 08/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	456887								MICP WATER QSM				
					ICV					0			
	456888								MICP WATER QSM				
					ICVLL					0			
	456889								MICP WATER QSM				
					ICB					0			
	456890								MICP WATER QSM				
					ICSA					0			
	456891								MICP WATER QSM				
					ICSAB					0			
	456892								MICP WATER QSM				
					ICVLL					0			
	450808								ICP TOTAL QSM 5.0				
					LCSW					77404			
	450807								ICP TOTAL QSM 5.0				
					MBW					77404			
155089	450344		07/23/2020	1500			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP TOTAL QSM 5.0		GW	**4**	
		IDW-48/49								77404			
	456893								ICP TOTAL QSM 5.0				
					L	450344				0			
	450809		07/23/2020	1500					ICP TOTAL QSM 5.0				
		IDW-48/49			DUP	450344				77404			
	450810		07/23/2020	1500					ICP TOTAL QSM 5.0				
		IDW-48/49			MSW	450344				77404			
	450811		07/23/2020	1500					ICP TOTAL QSM 5.0				
		IDW-48/49			MSDW	450810				77404			
	456894								ICP TOTAL QSM 5.0				
					PDSW	450344				0			
	456895								MICP WATER QSM				
					CCV1					0			
	456896								MICP WATER QSM				
					CCV2					0			
	456897								MICP WATER QSM				
					CCB					0			

17 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
173505 on 08/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	455435								MICP WATER QSM K&Na				
					ICV					0			
	455436								MICP WATER QSM K&Na				
					ICVLL					0			
	455437								MICP WATER QSM K&Na				
					ICB					0			
	455438								MICP WATER QSM K&Na				
					MRL					0			
	455439								MICP WATER QSM K&Na				
					ICSA					0			
	455440								MICP WATER QSM K&Na				
					ICSAB					0			
	455441								MICP WATER QSM K&Na				
					CCV					0			
	455442								MICP WATER QSM K&Na				
					CCB					0			
	450808								ICP K TOTAL QSM 5.0				
					LCSW					77404			
	450808								ICP NA TOTAL QSM 5.0				
					LCSW					77404			
	450807								ICP K TOTAL QSM 5.0				
					MBW					77404			
	450807								ICP NA TOTAL QSM 5.0				
					MBW					77404			
	455443								MICP WATER QSM K&Na				
					CCV					0			
	455444								MICP WATER QSM K&Na				
					CCB					0			
155089	450344		07/23/2020	1500			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP K TOTAL QSM 5.0		GW	**4**	
		IDW-48/49								77404			
155089	450344		07/23/2020	1500			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ICP NA TOTAL QSM 5.0		GW	**4**	
		IDW-48/49								77404			
	455445								ICP K TOTAL QSM 5.0				
					L	450344				0			
	455445								ICP NA TOTAL QSM 5.0				
					L	450344				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MICP WATER QSM K&Na Analytical Run
173505 on 08/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	450809		07/23/2020 1500					ICP K TOTAL QSM 5.0				
		IDW-48/49		DUP	450344				77404			
	450809		07/23/2020 1500					ICP NA TOTAL QSM 5.0				
		IDW-48/49		DUP	450344				77404			
	450810		07/23/2020 1500					ICP K TOTAL QSM 5.0				
		IDW-48/49		MSW	450344				77404			
	450810		07/23/2020 1500					ICP NA TOTAL QSM 5.0				
		IDW-48/49		MSW	450344				77404			
	450811		07/23/2020 1500					ICP K TOTAL QSM 5.0				
		IDW-48/49		MSDW	450810				77404			
	450811		07/23/2020 1500					ICP NA TOTAL QSM 5.0				
		IDW-48/49		MSDW	450810				77404			
	455446							ICP K TOTAL QSM 5.0				
				PDSW	450344				0			
	455446							ICP NA TOTAL QSM 5.0				
				PDSW	450344				0			
	455447							MICP WATER QSM K&Na				
				CCV					0			
	455448							MICP WATER QSM K&Na				
				CCB					0			

28 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

MERCURY QSM 5.0 Analytical Run
173576 on 08/11/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	453552								MERCURY QSM 5.0				
					ICV					0			
	453553								MERCURY QSM 5.0				
					ICB					0			
	450889								MERCURY TOTAL QSM 5.0				
					LCSW					77414			
	453554								MERCURY QSM 5.0				
					CCV					0			
	453555								MERCURY QSM 5.0				
					CCB					0			
	450888								MERCURY TOTAL QSM 5.0				
					MBW					77414			
154987	448843		07/21/2020	1410			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-54	MERCURY TOTAL QSM 5.0		GW	**4**	
		IDW-54								77414			
	450890		07/21/2020	1410					MERCURY TOTAL QSM 5.0				
		IDW-54			DUP	448843				77414			
	453556								MERCURY QSM 5.0				
					CCV					0			
	453557								MERCURY QSM 5.0				
					CCB					0			
155089	450344		07/23/2020	1500			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	MERCURY TOTAL QSM 5.0		GW	**4**	
		IDW-48/49								77414			
	450891		07/21/2020	1410					MERCURY TOTAL QSM 5.0				
		IDW-54			MSW	448843				77414			
	450892		07/21/2020	1410					MERCURY TOTAL QSM 5.0				
		IDW-54			MSDW	450891				77414			
	453558								MERCURY QSM 5.0				
					CCV					0			
	453559								MERCURY QSM 5.0				
					CCB					0			

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 08/11/2020

Prep Batch **77,404** Date Prepped: 07/27/2020 Prepped By NAH

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	450807	MBW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	450807	MBW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	450807	MBW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
	450808	LCSW		ICP K TOTAL QSM 5.0	LIQUID	50		50.0		
	450808	LCSW		ICP NA TOTAL QSM 5.0	LIQUID	50		50.0		
	450808	LCSW		ICP TOTAL QSM 5.0	LIQUID	50		50.0		
155089	450344			ICP TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	450344			ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	450344			ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0	4	
	450809	DUP	450344	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	450809	DUP	450344	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	450809	DUP	450344	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	450810	MSW	450344	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	450810	MSW	450344	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		
	450810	MSW	450344	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		
	450811	MSDW	450810	ICP K TOTAL QSM 5.0	GROUND WATER	50		50.0		
	450811	MSDW	450810	ICP NA TOTAL QSM 5.0	GROUND WATER	50		50.0		

PREP WORKSHEET
on 08/11/2020

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	450811	MSDW	450810	ICP TOTAL QSM 5.0	GROUND WATER	50		50.0		

Notes:_____

PREP WORKSHEET
on 08/11/2020

Prep Batch **77,414** Date Prepped: 07/28/2020 Prepped By MDS

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	450888	MBW		MERCURY TOTAL QSM	LIQUID	25		25.0		
	450889	LCSW		MERCURY TOTAL QSM	LIQUID	25		25.0		
154987	448843			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
155089	450344			MERCURY TOTAL QSM	GROUND WATER	25		25.0	4	
	450890	DUP	448843	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	450891	MSW	448843	MERCURY TOTAL QSM	GROUND WATER	25		25.0		
	450892	MSDW	450891	MERCURY TOTAL QSM	GROUND WATER	25		25.0		

Notes:_____

Metals Digestion Bench Sheet

Program: QSM
*Matrix: Liquid

Prep Methods:
200.2= ICP/GFAA Liquids
3010= ICP Liquids
3020= GFAA Liquids
3005= Sb Liquids
3050= ICP/GFAA Solids
7060/7740= GFAA, As & Se Liquids

Prep Batch #:	77404
Prep Method:	200.2
Analyst:	NAH
Date:	7/27/2020
Start Time:	9:20

Prep Analyst: NAH
Balance ID:
End Date: 7/27/2020
End Time: 20:08
Digestion Tube Lot #: 3375
Block Used: D2
Cell Position for Temp. Check: 60
Initial-DigestionTemp (ºC): 93
Final-Digestion Temp (ºC): 95

Reagent:	Ref. #
Nitric Acid:	AB.694
Hydrochloric Acid:	AB.689
Hydrogen Peroxide:	

Sample ID			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
450807	(MB)			50.0	50
450808	(LCS)			50.0	50
450344				50.0	50
	Comments:				50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
					50
450809	(DUP)			50.0	50
450810	(MS)	Parent Sample		50.0	50
450811	(MSD)	450344		50.0	50
	(DUP)				50
	(MS)	Parent Sample			50
	(MSD)				50
Leave >>	(DUP) if applicable				50
blank	(MS)	Parent Sample			50
if N/A	(MSD)				50

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

MS/MSD Spike Amount (ml)	Spike Ref. #
0.2	M14358
0.5	M14218
0.5	M14369
0.1	M14129

LCS Spike Amount (ml)	Spike Ref. #
0.2	M14358
0.5	M14218
0.5	M14369
0.1	M14129

Reviewed x

08/11/202012:17

FMT12-03

Mercury Digestion Bench Sheet

(Prep Methods 7470A & 7471A)

CCV ID: M14406
ICV/LCSW ID: M14407

*Matrix: GW
Balance ID:

Prep Batch #:	77414
Prep Method:	7470a
Analyst:	MDS
Date:	07/28/2020
Start Time:	12:30

7470A= Hg Liquids
7471A= Hg Solids

End Date: 07/28/2020
End Time: 14:30

Digestion Tube Lot #: 7320027
Block Used: B
Cell Position for Temp. Check: D-4
Initial-DigestionTemp (ºC): 91.3
Final-Digestion Temp (ºC): 91.4
Additional KMnO4 added (ml):
Aqua Regia added (ml)
Calibration Stds: M14405

Reagent:	Ref. #
HNO3:	AB.693
H2SO4:	AB.690
NaCl/Hydrox.SO4:	M14411
KMnO4:	M14408
K2S2O8:	M14409
Aqua-Regia:	

	Sample			(Solids) Sample Weight (g)	(Liquids) Sample Volume (ml)	Final Volume (ml)
	450888	(MB)			25.0	25
	450889	(LCS)			25.0	25
	448843				25.0	25
	450344				25.0	25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
						25
	450890	(DUP)			25.0	25
	450891	(MS)	Parent Sample		25.0	25
	450892	(MSD)	448843		25.0	25
Leave >>		(DUP)				25
blank		(MS)	Parent Sample			25
		(MSD)				25
		(DUP)				25
		(MS)	Parent Sample			25
if N/A		(MSD)				25

MB=Method Blank, LCS=Laboratory Control Sample, DUP=Duplicate, MS=Matrix Spike & MSD=Matrix Spike Duplicate
*Matrix: Soil, Sludge, Waste, GW=Groundwater, WW=Wastewater, Tissue, TLCP, SPLP, ASTM or other.

A: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #
0.5	100ug/L	M14407

B: Spike Amount (ml)	Spike Conc. (ug/L)	Spike Ref. #

Reviewed By/Date:

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 7-28-2020	Data File: D0DATA05	Date of review: 8/10/2020
Cal Std ID: M19335 LIMS # : 179504	Analyst:	Reviewer: MDS	Approved? Yes / No

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Prep Batch Check

QC Parameters : 6010 / 200.7 / OSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r ≥ 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	Comments:
Prep Batch ID#: 77404 Dig. Meth. 200.7	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓	✓	✓	✓	mg > LOD | OK Sample results > 10X MB.
Spiked samples in batch:					
a) 450344 matrix = GW	✓	✓	✓	✓	MS, MSD Al, Cu, Fe
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#: ~	✓	✓	✓	✓	Cu, ~~Al~~, Mn
					~~8-10-2020~~
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

iCAP 6000 / 6500 Data Review Checklist	Analysis Date: 7/31/2020	Data File: NAK073120 v1270	Date of review: 8/4/2020
Cal Std ID: M14160 LIMS # : 173505	Analyst: MDS	Reviewer:	Approved? Yes / No

Is Audit Trail turned on or Manual Manipulations addressed? Yes / No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Prep Batch Check

QC Parameters : 6010 / 200.7 / QSM / Other	YES	NO	YES	NO	Comments:
1) Calibration linearity: r < 0.995 / r > 0.998	✓		✓		
2) ICV: 90-110% / 95-105%	✓		✓		
2) ICVLL: 70-130% / 80-120%	✓		✓		
3) ICB: < 3X IDL / <LOD / <LOQ	✓		✓		
4) ICSA: < ABS LOD	✓		✓		
5) ICSAB: 80-120%	✓		✓		
6) MRL: 70-130% / 80-120%	✓		✓		
7) MDL Check: >LOD					
8) CCV1/CCB1 (CCV: 90-110%)	✓		✓		
9) CCV2/CCB2 (CCB: < 3X IDL / <LOD / <LOQ)					
10) CCV3/CCB3					
11) CCV4/CCB4					
12) CCV5/CCB5					

Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID#: 77404 Dig. Meth. 200.2	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD or ≤ ½ RL	✓		✓		
Spiked samples in batch:					
a) 450344 matrix = GW	✓		✓		
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					
Prep Batch ID#: Dig. Meth.					
LCS - generated limits or project specific limits					
MB - <LOD or ≤ ½ RL					
Spiked samples in batch:					
a) matrix =					
b) matrix =					
c) matrix =					
PDS: ±15% / 20% / 25% Sample#:					

GFAA / FLAA / CVAA Data Review checklist | Method: 200.9 | 7000 series AA | 245.1 & 245.2 | 245.7 | 7470a / 7471a

Instrumentation:	THERMO M SERIES AA		CETAC Hg ANALYZER
Analysis Date: 7/29/2020	Data File: 072920W	Date Review: 7/30/2020	Analyte: Hg
Cal Std ID: M14405	LIMS #: 173576	Analyst: MDS	Reviewer:	Approved? Yes No

Is Audit Trail turned on or Manual Manipulations addressed? Yes No (If no, any manual manipulations must be initialed, dated, and reason(s) stated for change)

Calibration Parameters -	YES	NO	YES	NO	Comments:
1) Calibration linearity - r > 0.995	✓		✓		
2) ICV: 90-110% 95-105%	✓		✓		
2) ICVLL: 70-130% 80-120%					
3) ICB: <IDL / <LOD / <LOQ / <½ RL	✓		✓		
6) MRL: 70-130%					
7) CCV1/CCB1- (CCV: 90-110% / 80-120%)	✓		✓		
8) CCV2/CCB2 (CCB: <IDL / <LOD / <LOQ / <½ RL)					
9) CCV3/CCB3					
10) CCV4/CCB4					
11) CCV5/CCB5					
Preparation Batch Parameters	YES	NO	YES	NO	
Prep Batch ID# 77414 Dig. Meth. 7470a	✓		✓		
LCS - generated limits or project specific limits	✓		✓		
MB - <LOD / <2.2X LOD / ≤ ½RL	✓		✓		
Spiked samples in batch:					
a) 448843 matrix = WW	✓	✓	✓	✓	Dup invalid
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					
Prep Batch ID#:_____ Dig. Meth._____					
LCS - generated limits or project specific limits					
MB - <LOD / <2.2X LOD / ≤ ½RL					
Spiked samples in batch:					
a)_____ matrix = _____					
b)_____ matrix = _____					
c)_____ matrix = _____					
d)_____ matrix = _____					
e)_____ matrix = _____					
PDS: ±15% / 20% / 25% Sample#_____					
MSA Performed? Yes No					

CT Laboratories Instrument Run Log

Instrument ID: ICP 6000 (See Journal for Wavelength Check)

Date	Time Start/End	Analyst	Method	LIMS# or Sample #	Sequence I.D.	Cal. Std	Alt. Source	Pressure (kPa) Comments	Analysis Type Lot #	ICSA/ ICSAB
7/1/2020	0826 / 1034	MDS	NaK	172657, 172664	NaK070120 v1260	M141160	M14162 M14163	350	297109	M14173 M14164
7/1/2020	1107 / 1343	MDS	NaK	172657, 172664	NaK070120b v1261	M141160	M14162 M14163	350	297109	M14173 M14164
7/8/2020	0749 / 1236	MDS	NaK	172787, 172852 172836, 172874, 172860, 172795,	NaK070820 v1262	M141160	M14162 M14163	350	297109	M14173 M14164
7/8/2020	1246 / 1621	MDS	NaK	172852, 172855, 172783, 172859	NaK070820b v1263 v1264	M141160	M14162 M14163	350	297109	M14173 M14164
7/10/2020	1004 / 1312	MDS	NaK	172887, 172859, 172951, 172956	NaK071020 v1265 v1266	M141160	M14162 M14163	350	297109	M14173 M14164
7/16/2020	0908 / 1204	MDS	NaK	173106, 173084, 173086, 172977	NaK071620 v1267	M141160	M14162 M14163	350	297109	M14173 M14164
7/22/2020	0933 / 1718	MDS	NaK	173309, 173233, 173229, 173140, 173240 173226, 173227, 173231, 173303, 173301,	NaK072220 v1268	M141160	M14162 M14163	350	Global Metal 05-120819	M14173 M14164
7/23/2020	1033 / 7/24	MDS	PbV3(V3)	173318 173320 173316, 173317 173319 173313 173314 173315	Pbwipe072320	m141335	m14232 m14342	320	Global Metal 05-120819	m14173 m141164
7/24/2020	0707 / 1257	MDS	PbV4(V4)	173316 173320 173313 173314	Pbwipe072320	m141335	m14230 m14342	320	Global Metal 05-120219	m14173 m141164
7/27/2020	1322 / 1801	MDS	NaK	173512, 173403, 173516 173226, 173438, 173354, 173503, 173413	NaK072720 v1269	M141160	M14162 M14163	350	106716-05-120219	M14173 M14164
7/31/2020	1000 / 1509	MDS	NaK	173516, 173617, 173605 173577, 173541, 173635, 173505, 173603	NaK073120 v1270	M141160	M14162 M14163	350	106716-05-120219	M14173 M14164
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									
	/									

Checked by: _____ Verified by: _____

CT Laboratories, LLC

ICP-6500 Instrument Run Logbook

Date	Time: Start / End	Analyst	Analytes / Sequence I.D.	Method	LIMS # or Sample Description	Nebulizer Pressure (kpa)	Calib. Std ID	Version	Comments
7/2/2020	1157 / 7/3 0411		070220	DOD Cal u	172473 172732 172735 34 172769 172733 172738 172737 172784 172727 172736 172770	270	M14335 M14230 M14342	V3944 V3941	M14240 M14173 M14941 M14943
7/7/2020	1136 / 7/8 0856		070720	DOD Cal u	172823 172781 172786 172835 172784 172848 172782 172858 172857	270	M14335 M14230 M14342	V3943	M14240 M14173 M14941 M14943
7/9/2020	1003 / 2254		070920	DOD Cal u	172945 172894 172940 172852 172926 172927 172854 172954	270	M14335 M14230 M14342	V3947	M14240 M14173 M14941 M14943
7/13/2020	1155 / 7/14 0546		071320	DOD Cal u	172734 172973 172732 172967 172969 172957 172978 172770 172978 172958	270	M14335 M14230 M14342	V3949	M14240 M14173 M14941 M14943
7/14/2020	0724 / 1006		071320AB	DOD Cal u	172966 173040 172965 172974 173041 173042 172976 172980	270	M14335 M14230 M14342	V3950	M14240 M14173 M14941 M14943
7/15/2020	1155 1500		071520	DOD Cal u	173074 173044 173083 172854 173047 173043 172848 173087 173045 172786 173085	270	M14335 M14230 M14342	V395? V3951 V3948	M14240 M14173 M14941 M14943
7/16/2020	1456 / 1746		071620	DOD Cal u	173127 173138 173126 173133 173108 173139 173125 173128 173109 173141 173150 173129	270	M14335 M14230 M14342	V3959 V3955 V3953	M14240 M14173 M14941 M14943
7/17/2020	1859 0450 / 7/18 2159		071720	DOD Cal u	173131 173134 173137 173163 173132 173135 173141 173173 173046 173136 173142	270	M14335 M14230 M14342	V3954	M14240 M14173 M14941 M14943
7/20/2020	0957 / 1236		07/21/20	DOD Cal u	173220 173261 173253 173259 173206 173257 173222 173255 173262 173258 173221 173224	270	M14335 M14230 M14342	V3960 V3962 V3954 V3964	M14240 M14173 M14941 M14943
7/22/2020 1821	1321 / 1548		072220	DOD Cal u	173254 173230 173232 173234 173223 173228 173238 173235 173225 173235 173233 173237 173241 173361	270	M14335 M14230 M14342	V3963 V3954	M14240 M14173 M14941 M14943
7/23/2020	1511 / 1342 24		072320	DOD Cal u	173344 173310 173308 173347 173311 173304 173306 173312 173306 173308	270	M14335 M14230 M14342	V3954	M14240 M14173 M14941 M14943
7/24/2020	1416 / 7/25/20 0920		072520	DOD Cal u	173437 173411 173406 173306 173414 173404 173368 173304 173412 173405 173345	270	M14335 M14230 M14342	V3958 V3956 V3965 V3966	M14240 M14173 M14941 M14943

Comments: _____

Checked By / Date: _____

CT Laboratories

Mercury Analyzer Instrument Run Log

Instrument ID: Cetac M-6000A

Analysis Date	Start Time	End Time	Analyst	LIMS Run # (s)	Method File ID #	Cal. Std. ID #	Lamp Current (mA)	Analysis Tube Lot #	Comments
7/22/2020	0820	1149	MDS	173345, 173346, 173347, 173348	072220W	M14396	9.809	Z97109	$SnCl_2$: M14403
7/23/2020	0932	1331	MDS	173388, 173389	072320S	M14396	9.805	106716-05-120219 -Z9 MDS 7/23/2020	$SnCl_2$: M14403
7/23/2020	1340	1528	MDS	173389, 173390, 173391	072320bS	M14396	9.735	106716-05-120219	$SnCl_2$: M14403
7/29/2020	0821	1127	MDS	173572, 173574 173571, 173575, 173576, 173573,	072920W	M14405	9.886	106716-05-120219	$SnCl_2$: M14412
7/29/2020	1212	1415	MDS	173591	072920S	M14405	9.812	106716-05-120219	$SnCl_2$: M14412

Reviewed By/Date:_____

Type	Date/Time	Message	User name	Application
	07/27/2020 16:55:16	Running lcsw77360 (59)	MDS	Analyst
	07/27/2020 16:58:03	Running mbw77360 (60)	MDS	Analyst
	07/27/2020 17:00:57	Running 448712 (61)	MDS	Analyst
	07/27/2020 17:03:47	Running msw448712 (62)	MDS	Analyst
	07/27/2020 17:06:45	Running msdw448712 (63)	MDS	Analyst
	07/27/2020 17:09:43	Running pdsw448712 (64)	MDS	Analyst
	07/27/2020 17:12:41	Running 448800 (65)	MDS	Analyst
	07/27/2020 17:15:25	Running lcsw77374 (66)	MDS	Analyst
	07/27/2020 17:18:12	Running mbw77374 (67)	MDS	Analyst
	07/27/2020 17:21:06	Running 449302 (68)	MDS	Analyst
	07/27/2020 17:23:52	Running ccv (14)	MDS	Analyst
	07/27/2020 17:26:41	Running ccb (15)	MDS	Analyst
	07/27/2020 17:29:33	Running msw449302 (69)	MDS	Analyst
	07/27/2020 17:32:31	Running msdw449302 (70)	MDS	Analyst
	07/27/2020 17:35:29	Running pdsw449302 (71)	MDS	Analyst
	07/27/2020 17:38:16	Running 449314 (72)	MDS	Analyst
	07/27/2020 17:41:03	Running 449315 (73)	MDS	Analyst
	07/27/2020 17:43:50	Running 449316 (74)	MDS	Analyst
	07/27/2020 17:46:38	Running 449494 (75)	MDS	Analyst
	07/27/2020 17:49:36	Running 449496 (76)	MDS	Analyst
	07/27/2020 17:52:35	Running 449497 (77)	MDS	Analyst
	07/27/2020 17:55:22	Running 449498 (78)	MDS	Analyst
	07/27/2020 17:58:20	Running ccv (14)	MDS	Analyst
	07/27/2020 18:01:08	Running ccb (15)	MDS	Analyst
	07/27/2020 18:03:59	Running mrl (16)	MDS	Analyst
	07/27/2020 18:06:51	Running ccv (14)	MDS	Analyst
	07/27/2020 18:09:39	Running ccb (15)	MDS	Analyst
	07/27/2020 18:12:31	Plasma extinguished successfully	MDS	Analyst
	07/27/2020 18:12:32	Plasma off	MDS	iTEVA Control Center
	07/27/2020 18:12:34	Autosampler Run Completed	MDS	Analyst
	07/31/2020 08:38:03	Plasma On	MDS	iTEVA Control Center
	07/31/2020 08:38:08	Plasma ignition successful	MDS	Analyst
	07/31/2020 08:38:46	D33534 - Debug:Wavelength check : x = -0.758, y =-0.376	MDS	Analyst
	07/31/2020 10:00:11	Autosampler Run Started	MDS	Analyst
	07/31/2020 10:00:11	Sequence Started	MDS	Analyst
	07/31/2020 10:00:32	Running Blank (1)	MDS	Analyst
	07/31/2020 10:03:34	Running CalibStd-0.5 (2)	MDS	Analyst
	07/31/2020 10:06:26	Running CalibStd-1.0 (3)	MDS	Analyst
	07/31/2020 10:09:17	Running CalibStd-5.0 (4)	MDS	Analyst
	07/31/2020 10:12:06	Running CalibStd-10.0 (5)	MDS	Analyst
	07/31/2020 10:14:54	Running CalibStd-50 (6)	MDS	Analyst
	07/31/2020 10:17:44	Running CalibStd-100 (7)	MDS	Analyst
	07/31/2020 10:20:32	Running CalibStd-200 (8)	MDS	Analyst
	07/31/2020 10:23:31	Running CalibStd-500 (9)	MDS	Analyst
	07/31/2020 10:26:28	Running icv (10)	MDS	Analyst
	07/31/2020 10:29:16	Running ICVLL (17)	MDS	Analyst
	07/31/2020 10:32:05	Running icb (11)	MDS	Analyst
	07/31/2020 10:34:57	Running mrl (16)	MDS	Analyst
	07/31/2020 10:37:48	Running icsa (12)	MDS	Analyst
	07/31/2020 10:40:46	Running icsab (13)	MDS	Analyst
	07/31/2020 10:43:40	Running lcsw (1)	MDS	Analyst
	07/31/2020 10:46:28	Running mbw (2)	MDS	Analyst

Type	Date/Time	Message	User name	Application
	07/31/2020 10:49:20	Running 452272 (3)	MDS	Analyst
	07/31/2020 10:52:11	Running msw452272 (4)	MDS	Analyst
	07/31/2020 10:54:59	Running msdw452272 (5)	MDS	Analyst
	07/31/2020 10:57:47	Running 452273 (6)	MDS	Analyst
	07/31/2020 11:00:38	Running 452274 (7)	MDS	Analyst
	07/31/2020 11:03:31	Running 452275 (8)	MDS	Analyst
	07/31/2020 11:06:23	Running 452276 (9)	MDS	Analyst
	07/31/2020 11:09:15	Running 452277 (10)	MDS	Analyst
	07/31/2020 11:12:08	Running ccv (14)	MDS	Analyst
	07/31/2020 11:14:56	Running ccb (15)	MDS	Analyst
	07/31/2020 11:17:49	Running 452278 (11)	MDS	Analyst
	07/31/2020 11:20:41	Running 452279 (12)	MDS	Analyst
	07/31/2020 11:23:33	Running 452280 (13)	MDS	Analyst
	07/31/2020 11:26:22	Running 452281 (14)	MDS	Analyst
	07/31/2020 11:29:14	Running 452258 (15)	MDS	Analyst
	07/31/2020 11:32:03	Running msw452258 (16)	MDS	Analyst
	07/31/2020 11:34:52	Running msdw452258 (17)	MDS	Analyst
	07/31/2020 11:37:40	Running 452267 (18)	MDS	Analyst
	07/31/2020 11:40:29	Running 452269 (19)	MDS	Analyst
	07/31/2020 11:43:18	Running 451083 (20)	MDS	Analyst
	07/31/2020 11:46:08	Running ccv (14)	MDS	Analyst
	07/31/2020 11:48:56	Running ccb (15)	MDS	Analyst
	07/31/2020 11:51:48	Running 451085 (21)	MDS	Analyst
	07/31/2020 11:54:38	Running lcsw (22)	MDS	Analyst
	07/31/2020 11:57:27	Running mbw (23)	MDS	Analyst
	07/31/2020 12:00:20	Running 453460 (24)	MDS	Analyst
	07/31/2020 12:03:10	Running msw453460 (25)	MDS	Analyst
	07/31/2020 12:05:56	Running msdw453460 (26)	MDS	Analyst
	07/31/2020 12:08:42	Running 453466 (27)	MDS	Analyst
	07/31/2020 12:11:31	Running 453467 (28)	MDS	Analyst
	07/31/2020 12:14:23	Running 453468 (29)	MDS	Analyst
	07/31/2020 12:17:12	Running 453469 (30)	MDS	Analyst
	07/31/2020 12:20:02	Running ccv (14)	MDS	Analyst
	07/31/2020 12:22:50	Running ccb (15)	MDS	Analyst
	07/31/2020 12:25:42	Running 453470 (31)	MDS	Analyst
	07/31/2020 12:28:31	Running 453471 (32)	MDS	Analyst
	07/31/2020 12:31:20	Running 453492 (33)	MDS	Analyst
	07/31/2020 12:34:10	Running 453493 (34)	MDS	Analyst
	07/31/2020 12:37:01	Running 453494 (35)	MDS	Analyst
	07/31/2020 12:39:51	Running 453495 (36)	MDS	Analyst
	07/31/2020 12:42:41	Running 453496 (37)	MDS	Analyst
	07/31/2020 12:45:30	Running 453497 (38)	MDS	Analyst
	07/31/2020 12:48:20	Running lcsw77404 (39)	MDS	Analyst
	07/31/2020 12:51:05	Running mbw77404 (40)	MDS	Analyst
	07/31/2020 12:53:59	Running ccv (14)	MDS	Analyst
	07/31/2020 12:56:47	Running ccb (15)	MDS	Analyst
	07/31/2020 12:59:39	Running 450344 (41)	MDS	Analyst
	07/31/2020 13:02:25	Running l450344 (42)	MDS	Analyst
	07/31/2020 13:05:14	Running dup450344 (43)	MDS	Analyst
	07/31/2020 13:08:01	Running msw450344 (44)	MDS	Analyst
	07/31/2020 13:10:57	Running msdw450344 (45)	MDS	Analyst
	07/31/2020 13:13:47	Running pdsw450344 (46)	MDS	Analyst

Type	Date/Time	Message	User name	Application
	07/31/2020 13:16:32	Running lcsw77441 (47)	MDS	Analyst
	07/31/2020 13:19:19	Running mbw77441 (48)	MDS	Analyst
	07/31/2020 13:22:12	Running 451896 (49)	MDS	Analyst
	07/31/2020 13:25:01	Running l451896 (50)	MDS	Analyst
	07/31/2020 13:27:53	Running ccv (14)	MDS	Analyst
	07/31/2020 13:30:41	Running ccb (15)	MDS	Analyst
	07/31/2020 13:33:33	Running dup451896 (51)	MDS	Analyst
	07/31/2020 13:36:23	Running msw451896 (52)	MDS	Analyst
	07/31/2020 13:39:09	Running msdw451896 (53)	MDS	Analyst
	07/31/2020 13:41:55	Running pdsw451896 (54)	MDS	Analyst
	07/31/2020 13:44:41	Running 451897 (55)	MDS	Analyst
	07/31/2020 13:47:31	Running 451898 (56)	MDS	Analyst
	07/31/2020 13:50:21	Running 451899 (57)	MDS	Analyst
	07/31/2020 13:53:10	Running 451900 (58)	MDS	Analyst
	07/31/2020 13:56:03	Running 451901 (59)	MDS	Analyst
	07/31/2020 13:58:52	Running 451902 (60)	MDS	Analyst
	07/31/2020 14:01:44	Running ccv (14)	MDS	Analyst
	07/31/2020 14:04:33	Running ccb (15)	MDS	Analyst
	07/31/2020 14:07:25	Running 451903 (61)	MDS	Analyst
	07/31/2020 14:10:16	Running 451906 (62)	MDS	Analyst
	07/31/2020 14:13:09	Running 451909 (63)	MDS	Analyst
	07/31/2020 14:15:59	Running 449496 (64)	MDS	Analyst
	07/31/2020 14:18:46	Running 449498 (65)	MDS	Analyst
	07/31/2020 14:21:32	Running blank (66)	MDS	Analyst
	07/31/2020 14:24:26	Running lcss77447 (67)	MDS	Analyst
	07/31/2020 14:27:11	Running mbs77447 (68)	MDS	Analyst
	07/31/2020 14:30:04	Running 452043 (69)	MDS	Analyst
	07/31/2020 14:32:49	Running mss452043 (70)	MDS	Analyst
	07/31/2020 14:35:32	Running ccv (14)	MDS	Analyst
	07/31/2020 14:38:20	Running ccb (15)	MDS	Analyst
	07/31/2020 14:41:13	Running msds452043 (71)	MDS	Analyst
	07/31/2020 14:43:57	Running pdss452043 (72)	MDS	Analyst
	07/31/2020 14:46:41	Running lcsw77448 (73)	MDS	Analyst
	07/31/2020 14:49:28	Running mbw77448 (74)	MDS	Analyst
	07/31/2020 14:52:22	Running 451914 (75)	MDS	Analyst
	07/31/2020 14:55:19	Running msw451914 (76)	MDS	Analyst
	07/31/2020 14:58:16	Running msdw451914 (77)	MDS	Analyst
	07/31/2020 15:01:12	Running pdsw451914 (78)	MDS	Analyst
	07/31/2020 15:04:05	Running mrl (16)	MDS	Analyst
	07/31/2020 15:06:57	Running ccv (14)	MDS	Analyst
	07/31/2020 15:09:45	Running ccb (15)	MDS	Analyst
	07/31/2020 15:12:37	Plasma off	MDS	iTEVA Control Center
	07/31/2020 15:12:38	Plasma extinguished successfully	MDS	Analyst
	07/31/2020 15:12:40	Autosampler Run Completed	MDS	Analyst

Type	Date/Time	Message	User name	Application	Sequence Name
	07/28/2020 06:18:26	Running 449803 (116)	NAH	Analyst	S_DOD Calibration
	07/28/2020 06:24:55	Running lcss77399 (117)	NAH	Analyst	S_DOD Calibration
	07/28/2020 06:31:14	Running lcsds77399 (118)	NAH	Analyst	S_DOD Calibration
	07/28/2020 06:37:33	Running mbs77399 (119)	NAH	Analyst	S_DOD Calibration
	07/28/2020 06:43:58	Running 450514 (120)	NAH	Analyst	S_DOD Calibration
	07/28/2020 06:50:25	Running ccv1 (28)	NAH	Analyst	S_DOD Calibration
	07/28/2020 06:55:59	Running ccv2 (26)	NAH	Analyst	S_DOD Calibration
	07/28/2020 07:01:51	Running ccb (27)	NAH	Analyst	S_DOD Calibration
	07/28/2020 07:08:15	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	07/28/2020 07:10:03	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:28:34	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:28:34	Autosampler Run Started	NAH	Analyst	
	07/28/2020 08:28:56	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:35:30	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:36:55	Autosampler Run Completed	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:39:45	Autosampler Run Started	NAH	Analyst	
	07/28/2020 08:39:45	Sequence Started	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:40:07	Running Blank (1)	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:46:33	Running CalStd2=0.5 (2)	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:52:55	Running CalStd3=1 (3)	NAH	Analyst	S_DOD Calibration
	07/28/2020 08:59:14	Running CalStd4=5 (4)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:05:56	Running CalStd5=10 (5)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:12:19	Running CalStd6=20 (6)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:18:36	Running CalStd7=50 (7)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:24:52	Running CalStd8=100 (8)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:31:09	Running CalStd9=1000 (9)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:36:52	Running CalStd10=10000 (10)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:43:38	Running CalStd12=100K (11)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:50:22	Running CalStd13=100000 (12)	NAH	Analyst	S_DOD Calibration
	07/28/2020 09:57:11	Running CalStd14=500000 (13)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:04:12	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 10:05:38	Running CalibStd15=1000k (14)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:10:29	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 10:13:37	Running Ag Ba 1000, 50000 (15)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:20:17	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:26:38	Running icv (16)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:32:57	Running icv (16)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:39:54	Running ICVLL (24)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:46:04	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:49:44	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 10:52:55	Running icb (17)	NAH	Analyst	S_DOD Calibration
	07/28/2020 10:59:17	Running MRL/LLOQ (25)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	

Type	Date/Time	Message	User name	Application	Sequence Name
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:02:28	A Failure occurred exporting the data to I:\ICP6000Imported\eee.txt	NAH	Analyst	
	07/28/2020 11:05:35	Running ICSA (20)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:12:04	Running ICSAB (21)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:18:02	Running blkrinse (22)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:24:26	Running ICVLL ag (1)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:25:20	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 11:31:19	Running lcsw77404 (2)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:38:00	Running mbw77404 (3)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:44:39	Running 450344 (4)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:51:54	Running l450344 (5)	NAH	Analyst	S_DOD Calibration
	07/28/2020 11:58:34	Running dup.450344 (6)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:07:11	Running msw450344 (7)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:14:09	Running msdw450344 (8)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:14:24	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 12:20:23	Running pdsw450344 (9)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:26:35	Running lcsw77403 (10)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:32:48	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:38:21	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:44:13	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:50:36	Running mbw77403 (11)	NAH	Analyst	S_DOD Calibration
	07/28/2020 12:57:00	Running 450263 (12)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:03:43	Running l450263 (13)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:05:39	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 13:11:28	Running dup450263 (14)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:18:09	Running msw450263 (15)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:24:15	Running msdw450263 (16)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:30:21	Running pdsw450263 (17)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:36:31	Running 450267 (18)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:43:17	Running 450269 (19)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:49:59	Running 450271 (20)	NAH	Analyst	S_DOD Calibration
	07/28/2020 13:51:37	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 13:56:39	Running ccv1 (23)	NAH	Analyst	S_DOD Calibration
	07/28/2020 14:02:12	Running ccv2 (18)	NAH	Analyst	S_DOD Calibration
	07/28/2020 14:08:04	Running ccb (19)	NAH	Analyst	S_DOD Calibration
	07/28/2020 14:14:50	Running 450296 (21)	NAH	Analyst	S_DOD Calibration
	07/28/2020 14:15:01	Closing will close the method and all associated samples.	NAH	Analyst	
	07/28/2020 14:21:12	Running 450298 (22)	NAH	Analyst	S_DOD Calibration

Standard ID#:	M14404	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/24/2020	Lot #:	54-207CR
Expiration Date (if any):	07/30/2020	Catalog #:	XSPIKE-1-250

Standard Log #:	M14399	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/21/2020	Expiration Date:	08/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14400	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/21/2020	Expiration Date:	08/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

Standard Log #:	M14401	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/22/2020	Expiration Date:	08/22/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14402	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/22/2020	Expiration Date:	07/23/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14403	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/22/2020	Expiration Date:	08/22/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14356 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14396	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/21/2020	Expiration Date:	07/21/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14397	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/21/2020	Expiration Date:	07/21/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14398	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/21/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14395	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	07/20/2020	Expiration Date:	09/30/2020
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13954 and **10 mL** Mg (10,000 mg/L) M13984 and brought up to volume.		

Standard Log #:	M14394	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	07/17/2020	Expiration Date:	07/17/2021
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.693 in a hood.		

Standard Log #:	M14389	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/13/2020	Expiration Date:	08/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14390	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/13/2020	Expiration Date:	08/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14391	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/13/2020	Expiration Date:	07/14/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

Standard Log #:	M14392	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/14/2020	Expiration Date:	08/14/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14306 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14393	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/14/2020	Expiration Date:	08/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14356 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14386	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/13/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14387	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/13/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14388	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/13/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14384	Vendor:	Environmantal Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	07/08/2020	Lot #:	1933801-500
Expiration Date (if any):	01/31/2022	Catalog #:	HP10M67-1-500

Standard Log #:	M14385	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	07/08/2020	Expiration Date:	12/2020

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M14202	10,000
Tl	1	1000	M14207	10,000
Se	1	1000	M13948	10,000
Sb	1	1000	M13950	10,000
Ag	0.1	1000	M13951	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

Standard Log #:	M14383	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	07/07/2020	Expiration Date:	07/07/2021
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.685 and brought up to volume.		

Standard Log #:	M14381	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	07/03/2020	Expiration Date:	08/03/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14382	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/03/2020	Expiration Date:	08/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

Standard Log #:	M14378	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	07/02/2020	Expiration Date:	08/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14379	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	07/02/2020	Expiration Date:	08/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14380	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/02/2020	Expiration Date:	07/03/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.693 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14375	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/02/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14376	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	07/02/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14377	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/02/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14373	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/01/2020	Expiration Date:	07/01/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard ID#:	M14374	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	ACID WASHED TCLP FILTERS
Date Received:	06/18/2020	Lot #:	400169-0154-AG
Expiration Date (if any):	N/A	Catalog #:	FG77150MM

Standard ID#:	M14368	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06/30/2020	Lot #:	987189-75
Expiration Date (if any):	12/2021	Catalog #:	S4400-1000343

Standard ID#:	M14369	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	06/30/2020	Lot #:	1053109-22
Expiration Date (if any):	12/2021	Catalog #:	S4400-10M411-500

Standard ID#:	M14370	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	06/30/2020	Lot #:	1053109-8
Expiration Date (if any):	12/2021	Catalog #:	4400-10M411

Standard ID#:	M14371	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06/30/2020	Lot #:	1047570-9
Expiration Date (if any):	12/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14372	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	06/30/2020	Lot #:	1050965-10
Expiration Date (if any):	12/2021	Catalog #:	4400-10M544

Standard Log #:	M14363	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/24/2020	Expiration Date:	07/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14364	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/24/2020	Expiration Date:	07/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14365	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/24/2020	Expiration Date:	06/25/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14366	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/25/2020	Expiration Date:	07/25/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14367	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/25/2020	Expiration Date:	07/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14360	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14361	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14362	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14358	Vendor:	Spex Certprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/22/2020	Lot #:	54-161CR
Expiration Date (if any):	06/30/2021	Catalog #:	XSOIKE-1-250

Standard ID#:	M14359	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/23/2020	Lot #:	52-213CRX
Expiration Date (if any):	06/30/2021	Catalog #:	INT-A1

Standard ID#:	M14355	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	06/17/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14356	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	06/17/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14357	Vendor:	Mettler toledo
Analyst:	NAH	Chemical:	Electrolyte Friscolyt-b
Date Received:	06/17/2020	Lot #:	1F091L
Expiration Date (if any):	03/31/2023	Catalog #:	51340053

Standard Log #:	M14350	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/16/2020	Expiration Date:	07/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14351	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/16/2020	Expiration Date:	07/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14352	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/16/2020	Expiration Date:	06/17/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14353	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/17/2020	Expiration Date:	07/17/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14354	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/17/2020	Expiration Date:	07/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14347	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/16/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14348	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/16/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14349	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/16/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14346	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Sodium Chloride
Date Received:	06/16/2020	Lot #:	196616
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M14344	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/12/2020	Expiration Date:	06/12/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard Log #:	M14345	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/12/2020	Expiration Date:	06/12/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

		Instrument:	ICP 6500
Standard Log #:	M14342	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	06/11/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14214, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14120, **0.5 mL** Mo (1000 mg/L) M14121, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M14008 and **0.5 mL** Ti (1000 mg/L) M14009.		

		Instrument:	ICP 6500
Standard Log #:	M14343	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/11/2020	Expiration Date:	01/30/2021
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14120, **15 mL** Fe (10,000 mg/L) M14101, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14195 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14340	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/11/2020	Expiration Date:	03/20/2021
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M14195 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14341	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/11/2020	Expiration Date:	03/20/2021
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M14195 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14337	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	06/11/2020	Expiration Date:	04/21
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M14196 5.0 **mL** 10000 mg/L Ti M14009 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14338	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	06/11/2020	Expiration Date:	04/21
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M14130 5.0 **mL** 10000 mg/L Be M14203 5.0 **mL** 10000 mg/L Sn M14008 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14339	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	06/11/2020	Expiration Date:	07/21
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M14205 0.5 **mL** 10000 mg/L Cu M14199 5.0 **mL** 1000 mg/L Co M14204 5.0 **mL** 1000 mg/L Mo M14129 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14335	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/11/2020	Expiration Date:	12/2020
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14215, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M14195 and **1 mL** of Si (1000 mg/L) M14006 and 1 mL M13859 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M14104. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M14199, **10 mL** of Mn (10,000 mg/L) M14200, **10 mL** of Cr (10,000 mg/L) M14205, **10 mL** Pb (10,000 mg/L) M14202, **10 mL** of Zn (10,000 mg/L) M14197 and **10 mL** of Na (10,000 mg/L) M14103. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13984, **10 mL** of Fe (10,000 mg/L) M14004, **10 mL** of Ca (10,000 mg/L) M13985 and **10 mL** Al (10,000 mg/L) M14105. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	ICP 6500
Standard Log #:	M14336	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	06/11/2020	Expiration Date:	04/21
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M14200 brought up to volume with milli-Q H_2O.		

		Instrument:	GFAA
Standard Log #:	M14332	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/11/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14333	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/11/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14334	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/11/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M14327	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/09/2020	Expiration Date:	07/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14328	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/09/2020	Expiration Date:	07/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M14246 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14329	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/10/2020	Expiration Date:	07/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14278 and brought up to volume.		

Standard Log #:	M14330	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/10/2020	Expiration Date:	07/10/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14331	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/10/2020	Expiration Date:	06/11/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14324	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/09/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14325	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/09/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14326	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/09/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14323	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	06/08/2020	Lot #:	216646
Expiration Date (if any):	11/30/2021	Catalog #:	39043

Standard Log #:	M14318	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	06/03/2020	Expiration Date:	07/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14319	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	06/03/2020	Expiration Date:	07/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14320	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	06/03/2020	Expiration Date:	06/04/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14321	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	06/04/2020	Expiration Date:	07/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14277 and brought up to volume.		

Standard Log #:	M14322	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	06/04/2020	Expiration Date:	07/04/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14315	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	06/03/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14316	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	06/03/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14317	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	06/03/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14310	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/27/2020	Expiration Date:	06/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14311	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/27/2020	Expiration Date:	06/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14312	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/28/2020	Expiration Date:	06/28/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14276 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14313	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	05/28/2020	Expiration Date:	05/29/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14314	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/28/2020	Expiration Date:	06/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14277 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14307	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14308	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14309	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/27/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14304	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/27/2020	Expiration Date:	05/27/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard Log #:	M14305	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/27/2020	Expiration Date:	05/27/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14287. Dilute to 20 L and mix.		

Standard ID#:	M14306	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Hydroxylamine Sulfate
Date Received:	05/27/2020	Lot #:	189407A
Expiration Date (if any):		Catalog #:	H331-500

Standard Log #:	M14299	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/19/2020	Expiration Date:	06/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14300	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/19/2020	Expiration Date:	06/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14301	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/20/2020	Expiration Date:	06/20/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14302	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/19/2020	Expiration Date:	05/20/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14303	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/20/2020	Expiration Date:	06/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14277 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14296	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/19/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14297	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/19/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14298	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/19/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14291	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14292	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14293	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M14193 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14294	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	05/13/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14295	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/12/2020	Expiration Date:	06/12/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14288	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14289	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/12/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14290	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/12/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14287	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	05/08/2020	Expiration Date:	05/08/2021
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH WC07 and brought up to volume.		

Standard Log #:	M14282	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	06/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14283	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	06/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14284	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	05/06/2020	Expiration Date:	06/06/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14285	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	05/05/2020	Expiration Date:	05/06/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14286	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	05/06/2020	Expiration Date:	06/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14279	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14280	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	05/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14281	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14277	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	05/05/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14278	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	05/05/2020	Lot #:	K111-25
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14276	Vendor:	Fisher Chemical
Analyst:	MDS	Chemical:	Sodium Chloride
Date Received:	05/01/2020	Lot #:	195918
Expiration Date (if any):		Catalog #:	S271-500

		Instrument:	CETAC
Standard Log #:	M14275	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/29/2020	Expiration Date:	04/30/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14271	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/27/2020	Expiration Date:	05/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14272	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/27/2020	Expiration Date:	05/27/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14273	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/28/2020	Expiration Date:	05/28/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14274	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/28/2020	Expiration Date:	05/28/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14268	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14269	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/27/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14270	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/27/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14266	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/22/2020	Expiration Date:	05/22/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13463 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14267	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/22/2020	Expiration Date:	05/22/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14262	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/21/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14263	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14264	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14265	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/21/2020	Expiration Date:	04/22/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

Standard Log #:	M14259	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/21/2020	Expiration Date:	04/21/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M14260	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14261	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/21/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M14254	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	05/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14255	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	05/14/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14256	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/15/2020	Expiration Date:	05/15/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14257	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/15/2020	Expiration Date:	05/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14157 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14258	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/14/2020	Expiration Date:	04/15/20220
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.691 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14251	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/14/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14252	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/14/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14253	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/14/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14250	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	04/14/2020	Expiration Date:	12/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	40	M13951	1000	2
Al	800	M13982	**10000**	4
As	40	M13863	1000	2
Ba	20	M14130	1000	1
Be	8	M14203	1000	0.4
Ca	1000	M13985	**10000**	5
Cd	10	M14201	1000	0.5
Co	20	M14204	1000	1
Cr	20	M14205	**10000**	0.1
Cu	20	M14199	**10000**	0.1
Fe	600	M14101	**10000**	3
Mg	1000	M14108	**10000**	5
Mn	20	M14200	**10000**	0.1
Mo	20	M14129	1000	1
Ni	20	M14196	1000	1
Pb	20	M14202	**10000**	0.1
Sb	40	M13950	1000	2
Se	40	M13948	1000	2
Tl	40	M14207	1000	2
V	20	M14198	1000	1
Zn	20	M14197	**10000**	0.1
Na	10000	M14103	**10000**	50
K	10000	M14104	**10000**	50
B	40	M13947	1000	2
Si	200	M14106	1000	10
S	2000	M14102	**10000**	10
Li	40	M14127	1000	2
Sr	20	M14007	1000	1
Sn	100	M14008	1000	5
Ti	20	M14009	1000	10

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14247	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14248	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M14227 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14249	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/10/2020	Expiration Date:	04/10/2021
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M14228 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M14246	Vendor:	Acros Organics
Analyst:	MDS	Chemical:	Potassium Persulfate
Date Received:	04/08/2020	Lot #:	A0412553
Expiration Date (if any):		Catalog #:	424185000

Standard Log #:	M14242	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14243	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	04/06/2020	Expiration Date:	05/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14244	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/07/2020	Expiration Date:	05/07/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14245	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/07/2020	Expiration Date:	05/07/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14239	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	04/06/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14240	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	04/06/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14241	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	04/06/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14234	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/31/2020	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14235	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/31/2020	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14236	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	05/01/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14237	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	05/01/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14238	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	04/01/2020	Expiration Date:	04/02/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14231	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/31/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14232	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/31/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14233	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/31/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

MRL BASE STD M14230 Analyst NAH

Prep Date 03/27/2020

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M14105	10000	2	07/2021
Ba	10	M14130	1000	0.5	07/2021
Be	4	M14203	1000	0.2	09/2021
Cd	5	M14201	1000	0.25	09/2021
Co	10	M14204	1000	0.5	09/2021
Cr	10	M14205	10000	0.05	09/2021
Cu	10	M14199	10000	0.05	09/2021
Mg	500	M14108	10000	2.5	07/2021
Mn	10	M14200	10000	0.05	09/2021
Mo	10	M14129	1000	0.5	07/2021
Ni	10	M14196	1000	0.5	09/2021
Pb	10	M14202	10000	0.05	09/2021
Sb	20	M13950	1000	1	02/2021
V	10	M14198	1000	0.5	09/2021
Zn	10	M14197	10000	0.05	09/2021
K	1000	M14104	10000	5	07/2021
Na	1000	M14103	10000	5	07/2021
As	20	M13863	1000	1	12/2020
Ca	500	M14107	10000	2.5	07/2021
Fe	300	M14101	10000	1.5	07/2021
Se	20	M13948	1000	1	02/2021
Tl	20	M14207	1000	1	09/2021
Si	100	M14106	1000	5	07/2021
B	20	M14131	1000	1	07/2021
Li	20	M14127	1000	1	07/2021
W	50	xxxxxxxd	1000	2.5	xxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	04/2021
Sn	50	M14008	1000	2.5	04/2021
S	300	M14102	10000	1.5	07/2021

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M14224	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	04/25/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M14194 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14225	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	04/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14226	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/25/2020	Expiration Date:	03/26/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

Standard ID#:	M14227	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV
Date Received:	03/25/2020	Lot #:	R2-MEB691217
Expiration Date (if any):		Catalog #:	CTI-SPK-1

Standard ID#:	M14228	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE
Date Received:	03/25/2020	Lot #:	R2-MEB691216
Expiration Date (if any):		Catalog #:	CTI-GFCAL-1

Standard ID#:	M14229	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal Standard 200 NTU
Date Received:	03/25/2020	Lot #:	A0038
Expiration Date (if any):	02/2022	Catalog #:	2660449

Standard Log #:	M14222	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/24/2020	Expiration Date:	04/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14223	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/24/2020	Expiration Date:	04/24/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14219	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14220	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14221	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14218	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/19/2020	Lot #:	54-035CR
Expiration Date (if any):	03/30/2021	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M14216	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	03/18/2020	Expiration Date:	03/19/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14217	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/18/2020	Expiration Date:	04/18/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14158 and brought up to volume.		

Standard Log #:	M14211	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14212	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14213	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/17/2020	Expiration Date:	04/17/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

Standard ID#:	M14214	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/17/2020	Lot #:	54-027CR
Expiration Date (if any):	03/30/2021	Catalog #:	XSPIKE-1-250

Standard ID#:	M14215	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	03/17/2020	Lot #:	54-028CR
Expiration Date (if any):	03/30/2021	Catalog #:	XCTWI-5-500

		Instrument:	HydraII
Standard Log #:	M14208	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14209	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14210	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/17/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14201	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	03/11/2020	Lot #:	996631-64
Expiration Date (if any):	09/2021	Catalog #:	S4400-100081

Standard ID#:	M14202	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000
Date Received:	03/11/2020	Lot #:	168223-44
Expiration Date (if any):	09/2021	Catalog #:	4400-10M281

Standard ID#:	M14203	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	03/11/2020	Lot #:	998969-61
Expiration Date (if any):	09/2021	Catalog #:	S4400-100051

Standard ID#:	M14204	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	03/11/2020	Lot #:	1024904-44
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000131

Standard ID#:	M14205	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	03/11/2020	Lot #:	880115-56
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M121

Standard ID#:	M14206	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	03/11/2020	Lot #:	997484-19
Expiration Date (if any):	09/2021	Catalog #:	4400-10M671

Standard ID#:	M14207	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	03/11/2020	Lot #:	991734-85
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000581

Standard ID#:	M14195	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	03/09/2020	Lot #:	54-005CR
Expiration Date (if any):	3/30/2021	Catalog #:	XCTWI-4-500

Standard ID#:	M14196	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	03/11/2020	Lot #:	984273-111
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000361

Standard ID#:	M14197	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	03/11/2020	Lot #:	1025267-1
Expiration Date (if any):	09/2021	Catalog #:	4400-10M681

Standard ID#:	M14198	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	03/11/2020	Lot #:	990117-98
Expiration Date (if any):	09/2021	Catalog #:	S4400-1000651

Standard ID#:	M14199	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	03/11/2020	Lot #:	982824-45
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M141

Standard ID#:	M14200	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	03/11/2020	Lot #:	985851-17
Expiration Date (if any):	09/2021	Catalog #:	S4400-10M321

Standard ID#:	M14193	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	03/09/2020	Lot #:	189407
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M14194	Vendor:	Fisher
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	03/09/2020	Lot #:	193465
Expiration Date (if any):		Catalog #:	S271-500

		Instrument:	CETAC
Standard Log #:	M14189	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/10/2020	Expiration Date:	04/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M14190	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14191	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14192	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/09/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M14186	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14187	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14188	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14182	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	03/06/2020	Expiration Date:	04/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

Standard Log #:	M14183	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	MDS		
Prep Date:	03/06/2020	Expiration Date:	04/06/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

Standard Log #:	M14184	Reagent:	Potassium Persulfate Solution
Analyst:	MDS		
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14185	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/09/2020	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14180	Reagent:	Potassium Permanganate Solution
Analyst:	MDS		
Prep Date:	03/04/2020	Expiration Date:	04/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14181	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	03/04/2020	Expiration Date:	03/05/2020
Prep:	Carefully mixed **3** parts HCl AB.685 with **1** part HNO_3 AB.686 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14177	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/04/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14178	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	03/04/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14179	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/04/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14175	Vendor:	COLE-PARMER
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	03/02/2020	Lot #:	400168
Expiration Date (if any):		Catalog #:	FG77150MM

Standard Log #:	M14176	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/03/2020	Expiration Date:	03/03/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

		Instrument:	ICP 6500
Standard Log #:	M14172	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14173	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	02/25/2020	Expiration Date:	01/30/2021
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M14137 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M14174	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn, K, Na, S, **50000 ug/L** Si **1000 ug/L.**
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14137, **15 mL** Fe (10,000 mg/L) M14004, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827, **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn), M14121, **2.5 mLs Na 10,000 ug/mL** M14103 ,**2.5 mLs k 10,000 ug/mL** M14126 **2.5 mLs S 10,000 ug/mL** M14102, **0.5 mls Si 1000 ug/mL** M13981 and brought up to volume with milli-Q .		

		Instrument:	ICP 6500
Standard Log #:	M14170	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14138, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14137, **0.5 mL** Mo (1000 mg/L) M14129, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M14008, **0.5 mL** Ti (1000 mg/L) M141009, **0.5 mL** W (1000 mg/L) Mxxxx, **0.5 mL** Si (1000 mg/L) M14106, **0.5 mL** S (10000 mg/L) M14102, **0.5 mL** K (10000 mg/L) M14126, and **0.5 mL** Na (10000 mg/L) M14103		

		Instrument:	ICP 6500
Standard Log #:	M14171	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M14168	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/24/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14169	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	02/25/2020	Expiration Date:	05/30/2020
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M14121, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M14106 and 1 mL M13859 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M14104. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13615, **10 mL** of Zn (10,000 mg/L) M13610 and **10 mL** of Na (10,000 mg/L) M14103. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M14108, **10 mL** of Fe (10,000 mg/L) M14004, **10 mL** of Ca (10,000 mg/L) M14107 and **10 mL** Al (10,000 mg/L) M14105. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	HydraII
Standard Log #:	M14165	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14166	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/24/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14167	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/24/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14163	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	07/2021
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M14103 and **0.15 mL** K (10,000 µg/mL) M14109 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14164	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	02/21/2020	Expiration Date:	01/30/2021
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M14120, **2.5 mL** of K (10,000 mg/L) M14109, **2.5 mL** of Na (10,000 mg/L) M14103 and **7.5 mL** of Fe (10,000 mg/L) M14101 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M14159	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/20/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M14160	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	10/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13808 and K (1000 µg/mL) M13809 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14161	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	02/21/2020	Expiration Date:	10/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13808 and **0.5 mL** K (1000 µg/mL) M13809 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M14162	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	02/21/2020	Expiration Date:	07/2021
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M14109 and Na (10,000 mg/L) M14103 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6500
Standard Log #:	M14156	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	02/19/2020	Expiration Date:	01/30/21
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M14138, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M14120, **0.5 mL** Mo (1000 mg/L) M14129, **0.5 mL** B (1000 mg/L) M14131, **0.5 mL** Sr (1000 mg/L) M14007, **0.5 mL** Li (1000 mg/L) M14127, **0.5 mL** Sn (1000 mg/L) M141008, **0.5 mL** Ti (1000 mg/L) M14009, **0.5 mL** W (1000 mg/L) Mxxxxxxx, **0.5 mL** Si (1000 mg/L) M13981, **0.5 mL** S (10000 mg/L) M14102, **0.5 mL** K (10000 mg/L) M14109, and **0.5 mL** Na (10000 mg/L) M14103		

Standard ID#:	M14157	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	02/19/2020	Lot #:	J347-07
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14158	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	02/19/2020	Lot #:	J347-07
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14148	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/13/2020	Expiration Date:	
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14081 and brought up to volume.		

Standard Log #:	M14152	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14153	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M14154	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14155	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	02/13/2020	Expiration Date:	07/13/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13994 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14149	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14150	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/17/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14151	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/17/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M14145	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14146	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/11/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14147	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/11/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14144	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	02/06/2020	Expiration Date:	03/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14142	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	07/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14143	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	02/05/2020	Expiration Date:	02/06/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14139	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14140	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	02/05/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14141	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	02/05/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14137	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	53-196CR
Expiration Date (if any):	01/30/2021	Catalog #:	XCTIWI-1-500

Standard ID#:	M14138	Vendor:	SpexCertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02/04/2020	Lot #:	XSPIKE-1-250
Expiration Date (if any):	01/30/2021	Catalog #:	53-197CR

		Instrument:	CETAC
Standard Log #:	M14136	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/30/2020	Expiration Date:	01/30/2021
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14132	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14133	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/29/2020	Expiration Date:	07/20/2021
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M14125 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14134	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/29/2020	Expiration Date:	01/30/2021
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M14119 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14135	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/29/2020	Expiration Date:	01/30/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

Standard ID#:	M14125	Vendor:	CPI International
Analyst:	MDS	Chemical:	Mercury 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1009904-41
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000331

Standard ID#:	M14126	Vendor:	CPI International
Analyst:	MDS	Chemical:	Potassium 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	980507-31
Expiration Date (if any):	07/20/2021	Catalog #:	4400-10M411

Standard ID#:	M14127	Vendor:	CPI International
Analyst:	MDS	Chemical:	Lithium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1017511-7
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000291

Standard ID#:	M14128	Vendor:	CPI International
Analyst:	MDS	Chemical:	Phosphorus 10,000 µg/mL
Date Received:	01/24/2020	Lot #:	979480-24
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-10M391

Standard ID#:	M14129	Vendor:	CPI International
Analyst:	MDS	Chemical:	Molybdenum 1000 µg/mL
Date Received:	01/24/2020	Lot #:	987189-55
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-1000343

Standard ID#:	M14130	Vendor:	CPI International
Analyst:	MDS	Chemical:	Barium 1000 µg/mL
Date Received:	01/24/2020	Lot #:	994634-53
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100041

Standard ID#:	M14131	Vendor:	CPI International
Analyst:	MDS	Chemical:	Boron 1000 µg/mL
Date Received:	01/24/2020	Lot #:	1024903-6
Expiration Date (if any):	07/20/2021	Catalog #:	S4400-100074

		Instrument:	HydraII
Standard Log #:	M14122	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14123	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/23/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14124	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/23/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14119	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Hg 1000 ug/mL
Date Received:	01/21/2020	Lot #:	CL11-96HGY
Expiration Date (if any):	01/30/2021	Catalog #:	CLHG4-2Y

Standard ID#:	M14120	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	01/21/2020	Lot #:	2-96JX
Expiration Date (if any):	01/30/2021	Catalog #:	INT-A1

Standard ID#:	M14121	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	01/21/2020	Lot #:	1-008DMP
Expiration Date (if any):	01/21/2021	Catalog #:	XCTWI-5-500

		Instrument:	CETAC
Standard Log #:	M14117	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/17/2020	Expiration Date:	02/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.685 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14118	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	01/17/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13951	1000	0.01
As	2	M13863	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13950	1000	0.1
Se	2	M13948	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	HydraII
Standard Log #:	M14114	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14115	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/16/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14116	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/16/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M14111	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14112	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14113	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/13/2020	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M14106	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	01/13/2020	Lot #:	175213-60
Expiration Date (if any):	07/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14107	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 ug/mL
Date Received:	01/13/2020	Lot #:	855297-68
Expiration Date (if any):	07/2021	Catalog #:	4400-10M91

Standard ID#:	M14108	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 ug/mL
Date Received:	01/13/2020	Lot #:	1013353-36
Expiration Date (if any):	07/2021	Catalog #:	4400-10M311

Standard ID#:	M14109	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000ug/mL
Date Received:	01/13/2020	Lot #:	980507-79
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard Log #:	M14110	Reagent:	TCLP EXTRACTION FLUID #2
Analyst:	BMM	pH:	2.88 ± 0.05
Prep Date:	01/14/2020	Expiration Date:	01/14/2021
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 . Dilute to 20 L and mix.		

Standard ID#:	M14100	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	01/10/2020	Lot #:	1905324-500
Expiration Date (if any):	07/31/2021	Catalog #:	HP10M67-1-500

Standard ID#:	M14101	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 ug/mL
Date Received:	01/13/2020	Lot #:	998527-45
Expiration Date (if any):	07/2021	Catalog #:	4400-10M261

Standard ID#:	M14102	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/13/2020	Lot #:	9987745-28
Expiration Date (if any):	07/2021	Catalog #:	4400-10M544

Standard ID#:	M14103	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	752887-79
Expiration Date (if any):	01/2021	Catalog #:	4400-40M521

Standard ID#:	M14104	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	01/13/2020	Lot #:	980507-31
Expiration Date (if any):	07/2021	Catalog #:	4400-10M411

Standard ID#:	M14105	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 ug/mL
Date Received:	01/13/2020	Lot #:	992536-34
Expiration Date (if any):	07/2021	Catalog #:	4400-10M11

Standard Log #:	M14099revised below	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14099	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	01/09/2020	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13951	1000	0.25
Al	10	M13962	**10000**	0.05
As	20	M13863	1000	1
Ba	2	M13949	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13841	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13963	**10000**	0.2
Mg	25	M13752	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13860	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13950	1000	1
Se	20	M13948	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13862	**10000**	2.5
K	500	M14003	**10000**	2.5
B	20	M13947	1000	1
Si	100	M13981	1000	5
S	200	M13696	**10000**	1
Li	20	M13577	1000	1
Sr	20	M14007	1000	1
Sn	20	M14008	1000	1
Ti	20	M14009	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14097	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	01/09/2020	Expiration Date:	02/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

Standard Log #:	M14098	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	01/09/2020	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13696	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14096	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	01/08/2020	Expiration Date:	01/09/2020
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14093	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14094	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	01/08/2020	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14095	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	01/08/2020	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14092	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/26/2019	Expiration Date:	01/26/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14088	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/20/2019	Expiration Date:	01/20/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14089	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14090	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/24/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14091	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14086	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/19/2019	Expiration Date:	12/20/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14087	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/24/2019	Expiration Date:	12/25/2019
Prep:	Carefully mixed **3** parts HCl AB.862 with **1** part HNO_3 AB.861 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14083	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14084	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14085	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14082	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	Acid Washed TCLP Filters
Date Received:	12/11/2019	Lot #:	400168-9329-CM
Expiration Date (if any):		Catalog #:	FG77150MM

Standard ID#:	M14079	Vendor:	Thermofisher Scientific
Analyst:	MDS	Chemical:	GFAA Nickel Nitrate Modifier
Date Received:	12/12/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard ID#:	M14080	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14081	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	12/12/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M14078A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	02/21

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13947	1000	0.8
Si	200	M13810	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14078b Combined with	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	12/11/2019	Expiration Date:	03/201

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13604	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14077	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	12/11/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13851	1000	0.2
Al	36	M13982	**10000**	0.18
As	24	M13863	1000	1.2
Ba	1.8	M13949	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13841	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13983	**10000**	0.5
Mg	40	M13752	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13860	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13950	1000	0.6
Se	13	M13948	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M14076	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	12/10/2019	Expiration Date:	02/20

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13951	1000	0.2
Al	9.6	M13982	**10000**	0.048
As	32	M13863	1000	1.6
Ba	2	M13949	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13841	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13983	**10000**	0.36
Mg	32	M13752	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13860	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13950	1000	1.6
Se	16	M13948	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M14074	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	12/10/2019	Expiration Date:	02/2021
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13951 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M14075	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/10/2019	Expiration Date:	12/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	GFAA
Standard Log #:	M14072	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13950 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13948 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M14073	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	12/10/2019	Expiration Date:	02/2020
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13950 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13948 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M14071	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	12/10/2019	Expiration Date:	02/2020

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13948	10,000
Sb	1	1000	M13950	10,000
Ag	0.1	1000	M13951	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

		Instrument:	HydraII
Standard Log #:	M14068	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14069	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	12/10/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M14070	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/10/2019	Expiration Date:	01/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14065	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/05/2019	Expiration Date:	01/05/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14066	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/06/2019	Expiration Date:	01/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14067	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/10/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M14063	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	12/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.682 and dissolved **100 g** Stannous chloride M14016 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14064	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	12/04/2019	Expiration Date:	12/05/2019
Prep:	Carefully mixed **3** parts HCl AB.682 with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M14061	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	12/02/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M14062	Vendor:	ENVIROMENTAL EXPRESS
Analyst:	BMM	Chemical:	Acid Washed TCLP Filters
Date Received:	12/02/2019	Lot #:	400168-9305-CM
Expiration Date (if any):		Catalog #:	

		Instrument:	CETAC
Standard Log #:	M14058	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/20/2019	Expiration Date:	12/20/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14059	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14060	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	12/02/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M14056	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard Log #:	M14057	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/26/2019	Expiration Date:	11/26/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M14002. Dilute to 20 L and mix.		

Standard ID#:	M14054	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-042CR
Expiration Date (if any):	11/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M14055	Vendor:	Spex Certi Prep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	11/20/2019	Lot #:	53-041CR
Expiration Date (if any):	11/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M14051	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14052	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M14053	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	11/20/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M14048	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14049	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/19/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14050	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/19/2019	Expiration Date:	11/20/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14045	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/11/2019	Expiration Date:	05/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M14046	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/13/19	Expiration Date:	05/13/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.681 and dissolved **100 g** Stannous chloride M14017 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14047	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/19/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

Standard Log #:	M14044	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/13/2019	Expiration Date:	11/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.684 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M14041	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/09/2019	Expiration Date:	11/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M14042	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	11/13/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14043	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	11/12/2019	Expiration Date:	04/12/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14038	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14039	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	11/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14040	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	ICP 6000
Standard Log #:	M14035	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M14008 Sr (1000 µg/mL) M14007 Ti (1000 µg/mL) M14009 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M14036	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/04/2019	Expiration Date:	02/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXX	1000	5	XX/XXXX
Ti	10/30	M14009	1000	0.5	04/2021
Sr	10/30	M14007	1000	0.5	04/2021
Sn	20/60	M14008	1000	1	04/2021

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M14037	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	11/04/2019	Expiration Date:	05/04/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP
Standard Log #:	M14033	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/04/2019	Expiration Date:	05/30/2020
Prep:	Standard Conc. (ug/L)	Pipette the following:	
	1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L*	
	10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L*	
	100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L*	
	1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L*	
	10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13839 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*	

		Instrument:	ICP 6000
Standard Log #:	M14034	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/04/2019	Expiration Date:	02/28/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M14008, **0.1 mL** of Sr (1000 µg/mL) M14007, **0.1 mL** of Ti (1000 µg/mL) M14009, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	CETAC
Standard Log #:	M14032	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/31/2019	Expiration Date:	10/31/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M14028	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	10/2020
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13947 and Si (1000 mg/L) M13810 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M14029	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/30/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13947, **0.05 mL** of Si (1000 µg/mL) M13810 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M14030	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/30/2019	Expiration Date:	05/30/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13839 and **1.0 mL** Si (1000 mg/L) M13981 and brought up to volume using milli-Q H_2O.		

Standard ID#:	M14031	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Acid Washed TCLP filters
Date Received:	10/31/2019	Lot #:	400165
Expiration Date (if any):		Catalog #:	FG77150MM

		Instrument:	HydraII
Standard Log #:	M14024	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14025	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/29/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14026	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/29/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M14027	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/30/2019	Expiration Date:	04/30/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

MRL BASE STD M14024 Analyst NAH

Prep Date 10/30/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13951	1000	1	02/2021
Al	400	M13690	10000	2	06/2020
Ba	10	M13949	1000	0.5	02/2021
Be	4	M13579	1000	0.2	02/2020
Cd	5	M13570	1000	0.25	01/2020
Co	10	M13575	1000	0.5	01/2020
Cr	10	M13617	10000	0.05	03/2020
Cu	10	M13618	10000	0.05	03/2020
Mg	500	M13752	10000	2.5	09/2020
Mn	10	M13616	10000	0.05	03/2020
Mo	10	M13860	1000	0.5	12/2020
Ni	10	M13569	1000	0.5	01/2020
Pb	10	M13615	10000	0.05	03/2020
Sb	20	M13950	1000	1	02/2021
V	10	M13578	1000	0.5	02/2020
Zn	10	M13610	10000	0.05	03/2020
K	1000	M14003	10000	5	04/2021
Na	1000	M13862	10000	5	12/2020
As	20	M13763	1000	1	12/2020
Ca	500	M13985	10000	2.5	04/2021
Fe	300	M13751	10000	1.5	09/2020
Se	20	M13948	1000	1	02/2021
Tl	20	M13583	1000	1	02/2020
Si	100	M13810	1000	5	10/2020
B	20	M13947	1000	1	02/2021
Li	20	M13577	1000	1	02/2020
W	50	Mxxxxxx	1000	2.5	xxxxxxxx
Ti	10	M14009	1000	0.5	04/2021
Sr	10	M14007	1000	0.5	03/2020
Sn	50	M14008	1000	2.5	04/2021
S	300	M13604	10000	1.5	03/2020

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M14022	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13922 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M14023	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	10/30/2019	Expiration Date:	02/2020
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13738 and 15 **mL** 10000 mg/L Fe M14004 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13859 and brought up to volume with milli-Q H_2O.		

Standard Log #:	M14020	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13714 and brought up to volume.		

Standard Log #:	M14021	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13993 and **60 g** hydroxylamine sulfate M13874 and brought up to volume.		

Standard ID#:	M14016	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M14017	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride
Date Received:	10/23/2019	Lot #:	J267-10
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M14018	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	10/24/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M14019	Reagent:	Potassium Permanganate Solution
Analyst:	BMM		
Prep Date:	10/23/2019	Expiration Date:	04/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M14012	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M14013	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/21/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M14014	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/21/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M14015	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/22/2019	Expiration Date:	09/30/2020
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13954 and **10 mL** Mg (10,000 mg/L) M13752 and brought up to volume.		

Standard Log #:	M14010	Reagent:	SPLP ACID MIX
Analyst:	BMM		60/40 H_2SO_4 - HNO_3
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 200 mL volumetric flask, partially filled with DI H_2O, add **12 g** H_2SO_4 AB.674 and **8 g** HNO_3 AB.677 and bring up to volume using DI H_2O.		

Standard Log #:	M14011	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	10/21/2019	Expiration Date:	10/21/2020
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 HNO_3 - H_2SO_4 M14010.		

Standard ID#:	M14005	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	10/17/2019	Lot #:	168189-30
Expiration Date (if any):	04/2021	Catalog #:	4400-110M671

Standard ID#:	M14006	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	10/17/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

Standard ID#:	M14007	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	10/17/2019	Lot #:	168227-95
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000531

Standard ID#:	M14008	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	10/17/2019	Lot #:	977645-2
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000613

Standard ID#:	M14009	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	10/17/2019	Lot #:	987438-36
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000623

		Instrument:	CETAC
Standard Log #:	M14000	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/16/2019	Expiration Date:	04/16/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M14001	Vendor:	ThermoFisher
Analyst:	MDS	Chemical:	Nickel Nitrate Matrix Modifier
Date Received:	10/17/2019	Lot #:	9192422
Expiration Date (if any):	04/30/2021	Catalog #:	39043

Standard Log #:	M14002	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	10/17/2019	Expiration Date:	10/17/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W47366 and brought up to volume.		

Standard ID#:	M14003	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	10/17/2019	Lot #:	980507-31
Expiration Date (if any):	04/2021	Catalog #:	4400-10M411

Standard ID#:	M14004	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/17/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13997	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13998	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13999	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/16/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard ID#:	M13993	Vendor:	Thermo fisher Scientific
Analyst:	NAH	Chemical:	Sodium Chloride
Date Received:	10/15/2019	Lot #:	193463
Expiration Date (if any):	06/2024	Catalog #:	S271-500

Standard ID#:	M13994	Vendor:	Thermo Fisher Scientific
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	10/15/2019	Lot #:	189407
Expiration Date (if any):	05/2024	Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13995	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/15/2019	Expiration Date:	10/16/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13996	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/16/2019	Expiration Date:	10/16/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	ICP 6000
Standard Log #:	M13992	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	10/15/2019	Expiration Date:	01/2020
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **6 mL** of Fe (10,000 mg/L) M13751, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	ICP 6000
Standard Log #:	M13989	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	06/2020
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13696 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13990	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	10/14/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13991	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/14/2019	Expiration Date:	12/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13861 and **3 mL** of Fe (10,000 mg/L) M13751 and brought up to volume using Milli-Q H_2O.		

		Instrument:	HydraII
Standard Log #:	M13986	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13987	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13988	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/15/2019	Expiration Date:	04/15/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13982	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10000 mg/L
Date Received:	10/09/2019	Lot #:	992536-16
Expiration Date (if any):	04/2021	Catalog #:	4400-10M11

Standard ID#:	M13983	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	10/09/2019	Lot #:	998527-45
Expiration Date (if any):	04/2021	Catalog #:	4400-10M261

Standard ID#:	M13984	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	10/09/2019	Lot #:	1013353-4
Expiration Date (if any):	04/2021	Catalog #:	4400-10M311

Standard ID#:	M13985	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	10/09/2019	Lot #:	855297-68
Expiration Date (if any):	04/2021	Catalog #:	4400-10M91

		Instrument:	CETAC
Standard Log #:	M13978	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/08/2019	Expiration Date:	04/08/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13979	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	10/09/2019	Expiration Date:	04/09/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

Standard ID#:	M13980	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	10/08/2019	Lot #:	52-248CR
Expiration Date (if any):	10/30/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13981	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/l
Date Received:	10/09/2019	Lot #:	1004985-62
Expiration Date (if any):	04/2021	Catalog #:	S4400-1000504F

		Instrument:	HydraII
Standard Log #:	M13976	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13975 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13977	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/07/2019	Expiration Date:	10/07/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13973	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13974	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/07/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13975	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/07/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13970	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13971	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13972	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/07/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13969	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	10/02/2019	Expiration Date:	10/02/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.681 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13967	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13966 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13968	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	10/01/2019	Expiration Date:	10/01/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13964	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13965	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	10/01/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13966	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	10/01/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13963	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/30/2019	Expiration Date:	09/30/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13961	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std.
Date Received:	09/24/2019	Lot #:	7-093AB
Expiration Date (if any):	09/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	CETAC
Standard Log #:	M13962	Reagent:	Stannous Chloride Solution
Analyst:	NAH		
Prep Date:	09/25/2019	Expiration Date:	09/25/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13923 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13960	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/19/2019	Expiration Date:	03/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.678 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

		Instrument:	HydraII
Standard Log #:	M13958	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	HydraII
Standard Log #:	M13959	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/17/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13958 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13955	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/17/2019	Expiration Date:	09/17/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13956	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13957	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/17/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

Standard Log #:	M13952	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13953	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/13/2019	Expiration Date:	09/13/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard ID#:	M13954	Vendor:	Environmental Expresss
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/13/2019	Lot #:	1925215
Expiration Date (if any):	09/30/2020	Catalog #:	HP1900-100

		Instrument:	CETAC
Standard Log #:	M13946	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/10/2019	Expiration Date:	03/10/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13947	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 mg/lL
Date Received:	09/10/2019	Lot #:	982524-80
Expiration Date (if any):	02/2021	Catalog #:	S4400-100074

Standard ID#:	M13948	Vendor:	CPI
Analyst:	NAH	Chemical:	Selenium 1000 mg/L
Date Received:	09/10/2019	Lot #:	982461-61
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000491

Standard ID#:	M13949	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	09/10/2019	Lot #:	994634-28
Expiration Date (if any):	02/2021	Catalog #:	S4400-100041

Standard ID#:	M13950	Vendor:	CPI
Analyst:	NAH	Chemical:	Antimony 1000 mg/L
Date Received:	09/10/2019	Lot #:	1013797-3
Expiration Date (if any):	02/2019	Catalog #:	S4400-100023

Standard ID#:	M13951	Vendor:	CPI
Analyst:	NAH	Chemical:	Silver 1000 mg/L
Date Received:	09/10/2019	Lot #:	975475-71
Expiration Date (if any):	02/2021	Catalog #:	S4400-1000511

		Instrument:	HydraII
Standard Log #:	M13944	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13943 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13945	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	09/09/2019	Expiration Date:	09/09/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13941	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13942	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/09/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13943	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/09/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13938	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13939	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13940	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	09/09/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13937	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13738, **2.5 mL** of K (10,000 mg/L) M13755, **2.5 mL** of Na (10,000 mg/L) M13691 and **7.5 mL** of Fe (10,000 mg/L) M13695 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13933	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13934	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13935	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13755 and Na (10,000 mg/L) M13691 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13936	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	09/06/2019	Expiration Date:	06/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13691 and **0.15 mL** K (10,000 µg/mL) M13755 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	HydraII
Standard Log #:	M13929	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13928 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13930	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	09/03/2019	Expiration Date:	10/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard Log #:	M13931	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

Standard Log #:	M13932	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/03/2019	Expiration Date:	09/03/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13877. Dilute to 20 L and mix.		

		Instrument:	HydraII
Standard Log #:	M13926	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13927	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13928	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	09/03/2019	Expiration Date:	03/03/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard ID#:	M13924	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 mg/L
Date Received:	08/29/2019	Lot #:	1833905
Expiration Date (if any):	02/28/2021	Catalog #:	HP10M67-1

		Instrument:	HydraII
Standard Log #:	M13920	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13919 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13921	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/28/2019	Expiration Date:	09/28/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13889 and brought up to volume.		

Standard ID#:	M13922	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13923	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	08/28/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	HydraII
Standard Log #:	M13917	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13918	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/27/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13919	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/27/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	GFAA
Standard Log #:	M13916	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13914	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13863 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13915	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	08/26/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13863 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

Standard Log #:	M13913 (A)	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	12/19/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13861	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13913 combined with A	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	08/26/2019	Expiration Date:	06/20/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13696	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13911	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13912	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/21/2019	Expiration Date:	08/21/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13909	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13908 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13910	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/20/2019	Expiration Date:	08/20/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13906	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13907	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/20/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13908	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/20/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

Standard Log #:	M13904	Reagent:	Potassium Persulfate Solution
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13905	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	BMM		
Prep Date:	08/19/2019	Expiration Date:	08/19/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13902	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/15/2019	Expiration Date:	02/15/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13903	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/15/2019	Lot #:	52-161Cr
Expiration Date (if any):	8/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13898	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	08/13/2019	Expiration Date:	08/13/2020
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	HydraII
Standard Log #:	M13899	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	HydraII
Standard Log #:	M13900	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/13/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	HydraII
Standard Log #:	M13901	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/13/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13897	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	12 µg/L As 6 µg/L Pb 10 µg/L Sb 20 µg/L Se 10 µg/L Tl 0.6 µg/L Ag
Prep Date:	08/12/2019	Expiration Date:	10/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13863	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.2	10,000	12
Pb	0.6	10,000	6
Tl	1.0	10,000	10
Se	2.0	10,000	20
Sb	1.0	10,000	10
Ag	0.6	1000	0.6

Standard Log #:	M13896	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	08/09/2019	Expiration Date:	08/09/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13895	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	08/06/2019	Expiration Date:	02/06/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13894	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13893 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13891	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13892	Standard:	Hg CCV
Analyst:	MDS	Concentration:	3.0 ug/L Hg
Prep Date:	08/05/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13893	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	08/05/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13890	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/29/2019	Expiration Date:	01/29/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13888 and brought up to volume.		

Standard ID#:	M13888	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

Standard ID#:	M13889	Vendor:	LabChem
Analyst:	MDS	Chemical:	Stannous Chloride Dihydrate
Date Received:	07/25/2019	Lot #:	J142-19
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	CETAC
Standard Log #:	M13884	Reagent:	Hg Aqua Regia
Analyst:	BMM		
Prep Date:	07/22/2019	Expiration Date:	
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13885	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13886	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13887	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	07/22/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13883	Reagent:	Stannous Chloride Solution
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13879	Reagent:	Hg Aqua Regia
Analyst:	MDS		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13880	Standard:	Hg ICAL
Analyst:	MDS	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	07/18/2019	Expiration Date:	01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13881	Standard:	Alt. Source Working Std.
Analyst:	MDS	Concentrations:	10,000 and 100 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13882	Standard:	Hg ICV/LCS
Analyst:	MDS	Concentration:	3 ug/L
Prep Date:	07/18/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13881 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13876	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13877	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard Log #:	M13878	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M45383. Dilute to 20 L and mix.		

Standard Log #:	M13873	Reagent:	Potassium Permanganate Solution
Analyst:	NAH		
Prep Date:	07/17/2019	Expiration Date:	07/17/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13874	Vendor:	Fisher
Analyst:	NAH	Chemical:	Hydroxylamine Sulfate
Date Received:	07/17/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard Log #:	M13875	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	NAH		
Prep Date:	07/18/2019	Expiration Date:	07/18/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13872	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/12/2019	Expiration Date:	07/12/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13871	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/11/2019	Expiration Date:	07/11/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13870	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/10/2019	Expiration Date:	07/10/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13869	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/08/2019	Expiration Date:	07/08/2019
Prep:	Carefully mixed **3** parts HCl AB.680 with **1** part HNO_3 AB.679 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13868	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	07/03/2019	Expiration Date:	01/03/2020
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.680 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13864	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	07/02/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13865	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13728 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard Log #:	M13866	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13867	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	07/02/2019	Expiration Date:	01/02/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13858	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/26/2019	Expiration Date:	06/26/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13859	Vendor:	CPI
Analyst:	NAH	Chemical:	Ce 1000 mg/L
Date Received:	06-26-2019	Lot #:	171633-12
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000101

Standard ID#:	M13860	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	06-26-2019	Lot #:	987189-17
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000343

Standard ID#:	M13861	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06-26-2019	Lot #:	175213-60
Expiration Date (if any):	12/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13862	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	06-26-2019	Lot #:	752887-32
Expiration Date (if any):	12/2020	Catalog #:	4400-10M521

Standard ID#:	M13863	Vendor:	CPI
Analyst:	NAH	Chemical:	As 1000 mg/L
Date Received:	06-26-2019	Lot #:	175385-105
Expiration Date (if any):	12/2020	Catalog #:	S4400-100031

Standard Log #:	M13856	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13857	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	06/21/2019	Expiration Date:	06/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13855	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/19/2019	Expiration Date:	06/19/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13851	Vendor:	CPI
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06-19-2019	Lot #:	52-082CR
Expiration Date (if any):	06/30/2020	Catalog #:	XSPIKE-1-250

		Instrument:	GFAA
Standard Log #:	M13852	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13853	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13854	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	06/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	CETAC
Standard Log #:	M13850	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/14/2019	Expiration Date:	06/14/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13849	Instrument:	GFAA
Analyst:	MDS	Standard:	MDL Spiking Solution
Prep Date:	06/13/2019	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (2% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Ag	0.2	M13458	1000	0.01
As	2	M13392	1000	0.1
Pb	2	M13615	10000	0.01
Sb	2	M13459	1000	0.1
Se	2	M13460	1000	0.1
Tl	2	M13583	1000	0.1

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13848	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13611	**10000**	0.18
As	24	M13753	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13692	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13697	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13609	**10000**	0.5
Mg	40	M13694	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13697	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13615	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13847	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	06/11/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13611	**10000**	0.048
As	32	M13753	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13692	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13697	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13609	**10000**	0.36
Mg	32	M13694	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13697	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13615	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13845	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	500	M13811	10000	2.5
Na	600	M13691	10000	3

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13846	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 k&na Spiking Solution
Prep Date:	06/11/2019	Expiration Date:	06/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
K	2640	M13811	10000	13.2
Na	960	M13691	10000	4.8

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13839	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	52-038CR
Expiration Date (if any):	05/30/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13840	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2019	Lot #:	5-244AB
Expiration Date (if any):	06/30/2020	Catalog #:	XCTWWI-1-500

Standard ID#:	M13841	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10,000 mg/L
Date Received:	06/11/2019	Lot #:	855297-41
Expiration Date (if any):	11/2020	Catalog #:	4400-10M91

Standard ID#:	M13842	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10,000 mg/L
Date Received:	06/11/2019	Lot #:	169484-36
Expiration Date (if any):	11/2020	Catalog #:	4400-10M11

Standard ID#:	M13843	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	06/11/2019	Lot #:	168189-30
Expiration Date (if any):	11/20	Catalog #:	4400-10M671

Standard ID#:	M13844	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	06/11/2019	Lot #:	175213-60
Expiration Date (if any):	11/2020	Catalog #:	S4400-1000504F

		Instrument:	GFAA
Standard Log #:	M13838	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	06/07/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

		Instrument:	GFAA
Standard Log #:	M13836	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13837	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	06/07/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13835	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/06/2019	Expiration Date:	06/06/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13832	Standard:	CCV1
Analyst:	NAH	Concentrations:	**5000 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **500 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **50 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **5.0 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13833	Standard:	CCV2
Analyst:	NAH	Concentrations:	**500 µg/L** Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn **50 µg/L** Ag, Be, Cd
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** Custom Assurance Standard #23 XCTWI-5-500 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **0.5 mL** of Custom Assurance Std. #3 XCTWI-4-500 (100 mg/L Ag, Be, Cd) M13827 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13834	Standard:	ICSAB
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **500 ug/L** Ag, As, Ba, Be, Cd, Co, Cr, Cu, Mn, Mo, Ni, Pb, Sb, Se, Tl, V, Zn
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13738, **15 mL** Fe (10,000 mg/L) M13751, **2.5 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **2.5 mL** Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and brought up to volume with milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13830	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	06/03/2019	Expiration Date:	12/03/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13831	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/03/2019	Expiration Date:	02/20
Prep:	Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (5% HNO_3, 5% HCl) *1000 ug/L Std.* - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13827 and **1 mL** of Si (1000 mg/L) M13810 and 1 mL M13703 Ce *0.25 ug/L Std.* - **0.25 mL** of the 1000 ug/L Std. *0.5 ug/L Std.* - **0.5 mL** of the 1000 ug/L Std. *1 ug/L Std.* - **1 mL** of the 1000 ug/L Std. *5 ug/L Std.* - **5 mL** of the 1000 ug/L Std. *10 ug/L Std.* - **10 mL** of the 1000 ug/L Std. *20 ug/L Std.* - **20 mL** of the 1000 ug/L Std. *50 ug/L Std.* - **50 mL** of the 1000 ug/L Std. *100 ug/L Std.* - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3 *10,000 ug/L Std.* - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13811. *100k ug/L Std.* - **10 mL** of Cu (10,000 mg/L) M13618, **10 mL** of Mn (10,000 mg/L) M13616, **10 mL** of Cr (10,000 mg/L) M13617, **10 mL** Pb (10,000 mg/L) M13610, **10 mL** of Zn (10,000 mg/L) M13615 and **10 mL** of Na (10,000 mg/L) M13691. *100,000 ug/L Std.* - **10 mL** of Mg (10,000 mg/L) M13752, **10 mL** of Fe (10,000 mg/L) M13751, **10 mL** of Ca (10,000 mg/L) M13690 and **10 mL** Al (10,000 mg/L) M13693. *500,000 ug/L Std.* - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L) *1000k ug/L Std.* - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)		

		Instrument:	CETAC
Standard Log #:	M13829	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/31/2019	Expiration Date:	05/31/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13828	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/30/2019	Expiration Date:	05/30/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13827	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05-29-2019	Lot #:	XCTWI-4-500
Expiration Date (if any):	5/30/2020	Catalog #:	5-116AB

		Instrument:	CETAC
Standard Log #:	M13823	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13824	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13825	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13826	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/24/2019	Expiration Date:	11/24/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13820	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	05/24/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13821	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13734 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13822	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	05/24/2019	Expiration Date:	02/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13734 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13818	Reagent:	TCLP 1 N HCL
Analyst:	BMM		
Prep Date:	05/22/2019	Expiration Date:	05/23/2020
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, added 83 mL HCL AB.676 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13819	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/22/2019	Expiration Date:	05/22/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13817	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/16/2019	Expiration Date:	05/16/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard Log #:	M13813	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	05/14/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13694 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13814	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13815	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13816	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	05/14/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13812	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/13/2019	Expiration Date:	11/13/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13808	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	158237-121
Expiration Date (if any):	10/20	Catalog #:	4400-1000521-500

Standard ID#:	M13809	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	832313-110
Expiration Date (if any):	10/20	Catalog #:	4400-1000411-500

Standard ID#:	M13810	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	05-09-2019	Lot #:	175213-60
Expiration Date (if any):	10/20	Catalog #:	S400-1000504F

Standard ID#:	M13811	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	05-09-2019	Lot #:	980507-14
Expiration Date (if any):	10/20	Catalog #:	4400-10M411-500

		Instrument:	CETAC
Standard Log #:	M13805	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/07/2019	Expiration Date:	05/07/2019
Prep:	Carefully mixed **3** parts HCl AB.677 with **1** part HNO_3 AB.676 in a hood.		

Standard Log #:	M13806	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13807	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	05/07/2019	Expiration Date:	05/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

MRL BASE STD M13804

Analyst NAH

Prep Date 05/07/2019

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/19
Al	400	M13611	10000	2	3/20
Ba	10	M13457	1000	0.5	10/19
Be	4	M13579	1000	0.2	2/20
Cd	5	M13570	1000	0.25	1/20
Co	10	M13575	1000	0.5	1/20
Cr	10	M13617	10000	0.05	3/20
Cu	10	M13618	10000	0.05	3/20
Mg	500	M13694	10000	2.5	6/20
Mn	10	M13616	10000	0.05	3/20
Mo	10	M13697	1000	0.5	6/20
Ni	10	M13569	1000	0.5	1/20
Pb	10	M13615	10000	0.05	3/20
Sb	20	M13579	1000	1	10/19
V	10	M13578	1000	0.5	2/20
Zn	10	M13610	10000	0.05	3/20
K	1000	M13755	10000	5	9/20
Na	1000	M13691	10000	5	6/20
As	20	M13753	1000	1	10000 std 0.1, 9/20
Ca	500	M13692	10000	2.5	6/20
Fe	300	M13695	10000	1.5	6/20
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	2/20
Si	100	M13754	1000	5	9/20
B	20	M13531	1000	1	12/19
Li	20	M13577	1000	1	2/20
W	50	xxxx	1000	2.5	xxxx
Ti	10	M13573	1000	0.5	1/20
Sr	10	M13580	1000	0.5	2/20
Sn	50	M13572	1000	2.5	1/20
S	300	M13604	10000	1.5	3/20

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Expiration Date: 10/19

		Instrument:	CETAC
Standard Log #:	M13800	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	05/06/2019	Expiration Date:	11/06/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	ICP 6000
Standard Log #:	M13801	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	12/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13531 and Si (1000 mg/L) M13731 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13802	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	05/06/2019	Expiration Date:	02/28/2020
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13741 and **1.0 mL** Si (1000 mg/L) M13754 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13803	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	05/06/2019	Expiration Date:	09/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **0.05 mL** of B (1000 µg/mL) M13531, **0.05 mL** of Si (1000 µg/mL) M13731 and **3 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13798	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXXXX		

		Instrument:	ICP 6000
Standard Log #:	M13799	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	05/03/2019	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	MXXXXX	1000	5	XX/XXXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	CETAC
Standard Log #:	M13795	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	05/03/2019	Expiration Date:	05/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

		Instrument:	ICP
Standard Log #:	M13796	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	05/03/2019	Expiration Date:	02/28/2020
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.001 mL** W (1000 µg/mL) MXXXXX into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.01 mL** W (1000 µg/mL) MXXXXX into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.1 mL** W (1000 µg/mL) MXXXXX into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **0.2 mL** W (1000 µg/mL) MXXXXX into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13741 and **2 mL** W (1000 µg/mL) MXXXXX into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13797	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	05/03/2019	Expiration Date:	09/30/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) MXXXXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

Standard Log #:	M13793	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13793 and brought up to volume.		

Standard Log #:	M13794	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	05/02/2019	Expiration Date:	11/02/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13727 and brought up to volume.		

Standard ID#:	M13790	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	04/29/2019	Lot #:	1833905
Expiration Date (if any):	10/31/2020	Catalog #:	HP10M67-1

Standard ID#:	M13791	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	04/29/2019	Lot #:	51-239CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13792	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/29/2019	Expiration Date:	04/29/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.677 in a hood.		

Standard ID#:	M13785	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICAL/CCV BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678822
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-SPK-1

Standard ID#:	M13786	Vendor:	Inorganic Ventures
Analyst:	MDS	Chemical:	GFAA ICV/SPIKE BASE STD
Date Received:	04/19/2019	Lot #:	P2-MEB678821
Expiration Date (if any):	04/19/2020	Catalog #:	CTI-GFCAL-1

		Instrument:	GFAA
Standard Log #:	M13787	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13788	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13785 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

		Instrument:	GFAA
Standard Log #:	M13789	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	04/19/2019	Expiration Date:	04/19/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13786 and brought to volume with Milli-Q DI H_2O. ($1\% HNO_3$)		

Standard Log #:	M13782	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	04/18/2019	Expiration Date:	04/18/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard ID#:	M13783	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	GFAA 1% Nickel Nitrate Matrix Mod.
Date Received:	04/18/2019	Lot #:	9166009
Expiration Date (if any):	09/30/2020	Catalog #:	39043

Standard Log #:	M13784	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	04/18/2019	Expiration Date:	10/18/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13780	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	10/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13781	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/17/2019	Expiration Date:	04/17/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13779	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	04/12/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13693, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13778	Reagent:	1:3 HNO3
Analyst:	MDS		
Prep Date:	04/11/2019	Expiration Date:	04/11/2020
Prep:	Carefully mixed **3** parts DI with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13777	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/09/2019	Expiration Date:	04/09/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

Standard Log #:	M13775	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	04/02/2019	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13614 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13776	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/03/2019	Expiration Date:	04/03/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13771	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13772	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13773	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	03/26/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13774	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	03/26/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	CETAC
Standard Log #:	M13770	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/25/2019	Expiration Date:	03/25/2019
Prep:	Carefully mixed **3** parts HCl AB.676 with **1** part HNO_3 AB.675 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13768	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	03/21/2019	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13769	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	03/21/2019	Expiration Date:	09/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.676 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13765	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	03/21/2019	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13766	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13767	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	03/21/2019	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

Standard Log #:	M13763	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

Standard Log #:	M13764	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	03/20/2019	Expiration Date:	03/20/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13750. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13761	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	03/19/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13762	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	03/19/2019	Expiration Date:	09/19/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13511 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	ICP 6500
Standard Log #:	M13758	Standard:	ICSA4_Ni_Ti
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ni and Ti
Prep Date:	03/13/2019	Expiration Date:	01/2020
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ni M13569 5.0 **mL** 10000 mg/L Ti M13573 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13759	Standard:	ICSA2_Ba_Be_Sn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Ba, Be, and Sn
Prep Date:	03/13/2019	Expiration Date:	10/2019
Prep:	Into a 500 mL volumetric flask, pipetted 5.0 **mL** 1000 mg/L Ba M13457 5.0 **mL** 10000 mg/L Be M13579 5.0 **mL** 10000 mg/L Sn M13572 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13760	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg **10,000** V, Ce
Prep Date:	03/13/2019	Expiration Date:	09/2019
Prep:	Into a 500 mL volumetric flask, pipetted 50 **mL** Interference A std M13635 and 15 **mL** 10000 mg/L Fe M13609 5.0 **mL** 1000 mg/L V M13578 5.0 **mL** 1000 mg/L Ce M13203 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13756	Standard:	ICSA1_Mn
Analyst:	NAH	Concentrations:	**10,000 ug/L** Mn
Prep Date:	03/13/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L mn M13616 brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13757	Standard:	ICSA3_Cr_Cu_Co_Mo
Analyst:	NAH	Concentrations:	**10,000 ug/L** Cr, Cu, Co and Mo
Prep Date:	03/13/2019	Expiration Date:	01/20
Prep:	Into a 500 mL volumetric flask, pipetted 0.5 **mL** 10000 mg/L Cr M13617 0.5 **mL** 10000 mg/L Cu M13618 5.0 **mL** 1000 mg/L Co M13575 5.0 **mL** 1000 mg/L Mo M13697 brought up to volume with milli-Q H_2O.		

Standard ID#:	M13751	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	03/12/2019	Lot #:	998527-19
Expiration Date (if any):	09/2020	Catalog #:	4400-10M261

Standard ID#:	M13752	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	03/12/2019	Lot #:	982185-12
Expiration Date (if any):	09/2020	Catalog #:	4400-10M311

Standard ID#:	M13753	Vendor:	CPI
Analyst:	NAH	Chemical:	As 10000 mg/L
Date Received:	03/12/2019	Lot #:	166531-32
Expiration Date (if any):	09/2020	Catalog #:	S4400--10M31

Standard ID#:	M13754	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	03/12/2019	Lot #:	175213-60
Expiration Date (if any):	09/2020	Catalog #:	S4400-1000504F

Standard ID#:	M13755	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	03/12/2019	Lot #:	172053-77
Expiration Date (if any):	09/2020	Catalog #:	4400-10M411

		Instrument:	CETAC
Standard Log #:	M13749	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	03/08/2019	Expiration Date:	03/08/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13750	Reagent:	10N NaOH
Analyst:	BMM		
Prep Date:	03/08/2019	Expiration Date:	03/08/2020
Prep:	Into a 1 L volumetric flask, added **400 g** NaOH W45383 and brought up to volume.		

Standard ID#:	M13748	Vendor:	Potters Ind. LLC (Gainger)
Analyst:	NAH	Chemical:	Glass beads Extra Fine
Date Received:	03/07/2019	Lot #:	
Expiration Date (if any):	XXXXXX	Catalog #:	6ZC13

		Instrument:	ICP
Standard Log #:	M13746	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Standard Conc. (ug/L)	Pipette the following:
1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.001 mL** W (1000 µg/mL) XXXXXX into 1L = *1 µg/L*
10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.01 mL** W (1000 µg/mL) XXXXXX into 1L = *10 µg/L*
100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.1 mL** W (1000 µg/mL) XXXXXX into 1L = *100 µg/L*
1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **0.2 mL** W (1000 µg/mL) XXXXXX into 200mL = *1000 µg/L*
10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13602 and **2 mL** W (1000 µg/mL) XXXXXX into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13747	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	03/04/2019	Expiration Date:	09/30/2019

Prep:

Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **6 mL** of Fe (10,000 mg/L) M13609, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXXXXX and brought up to volume using Milli-Q H_2O.
(0.5% HNO_3, 0.5% HCl)

Standard Log #:	M13743	Instrument:	ICP 6500
Analyst:	NAH	Standard:	MDL DOD Metals Spiking soln
Prep Date:	02/26/2019	Expiration Date:	10/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	5	M13458	1000	0.25
Al	10	M13611	**10000**	0.05
As	20	M13392	1000	1
Ba	2	M13457	1000	0.1
Be	0.5	M13579	1000	0.025
Ca	50	M13692	**10000**	0.25
Cd	0.5	M13570	1000	0.025
Co	2.5	M13575	1000	0.125
Cr	5.0	M13617	**10000**	0.025
Cu	10	M13618	**10000**	0.05
Fe	40	M13609	**10000**	0.2
Mg	25	M13694	**10000**	0.125
Mn	5	M13616	**10000**	0.025
Mo	2.5	M13697	1000	0.125
Ni	5	M13569	1000	0.25
Pb	10	M13615	**10000**	0.05
Sb	20	M13459	1000	1
Se	20	M13460	1000	1
Tl	20	M13583	1000	1
V	5	M13578	1000	0.25
Zn	5	M13610	**10000**	0.025
Na	500	M13605	**10000**	2.5
K	500	M13733	**10000**	2.5
B	20	M13531	1000	1
Si	100	M13731	1000	5
S	200	M13604	**10000**	1
Li	20	M13537	1000	1
Sr	20	M13572	1000	1
Sn	20	M13580	1000	1
Ti	20	M13573	1000	1

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	ICP 6000
Standard Log #:	M13740	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	02/26/2019	Expiration Date:	03/2020
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13604 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13741	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	02-26-2019	Lot #:	3-153AB
Expiration Date (if any):	02/28/2020	Catalog #:	XCTWI-5-500

Standard ID#:	M13742	Vendor:	IKOHE Blasting Media
Analyst:	NAH	Chemical:	Glass Neads X-fine-20u
Date Received:	02/26/2019	Lot #:	52-144
Expiration Date (if any):	*********	Catalog #:	UL-49/52-1544

		Instrument:	CETAC
Standard Log #:	M13739	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/22/2019	Expiration Date:	02/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13734	Vendor:	SPEX CERTIPREP
Analyst:	LJF	Chemical:	HG 1000 ug/mL
Date Received:	02/21/2019	Lot #:	CL10-136HGY
Expiration Date (if any):	02/28/2020	Catalog #:	CLHG4-2Y

Standard Log #:	M13735	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13736	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/21/2019	Expiration Date:	02/21/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13737	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	51-117CR
Expiration Date (if any):	02/28/2020	Catalog #:	XSPIKE-1-250

Standard ID#:	M13738	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	02/21/2019	Lot #:	2-230SGX
Expiration Date (if any):	02/28/2020	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13730	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/14/2019	Expiration Date:	02/14/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard ID#:	M13731	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	02/14/2019	Lot #:	175213-60
Expiration Date (if any):	08/20	Catalog #:	S4400-1000504F

Standard ID#:	M13732	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	139448-54
Expiration Date (if any):	08/20	Catalog #:	4400-10M671

Standard ID#:	M13733	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10000 ug/mL
Date Received:	02/14/2019	Lot #:	172053-36
Expiration Date (if any):	08/20	Catalog #:	4400-10M411

Standard ID#:	M13727	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	02/08/2019	Lot #:	175511
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13728	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	02/08/2019	Lot #:	186819
Expiration Date (if any):		Catalog #:	S271-500

Standard Log #:	M13729	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	02/11/2019	Expiration Date:	08/11/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M13059 and brought up to volume.		

Standard Log #:	M13724	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13725	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	02/07/2019	Expiration Date:	02/07/2020
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.673 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13726	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	02/07/2019	Expiration Date:	08/07/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13721	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	02/05/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

Standard Log #:	M13722	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13723	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	02/05/2019	Expiration Date:	08/05/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.671 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13720	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/31/2019	Expiration Date:	01/31/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13716	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13717	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13718	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	01/30/2019	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13719	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	01/30/2019	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13713	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	01/29/2019	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard ID#:	M13714	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	01/29/2019	Lot #:	A0391673
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13715	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	1/29/2019	Lot #:	51-013CR
Expiration Date (if any):	01/30/2020	Catalog #:	XCTWI-1-500

		Instrument:	GFAA
Standard Log #:	M13711	Standard:	LODS/LOQS Spiking Sol'n
Analyst:	MDS	Concentrations:	60 ug/L (Sb) 160 ug/L (As,Se) 40 ug/L (Pb) 50 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 200 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.2 mL** of Sb (1000 mg/L) M13459 **3.2 mL** of As (1000 mg/L) M13392 **3.2 mL** of Se (1000 mg/L) M13460 **0.08 mL** of Pb (10,000 mg/L) M13615 **1.0 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (1.2 *ug/L* Sb, *3.2 ug/L* As, *3.2 ug/L* Se, *0.8 ug/L* Pb, *1 ug/L* Tl) and **2 mL** spiking solution for LOQ (2.4 *ug/L* Sb, *6.4 ug/L* As, *6.4 ug/L* Se, *1.6 ug/L* Pb, *2 ug/L* Tl)		

		Instrument:	GFAA
Standard Log #:	M13712	Standard:	LODW/LOQW Spiking Sol'n
Analyst:	MDS	Concentrations:	150 ug/L (Sb) 100 ug/L (As) 200 ug/L (Se) 45 ug/L (Pb) 40 ug/L (Tl)
Prep Date:	01/29/2019	Expiration Date:	07/2019
Prep:	Into a 100 mL volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. **1.5 mL** of Sb (1000 mg/L) M13459 **1.0 mL** of As (1000 mg/L) M13392 **2.0 mL** of Se (1000 mg/L) M13460 **0.045 mL** of Pb (10,000 mg/L) M13615 **0.4 mL** of Tl (1000 mg/L) M13583 From this diluted standard solution, pipetted **10 mL** into a 1 L volumetric flask and brought up to volume with Milli-Q H_2O to make the spiking solution. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*3 ug/L* Sb, *2 ug/L* As, *4 ug/L* Se, *0.9 ug/L* Pb, *0.8 ug/L* Tl) and **2 mL** spiking solution for LOQ (*6 ug/L* Sb, *4 ug/L* As, *8 ug/L* Se, *1.8 ug/L* Pb, *1.6 ug/L* Tl)		

		Instrument:	CETAC
Standard Log #:	M13710	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	01/22/2019	Expiration Date:	01/22/2019
Prep:	Carefully mixed **3** parts HCl AB.671 with **1** part HNO_3 AB.672 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13709	Standard:	NaK ICSAB
Analyst:	MDS	Concentrations:	500 mg/L (Al, Ca, Fe, Mg) 100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	09/30/2019
Prep:	Into a 250 mL volumetric flask, pipetted **25 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13635, **2.5 mL** of K (10,000 mg/L) M13689, **2.5 mL** of Na (10,000 mg/L) M13605 and **7.5 mL** of Fe (10,000 mg/L) M13609 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13705	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13607 and K (1000 µg/mL) M13606 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13706	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13607 and **0.5 mL** K (1000 µg/mL) M13606 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13707	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13689 and Na (10,000 mg/L) M13605 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13708	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	01/10/2019	Expiration Date:	03/2020
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13605 and **0.15 mL** K (10,000 µg/mL) M13689 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13703	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13704	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	12/20/2018	Expiration Date:	12/20/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13701	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	12/13/2018	Expiration Date:	06/13/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

Standard ID#:	M13696	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10,000 mg/L
Date Received:	12/11/2018	Lot #:	167967-42
Expiration Date (if any):	06/20	Catalog #:	4400-10M544

Standard ID#:	M13697	Vendor:	CPI
Analyst:	NAH	Chemical:	Moybdenum 1000 mg/L
Date Received:	12/11/2018	Lot #:	169424-59
Expiration Date (if any):	06/20	Catalog #:	4400-1000343

Standard ID#:	M13698	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 mg/L
Date Received:	12/11/2018	Lot #:	175213-60
Expiration Date (if any):	06/20	Catalog #:	S4400-10005044F

Standard ID#:	M13699	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	12/11/2018	Lot #:	50-120CR
Expiration Date (if any):	12/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13700	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	12/12/2018	Expiration Date:	12/12/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13689	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13690	Vendor:	CPI
Analyst:	NAH	Chemical:	Aluminum 10,000 mg/L
Date Received:	12/11/2018	Lot #:	169484-36
Expiration Date (if any):	06/20	Catalog #:	4400-10M11

Standard ID#:	M13691	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	752887-32
Expiration Date (if any):	06/20	Catalog #:	4400-10M521

Standard ID#:	M13692	Vendor:	CPI
Analyst:	NAH	Chemical:	Calcium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	855297-1
Expiration Date (if any):	06/20	Catalog #:	4400-10M91

Standard ID#:	M13693	Vendor:	CPI
Analyst:	NAH	Chemical:	Potassium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

Standard ID#:	M13694	Vendor:	CPI
Analyst:	NAH	Chemical:	Magnesium 10,000 mg/L
Date Received:	12/11/2018	Lot #:	148250-72
Expiration Date (if any):	06/20	Catalog #:	4400-10M311

Standard ID#:	M13695	Vendor:	CPI
Analyst:	NAH	Chemical:	Iron 10,000 mg/L
Date Received:	12/11/2018	Lot #:	156651-78
Expiration Date (if any):	06/20	Catalog #:	4400-10M261

		Instrument:	GFAA
Standard Log #:	M13686	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13687	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13688	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	12/07/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13684	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	12/04/2018	Expiration Date:	06/04/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard ID#:	M13683	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	10000 mg/L
Date Received:	11/30/2018	Lot #:	1805105
Expiration Date (if any):	5/31/2020	Catalog #:	HP10M67-1

Standard Log #:	M13681	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13531	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13682	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/29/2018	Expiration Date:	11/29/2018

Prep: Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.

Standard Log #:	M13679	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 L2 Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	02/2020

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
Li	14.4	M13517	1000	0.72
Sn	20	M13572	1000	1
Sr	3.2	M13586	1000	0.16
Ti	9.6	M13573	1000	0.48
W	24	xxxxxxxx	1000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13680	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	11/29/2018	Expiration Date:	07/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13531	1000	0.8
Si	200	M13394	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13677	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3050 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	9.6	M13562	**10000**	0.048
As	32	M13392	1000	1.6
Ba	2	M13457	1000	0.1
Be	1.6	M13579	1000	0.08
Ca	56	M13324	**10000**	0.28
Cd	1.6	M13570	1000	0.08
Co	9.6	M13575	1000	0.48
Cr	5.6	M13617	**10000**	0.028
Cu	16	M13618	**10000**	0.08
Fe	72	M13463	**10000**	0.36
Mg	32	M13319	**10000**	0.16
Mn	6	M13616	**10000**	0.03
Mo	9.6	M13608	1000	0.48
Ni	4.8	M13569	1000	0.24
Pb	10	M13610	**10000**	0.05
Sb	32	M13459	1000	1.6
Se	16	M13460	1000	0.8
Tl	19	M13583	1000	0.95
V	3.2	M13578	1000	0.16
Zn	12	M13610	**10000**	0.06

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13676	Instrument:	ICP 6500
Analyst:	NAH	Standard:	LOQ 3010 DOD Metals Spiking S
Prep Date:	11/29/2018	Expiration Date:	04/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3, 5% HCl)

Analyte	MDL Conc. (ug/L)	Std. ID #	Std Conc	Volume (mL) pipetted into 1 L
Ag	4	M13458	1000	0.2
Al	36	M13462	**10000**	0.18
As	24	M13392	1000	1.2
Ba	1.8	M13457	1000	0.09
Be	0.6	M13579	1000	0.03
Ca	100	M13324	**10000**	0.5
Cd	2.0	M13570	1000	0.1
Co	4	M13575	1000	0.2
Cr	4	M13617	**10000**	0.02
Cu	7	M13618	**10000**	0.035
Fe	100	M13463	**10000**	0.5
Mg	40	M13319	**10000**	0.2
Mn	4	M13616	**10000**	0.02
Mo	7	M13608	1000	0.35
Ni	6	M13569	1000	0.2
Pb	4	M13610	**10000**	0.02
Sb	12	M13459	1000	0.6
Se	13	M13460	1000	0.65
Tl	20	M13583	1000	0.75
V	5	M13578	1000	0.25
Zn	10	M13610	**10000**	0.05

Of this Base standard, pipet **10 mL** into a 500 mL volumetric flask to create a working std or **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	CETAC
Standard Log #:	M13675	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/26/2018	Expiration Date:	11/26/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	CETAC
Standard Log #:	M13671	Standard:	Hg CCV
Analyst:	LJF	Concentration:	3.0 ug/L Hg
Prep Date:	11/21/2018	Expiration Date:	01/01/2020
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *3.0 ug/L Std.* (CCV) - **3.0 mL** Hg (*100 ug/L*)		

		Instrument:	CETAC
Standard Log #:	M13672	Reagent:	Stannous Chloride Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2019
Prep:	Into a 1 L volumetric flask, partially filled with 400 mL milli-Q H_2O, added **70 mL** hydrochloric acid AB.668 and dissolved **100 g** Stannous chloride M13648 and brought up to volume.		

Standard Log #:	M13673	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13080 and brought up to volume.		

Standard Log #:	M13674	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	11/21/2018	Expiration Date:	05/21/2018
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13620 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	CETAC
Standard Log #:	M13668	Standard:	Hg ICAL
Analyst:	LJF	Concentrations:	10,000, 100, 0.5, 1, 2, 4, 5, 10 ug/L
Prep Date:	11/21/2018	Expiration Date:	01/01/2019
Prep:	Using 100 mL volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** Hg (1000 mg/L) M13574 *100 ug/L Std.* - **1 mL** Hg (*10,000 ug/L*) *0.5 ug/L Std.* - **0.5 mL** Hg (*100 ug/L*) *1 ug/L Std.* - **1 mL** Hg (*100 ug/L*) *2 ug/L Std.* - **2 mL** Hg (*100 ug/L*) *4 ug/L Std.* - **4 mL** Hg (*100 ug/L*) *5 ug/L Std.* - **5 mL** Hg (*100 ug/L*) *10 ug/L Std.* - **10 mL** Hg *(100 ug/L)*		

		Instrument:	CETAC
Standard Log #:	M13669	Standard:	Alt. Source Working Std.
Analyst:	LJF	Concentrations:	10,000 and 100 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into two, 100 mL volumetric flasks, pipetted the following and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl) *10,000 ug/L Std.* - **1 mL** of Hg (1000 mg/L) M13444 *100 ug/L Std.* - **1 mL** of Hg (*10,000 ug/L working Std.*)		

		Instrument:	CETAC
Standard Log #:	M13670	Standard:	Hg ICV/LCS
Analyst:	LJF	Concentration:	3 ug/L
Prep Date:	11/21/2018	Expiration Date:	04/30/2019
Prep:	Into a 100 mL volumetric flask, pipetted **3 mL** of Hg (*100 ug/L working Std.*) M13444 and brought up to volume using Milli-Q H_2O. (0.2% HNO_3, 0.2% HCl)		

		Instrument:	ICP
Standard Log #:	M13666	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	11/19/2018	Expiration Date:	07/2019
Prep:	Into a 1 L volumetric flask, pipetted **5 mL** of As (1000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13615 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

		Instrument:	CETAC
Standard Log #:	M13667	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/19/2018	Expiration Date:	11/19/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard Log #:	M13664	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13665	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	11/16/2018	Expiration Date:	11/16/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	CETAC
Standard Log #:	M13659	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	11/01/2018	Expiration Date:	11/01/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

		Instrument:	ICP 6500
Standard Log #:	M13660	Standard:	ICSA
Analyst:	NAH	Concentrations:	**500,000 ug/L** Al, Ca, Fe, Mg
Prep Date:	11/01/2018	Expiration Date:	09/19
Prep:	Into a 500 mL volumetric flask, pipetted **50 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635 and **15 mL** Fe (10000 mg/L) M13609 and brought up to volume with milli-Q H_2O.		

		Instrument:	ICP 6500
Standard Log #:	M13661	Standard:	ICV Std.
Analyst:	NAH	Concentrations:	**12,000 mg/L** Al **10,000 mg/L** Ca, Mg **5000 mg/L** Fe **2000 mg/L** As, Ba, Se, Tl **500 mg/L** B, Co, Li, Mn, Mo, Ni, Pb, Sb, Sn, Sr, Ti, V, Zn **250 mg/L** Cu **200 mg/L** Cr **50 mg/L** Ag, Be, Cd
Prep Date:	11/06/2018	Expiration Date:	10/19
Prep:	Into a 1 L volumetric flask, pipetted the following and brought up to volume with milli-Q H_2O. **10 mL** Custom Assurance Standard #18 ((200 mg/L Al, As, Ba, Se, Tl) (100 mg/L Fe) (50 mg/L Co, Mn, Ni, Pb, Sb, V, Zn) (25 mg/L Cu) (20 mg/L Cr) (5 mg/L Ag, Be, Cd)) M13637, **2 mL** Interferents A Standard ((5000 mg/L Al, Ca, Mg) (2000 mg/L Fe)) M13635, **0.5 mL** Mo (1000 mg/L) M13608, **0.5 mL** B (1000 mg/L) M13531, **0.5 mL** Sr (1000 mg/L) M13580, **0.5 mL** Li (1000 mg/L) M13577, **0.5 mL** Sn (1000 mg/L) M13572, **0.5 mL** Ti (1000 mg/L) M13573, **0.5 mL** W (1000 mg/L) Mxxxxx, **0.5 mL** Si (1000 mg/L) M13571, **0.5 mL** S (10000 mg/L) M13530, **0.5 mL** K (10000 mg/L) M13612, and **0.5 mL** K (10000 mg/L)		

		Instrument:	ICP 6000
Standard Log #:	M13657	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) XXX		

		Instrument:	ICP 6000
Standard Log #:	M13658	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	11/2/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13655	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Standard Conc. (ug/L) — Pipette the following: 1 — **0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) xxx into 1L = *1 µg/L* 10 — **0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) xxx into 1L = *10 µg/L* 100 — **1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) xxx into 1L = *100 µg/L* 1000 (CCV) — **2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) xxx into 200mL = *1000 µg/L* 10000 — **20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) xxx into 200mL = *10000 µg/L*		

		Instrument:	ICP 6000
Standard Log #:	M13656	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	11/2/2018	Expiration Date:	02/28/2019
Prep:	Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410, **6 mL** of Fe (10,000 mg/L) M13529, **0.1 mL** of Li (1000 µg/mL) M13577, **0.1 mL** of Sn (1000 µg/mL) M13572, **0.1 mL** of Sr (1000 µg/mL) M13580, **0.1 mL** of Ti (1000 µg/mL) M13573, and **0.1 mL** of W (1000 µg/mL) XXX and brought up to volume using Milli-Q H_2O. (0.5% HNO_3, 0.5% HCl)		

		Instrument:	GFAA
Standard Log #:	M13651	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13652	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	10/29/2018	Expiration Date:	10/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13612 and Na (10,000 mg/L) M13461 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13653	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance std
Date Received:	10/29/2018	Lot #:	2-036AB
Expiration Date (if any):	10/30/2019	Catalog #:	XCTWI-1-500

		Instrument:	ICP 6000
Standard Log #:	M13648	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13528 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13649	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	10/26/2018	Expiration Date:	07/30/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13576 and **1.0 mL** Si (1000 mg/L) M13571 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13650	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	10/27/2018	Expiration Date:	02/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13528 and **3 mL** of Fe (10,000 mg/L) M13529 and brought up to volume using Milli-Q H_2O.		

		Instrument:	CETAC
Standard Log #:	M13645	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/24/2018	Expiration Date:	10/24/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.669 in a hood.		

Standard ID#:	M13646	Vendor:	Alfa Aesar
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	10/25/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

Standard ID#:	M13647	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	10/24/2018	Lot #:	H226-02
Expiration Date (if any):		Catalog #:	LC251701

Standard Log #:	M13643	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13644	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

		Instrument:	GFAA
Standard Log #:	M13639	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13640	Standard:	CCV Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.5 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.1 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13641	Standard:	ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 ug/L (As, Pb, Sb, Se, Tl) 1.0 ug/L (Ag)
Prep Date:	10/24/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of GFAA Custom Stock Std. ((10 ug/mL As, Pb, Sb, Se, Tl) (1.0 ug/mL Ag)) M13498 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

Standard Log #:	M13642	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/24/2018	Expiration Date:	10/24/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13638	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	10/23/2018	Expiration Date:	07/2019

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13615	10,000
Tl	1	1000	M13583	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13634	Vendor:	CPI
Analyst:	NAH	Chemical:	Yttrium 10,0000 mg/L
Date Received:	10/18/2018	Lot #:	139448-54
Expiration Date (if any):	04/20	Catalog #:	4400-10m671

Standard ID#:	M13635	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Interference A
Date Received:	10/18/2018	Lot #:	2-230sgx
Expiration Date (if any):	09/30/2019	Catalog #:	INT-A1

		Instrument:	CETAC
Standard Log #:	M13636	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/18/2018	Expiration Date:	10/18/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13637	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance standard
Date Received:	10/18/2018	Lot #:	50-0007CR
Expiration Date (if any):	10/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13633	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	10/16/2018	Expiration Date:	10/16/2018
Prep:	Carefully mixed **3** parts HCl AB.668 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	GFAA
Standard Log #:	M13632	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	10/16/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13627	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13628	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	10/03/2018	Expiration Date:	10/03/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

MRL BASE STD M13626

Analyst NAH

Prep Date 10/01/2018

Into a 1000 mL Volumetric Flask, pipet the following:

Analyte	(ug/L)	Std ID #	Std Conc (mg/L)	Amount (mL) to pipet into 1 L	Expiration Date
Ag	20	M13458	1000	1	10/2019
Al	400	M13462	10000	2	10/2019
Ba	10	M13457	1000	0.5	10/2019
Be	4	M13579	1000	0.2	02/20
Cd	5	M13570	1000	0.25	01/20
Co	10	M13575	1000	0.5	01/20
Cr	10	M13617	10000	0.05	03/20
Cu	10	M13618	10000	0.05	03/20
Mg	500	M13319	10000	2.5	04/19
Mn	10	M13616	10000	0.05	03/20
Mo	10	M13608	1000	0.5	03/20
Ni	10	M13569	1000	0.5	03/20
Pb	10	M13610	10000	0.05	03/20
Sb	20	M13459	1000	1	03/20
V	10	M13578	1000	0.5	02/20
Zn	10	M13610	10000	0.05	02/20
K	1000	M13341	10000	5	05/19
Na	1000	M13402	10000	5	08/19
As	20	M13392	1000	1	07/19
Ca	500	M13324	10000	2.5	04/19
Fe	300	M13463	10000	1.5	10/19
Se	20	M13460	1000	1	10/19
Tl	20	M13583	1000	1	02/20
Si	100	M13394	1000	5	07/19
B	20	M13531	1000	1	07/19
Li	20	M13517	1000	1	02/20
W	50	xxxxxxx	1000	2.5	xxxxxxx
Ti	10	M13573	1000	0.5	02/20
Sr	10	M13586	1000	0.5	02/20
Sn	50	M13572	1000	2.5	02/20
S	300	M13391	10000	1.5	07/19

Of this Base standard, pipet 10 mls into 500 ml volumetric to create a working std or 1 ml into 50 ml digestion tube for a digested working standard.

Standard Log #:	M13625	Instrument:	GFAA
Analyst:	MDS	Reagent:	Pd/Mg Matrix Modifier
Prep Date:	10/03/2018	Expiration Date:	09/30/2019
Prep:	Into a 50 mL volumetric flask, partially filled with milli-Q H_2O, pipetted **15 mL** Pd Modifier M13600 and **10 mL** Mg (10,000 mg/L) M13464 and brought up to volume.		

Standard ID#:	M13618	Vendor:	CPI
Analyst:	NAH	Chemical:	Cu 10000 mg/L
Date Received:	09/20/2018	Lot #:	148796-39
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M141

		Instrument:	CETAC
Standard Log #:	M13619	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	09/19/2018	Expiration Date:	09/19/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

Standard ID#:	M13620	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	09/04/2018	Lot #:	177409
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13611	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	09/20/2018	Lot #:	169484-18
Expiration Date (if any):	03/2020	Catalog #:	4400-10M11

Standard ID#:	M13612	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	09/20/2018	Lot #:	172053-36
Expiration Date (if any):	03/2020	Catalog #:	440010M411

Standard ID#:	M13613	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	09/20/2018	Lot #:	855297-1
Expiration Date (if any):	03/2020	Catalog #:	4400-10M91

Standard ID#:	M13614	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	09/20/2018	Lot #:	148250-72
Expiration Date (if any):	03/2020	Catalog #:	4400-10M311

Standard ID#:	M13615	Vendor:	CPI
Analyst:	NAH	Chemical:	Pb 10000 mg/L
Date Received:	09/20/2018	Lot #:	168223-17
Expiration Date (if any):	03/2020	Catalog #:	4400-10M281

Standard ID#:	M13616	Vendor:	CPI
Analyst:	NAH	Chemical:	Mn 10000 mg/L
Date Received:	09/20/2018	Lot #:	167540-6
Expiration Date (if any):	03/2020	Catalog #:	S4400-10M321

Standard ID#:	M13617	Vendor:	CPI
Analyst:	NAH	Chemical:	Cr 10000 mg/L
Date Received:	09/20/2018	Lot #:	158236-7
Expiration Date (if any):	03/2020	Catalog #:	s4400-10M121

Standard ID#:	M13604	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 mg/L
Date Received:	09/20/2018	Lot #:	167967-37
Expiration Date (if any):	03/2020	Catalog #:	4400-10M544

Standard ID#:	M13605	Vendor:	CPI
Analyst:	NAH	Chemical:	Sodium 10000 mg/L
Date Received:	09/20/2018	Lot #:	752887-3
Expiration Date (if any):	03/2020	Catalog #:	4400-10M521

Standard ID#:	M13606	Vendor:	CPI
Analyst:	NAH	Chemical:	K 1000 mg/L
Date Received:	09/20/2018	Lot #:	144467-179
Expiration Date (if any):	03/2020	Catalog #:	4400-1000411-500

Standard ID#:	M13607	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 1000 mg/L
Date Received:	09/20/2018	Lot #:	158237-113
Expiration Date (if any):	03/2020	Catalog #:	4400-1000521-500

Standard ID#:	M13608	Vendor:	CPI
Analyst:	NAH	Chemical:	Mo 1000 mg/L
Date Received:	09/20/2018	Lot #:	169424-37
Expiration Date (if any):	03/2020	Catalog #:	S4400-1000343

Standard ID#:	M13609	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	09/20/2018	Lot #:	156651-53
Expiration Date (if any):	03/2020	Catalog #:	4400-10M261

Standard ID#:	M13610	Vendor:	CPI
Analyst:	NAH	Chemical:	Zn 10000 mg/L
Date Received:	09/20/2018	Lot #:	979871-2
Expiration Date (if any):	03/2020	Catalog #:	4400-10M681

Standard Log #:	M13601	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/12/2018	Expiration Date:	09/12/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13602	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	09-12-2018	Lot #:	1-124AB
Expiration Date (if any):	09-30-2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13600	Vendor:	Environmental Express
Analyst:	MDS	Chemical:	1% Pd Matrix Modifier
Date Received:	09/11/2018	Lot #:	1808015
Expiration Date (if any):	09/30/2019	Catalog #:	HP1900-100

Standard Log #:	M13599	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	09/08/2018	Expiration Date:	09/08/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13595	Vendor:	SPEX CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Std
Date Received:	08/29/2018	Lot #:	49-151CR
Expiration Date (if any):	08/30/2019	Catalog #:	XSPIKE-1-250

		Instrument:	CETAC
Standard Log #:	M13596	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	08/30/2018	Expiration Date:	08/30/2018
Prep:	Carefully mixed **3** parts HCl AB.664 with **1** part HNO_3 AB.665 in a hood.		

		Instrument:	ICP 6000
Standard Log #:	M13597	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13598	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	08/30/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard Log #:	M13588	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard Log #:	M13589	Reagent:	TCLP EXTRACTION FLUID #1
Analyst:	BMM	pH:	4.93 ± 0.05
Prep Date:	08/21/2018	Expiration Date:	08/21/2019
Prep:	Into a 20 L carboy filled with 19 L of DI H_2O, add **114 mL** Glacial acetic acid AB.659 and **128.6 mL** 10N NaOH M13514. Dilute to 20 L and mix.		

Standard ID#:	M13590	Vendor:	AMCO Clear
Analyst:	NAH	Chemical:	turbidity std 2.0 ntu
Date Received:	08/21/2018	Lot #:	18272791
Expiration Date (if any):	08/2019	Catalog #:	8008

		Instrument:	ICP 6000
Standard Log #:	M13586	Standard:	L2 ICV
Analyst:	MDS	Concentrations:	1000 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	01/2020
Prep:	Into a 1 L volumetric flask, pipetted **1.0 mL** of the following and brought up to volume using milli-Q H_2O. (0.5% HNO_3, 0.5% HCl) Li (1000 µg/mL) M13577 Sn (1000 µg/mL) M13572 Sr (1000 µg/mL) M13580 Ti (1000 µg/mL) M13573 W (1000 µg/mL) MXXX		

		Instrument:	ICP 6000
Standard Log #:	M13587	Standard:	List 2 MRL/ICVLL Prep Solution
Analyst:	MDS	Concentrations:	5000 µg/L (W) 1000 µg/L (Li, Sn) 500 µg/L (Ti, Sr)
Prep Date:	08/20/2018	Expiration Date:	01/2020

Prep:

Analyte	MRL/ICVLL Conc. (µg/L)	Standard ID	Std. Conc. (µg/mL)	Volume (mL) Pipetted into 1 L	Expiration Date
Li	20/60	M13577	1000	1	02/2020
W	100/300	XXX	1000	5	XXX
Ti	10/30	M13573	1000	0.5	01/2020
Sr	10/30	M13580	1000	0.5	02/2020
Sn	20/60	M13572	1000	1	01/2020

Pipette **10 mL** into a 500 mL volumetric flask to create a working MRL std. or **1 mL** into a 50 mL digestion tube for a digested MRL standard. Pipette **30 mL** into 500 mL for a working ICVLL std. or **3 mL** into a 50 mL digestion tube for a digested ICVLL standard.

(0.5% HNO_3, 0.5% HCl)

		Instrument:	ICP
Standard Log #:	M13584	Standard:	L2 ICAL
Analyst:	MDS	Concentrations:	1 (µg/L) 10 (µg/L) 100 (µg/L) 1000 (µg/L) 10,000 (µg/L)
Prep Date:	08/20/2018	Expiration Date:	07/30/2019

Prep:

Standard Conc. (ug/L)	Pipette the following:
1	**0.01 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.001 mL** W (1000 µg/mL) MXXX into 1L = *1 µg/L*
10	**0.10 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.01 mL** W (1000 µg/mL) MXXX into 1L = *10 µg/L*
100	**1 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.1 mL** W (1000 µg/mL) MXXX into 1L = *100 µg/L*
1000 (CCV)	**2 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **0.2 mL** W (1000 µg/mL) MXXX into 200mL = *1000 µg/L*
10000	**20 mL** of Custom Assurance Standard XCTWI-5-500 M13576 and **2 mL** W (1000 µg/mL) MXXX into 200mL = *10000 µg/L*

		Instrument:	ICP 6000
Standard Log #:	M13585	Standard:	List 2 ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (Li, Sn, Sr, Ti, W)
Prep Date:	08/20/2018	Expiration Date:	

Prep:

Into a 200 mL volumetric flask, pipetted **20 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13410 , **6 mL** of Fe (10,000 mg/L) M13463 , **0.1 mL** of Li (1000 µg/mL) M13577 , **0.1 mL** of Sn (1000 µg/mL) M13572 , **0.1 mL** of Sr (1000 µg/mL) M13580 , **0.1 mL** of Ti (1000 µg/mL) M13573 , and **0.1 mL** of W (1000 µg/mL) MXXX and brought up to volume using Milli-Q H_2O.
(0.5% HNO_3, 0.5% HCl)

Standard ID#:	M13577	Vendor:	CPI
Analyst:	NAH	Chemical:	Li 1000 mg/L
Date Received:	08/17/2018	Lot #:	751942-25
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000291

Standard ID#:	M13578	Vendor:	CPI
Analyst:	NAH	Chemical:	V 1000 mg/L
Date Received:	08/17/2018	Lot #:	152207-68
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000651

Standard ID#:	M13579	Vendor:	CPI
Analyst:	NAH	Chemical:	Be 1000 mg/L
Date Received:	08/17/2018	Lot #:	660981-5
Expiration Date (if any):	02/2020	Catalog #:	S4400-100051

Standard ID#:	M13580	Vendor:	CPI
Analyst:	NAH	Chemical:	Sr 1000 mg/L
Date Received:	08/17/2018	Lot #:	168227-29
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000531

Standard ID#:	M13581	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	08/17/2018	Lot #:	172053-36
Expiration Date (if any):	02/2020	Catalog #:	4400-10411

Standard ID#:	M13582	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10000 mg/L
Date Received:	08/17/2018	Lot #:	1805105
Expiration Date (if any):	02/2020	Catalog #:	HP10M67-1

Standard ID#:	M13583	Vendor:	CPI
Analyst:	NAH	Chemical:	Tl 1000 mg/L
Date Received:	08/17/2018	Lot #:	148983-70
Expiration Date (if any):	02/2020	Catalog #:	S4400-1000581

Standard ID#:	M13576	Vendor:	Spex Certiprep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	08/04/2018	Lot #:	49-045CR
Expiration Date (if any):	07/30/2019	Catalog #:	XCTWI-5-500

Standard ID#:	M13569	Vendor:	CPI
Analyst:	NAH	Chemical:	Ni 1000 mg/L
Date Received:	07/27/2018	Lot #:	166665-86
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000361

Standard ID#:	M13570	Vendor:	CPI
Analyst:	NAH	Chemical:	Cd 1000 mg/L
Date Received:	07/27/2018	Lot #:	160499-32
Expiration Date (if any):	01/2020	Catalog #:	s4400-100081

Standard ID#:	M13571	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 mg/L
Date Received:	07/27/2018	Lot #:	175213-28
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000504F

Standard ID#:	M13572	Vendor:	CPI
Analyst:	NAH	Chemical:	Sn 1000 mg/L
Date Received:	07/27/2018	Lot #:	144466-74
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000613

Standard ID#:	M13573	Vendor:	CPI
Analyst:	NAH	Chemical:	Ti 1000 mg/L
Date Received:	07/27/2018	Lot #:	152616-55
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000623

Standard ID#:	M13574	Vendor:	CPI
Analyst:	NAH	Chemical:	Hg 1000 mg/L
Date Received:	07/27/2018	Lot #:	175191-22
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000331

Standard ID#:	M13575	Vendor:	CPI
Analyst:	NAH	Chemical:	Co 1000 mg/L
Date Received:	07/27/2018	Lot #:	161693-10
Expiration Date (if any):	01/2020	Catalog #:	s4400-1000131

Standard Log #:	M13563	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3050 S Spiking Solution
Prep Date:	07/19/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	240	M13466	10000	1.2

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard ID#:	M13557	Vendor:	Alfa Aesar Specpure
Analyst:	MDS	Chemical:	1% Nickel Nitrate Matrix Modifier
Date Received:	07/17/2018	Lot #:	8137324
Expiration Date (if any):	12/31/2019	Catalog #:	39043

		Instrument:	ICP 6000
Standard Log #:	M13558	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	07/17/2018	Expiration Date:	05/2019
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518 and **1.0 mL** Si (1000 mg/L) M13338 and brought up to volume using milli-Q H_2O.		

Standard Log #:	M13559	Reagent:	Potassium Permanganate Solution
Analyst:	LJF		
Prep Date:	07/17/2018	Expiration Date:	01/17/2019
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium permanganate M13559 and brought up to volume.		

Standard Log #:	M13554	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 B&Si Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	05/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	16	M13390	1000	0.8
Si	200	M13338	1000	10

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Standard Log #:	M13555	Instrument:	ICP
Analyst:	LJF	Standard:	LOQ 3010 S Spiking Solution
Prep Date:	07/13/2018	Expiration Date:	10/2019

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
S	200	M13466	10000	1.0

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

		Instrument:	GFAA
Standard Log #:	M13553	Standard:	Sb ICV/LCS Std.
Analyst:	MDS	Concentrations:	10 µg/L (Sb)
Prep Date:	07/12/2018	Expiration Date:	10/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.01 mL** of Antimony Stock Std. (1000 µg/mL Sb) M13459 and brought to volume with Milli-Q DI H_2O. (1% HNO_3)		

		Instrument:	GFAA
Standard Log #:	M13547	Standard:	LODW/LOQW Ag Spiking Sol'n
Analyst:	MDS	Concentrations:	10 ug/L (Ag)
Prep Date:	07/09/2018	Expiration Date:	10/2019
Prep:	Into a 100 mL volumetric flask, pipetted **0.1 mL** of Ag (1000mg/L) M13458 and brought to volume with Milli-Q H_2O to make a 1000 ug/L Ag std. Into a 1 L volumetric flask, pipetted **10 mL** of Ag (*1000 ug/L*) std. and brought to volume with Milli-Q H_2O. (1% HNO_3) *Pipette **1 mL** spiking solution into 50 mL H_2O for LOD (*0.2 ug/L*) and **2 mL** spiking solution for LOQ (*0.4 ug/L*)		

Standard Log #:	M13548	Reagent:	NaCl Hydroxylamine Sulfate
Analyst:	LJF		
Prep Date:	07/10/2018	Expiration Date:	01/10/2019
Prep:	Into a 500 mL volumetric flask, partially filled with milli-Q H_2O, dissolved **60 g** NaCl M13226 and **60 g** hydroxylamine sulfate M13468 and brought up to volume.		

		Instrument:	GFAA
Standard Log #:	M13549	Standard:	Calibration Std.
Analyst:	MDS	Concentrations:	25 ug/L (As, Pb, Sb, Se, Tl) 3.75 ug/L (Ag)
Prep Date:	07/10/2018	Expiration Date:	05/17/2019
Prep:	Into a 1 L volumetric flask, pipetted **0.25 mL** of GFAA Custom Stock Std. ((100 ug/mL As, Pb, Sb, Se, Tl) (15 ug/mL Ag)) M13497 and brought to volume with Milli-Q H_2O. (1% HNO_3)		

Standard Log #:	M13534	Standard:	GFAA Instrument Check
Analyst:	MDS	Final Concentration:	10 µg/L As 6 µg/L Pb 12 µg/L Sb 20 µg/L Se 14 µg/L Tl 0.6 µg/L Ag
Prep Date:	07/02/2018	Expiration Date:	09/16/2018

Into six, 100 mL volumetric flasks, add the following and bring up to volume with milli-Q H_2O.

Element	Volume Pipetted (mL)	Standard Conc. (µg/mL)	Standard ID	New Conc. (µg/L)
As	1	1000	M13392	10,000
Pb	0.1	10,000	M13169	10,000
Tl	1	1000	M13124	10,000
Se	1	1000	M13460	10,000
Sb	1	1000	M13459	10,000
Ag	0.1	1000	M13458	1000

Into a 1 L volumetric flask, add the following and bring up to volume with Milli-Q H_20. (1% HNO_3)

Element	Volume Pipetted (mL)	Standard Conc. (µg/L)	New Conc. (µg/L)
As	1.0	10,000	10
Pb	0.6	10,000	6
Tl	1.4	10,000	14
Se	2.0	10,000	20
Sb	1.2	10,000	12
Ag	0.6	1000	0.6

Standard ID#:	M13535	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	07/02/2018	Lot #:	48-179CR
Expiration Date (if any):	06/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13526	Vendor:	CPI
Analyst:	NAH	Chemical:	YTTRIUM 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	138448-54
Expiration Date (if any):	12/2019	Catalog #:	4400-10M671

Standard ID#:	M13527	Vendor:	CPI
Analyst:	NAH	Chemical:	POTASSIUM 10,000
Date Received:	06/22/2018	Lot #:	172053-32
Expiration Date (if any):	12/2019	Catalog #:	4400-104411

Standard ID#:	M13528	Vendor:	CPI
Analyst:	NAH	Chemical:	Si 1000 ug/mL
Date Received:	06/22/2018	Lot #:	142610-115
Expiration Date (if any):	12/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13529	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10,000 ug/mL
Date Received:	06/22/2018	Lot #:	156651-42
Expiration Date (if any):	12/2019	Catalog #:	4400-10M261

Standard ID#:	M13530	Vendor:	CPI
Analyst:	NAH	Chemical:	SULFUR 10,000ug/mL
Date Received:	06/22/2018	Lot #:	129880-46
Expiration Date (if any):	12/2019	Catalog #:	4400-10M544

Standard ID#:	M13531	Vendor:	CPI
Analyst:	NAH	Chemical:	BORON 1000 ug/mL
Date Received:	06/22/2018	Lot #:	158372-91
Expiration Date (if any):	12/2019	Catalog #:	S4400-100074

Standard ID#:	M13532	Vendor:	CPI
Analyst:	NAH	Chemical:	CUSTOM ASSURANCE STANDARD
Date Received:	06/22/2018	Lot #:	48-146CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-1-500

Standard ID#:	M13520	Vendor:	FRISCOLYT
Analyst:	NAH	Chemical:	Electrolyte Solution
Date Received:	06/13/2018	Lot #:	1DO71H
Expiration Date (if any):	12/03/2021	Catalog #:	51 340 053

		Instrument:	ICP
Standard Log #:	M13521	Standard:	As Pb ICV1
Analyst:	MDS	Concentrations:	5000 ug/L (As,Pb)
Prep Date:	06/13/2018	Expiration Date:	10/20/2018
Prep:	Into a 1 L volumetric flask, pipetted **0.5 mL** of As (10,000 mg/L) M13392 and **0.5 mL** Pb (10,000 mg/L) M13169 and brought to volume with Milli-Q H_2O. (2% HNO_3, 2% HCl)		

Standard ID#:	M13518	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	06/11/2018	Lot #:	48-060CR
Expiration Date (if any):	06/30/2019	Catalog #:	XCTWI-5-500

		Instrument:	ICP 6500
Standard Log #:	M13519	Standard:	ICAL
Analyst:	NAH	Concentrations:	0.25, 0.5, 1, 5, 10, 20, 50, 100, 1000, 10,000, 100k, 100,000, 500,000 and 1000k (ug/L)
Prep Date:	06/11/2018	Expiration Date:	06/30/2019

Prep:

Using 1 L volumetric flasks, pipetted the following and brought up to volume using milli-Q H_2O.
(5% HNO_3, 5% HCl)
1000 ug/L Std. - **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, B, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13518, **10 mL** of Custom Assurance Std. #3 (100 mg/L Ag, Be, Cd) M13506 and **1 mL** of Si (1000 mg/L) M13394 and 1 mL M13203 Ce
0.25 ug/L Std. - **0.25 mL** of the 1000 ug/L Std.
0.5 ug/L Std. - **0.5 mL** of the 1000 ug/L Std.
1 ug/L Std. - **1 mL** of the 1000 ug/L Std.
5 ug/L Std. - **5 mL** of the 1000 ug/L Std.
10 ug/L Std. - **10 mL** of the 1000 ug/L Std.
20 ug/L Std. - **20 mL** of the 1000 ug/L Std.
50 ug/L Std. - **50 mL** of the 1000 ug/L Std.
100 ug/L Std. - **1 mL** of Custom Assurance Std. (CAS) #23 and **1 mL** of CAS #3
10,000 ug/L Std. - **100 mL** CAS #23, **100 mL** CAS #3 and **1 mL** of K (10,000 mg/L) M13465.
100k ug/L Std. - **10 mL** of Cu (10,000 mg/L) M13166, **10 mL** of Mn (10,000 mg/L) M13167, **10 mL** of Cr (10,000 mg/L) M13165, **10 mL** Pb (10,000 mg/L) M13169, **10 mL** of Zn (10,000 mg/L) M13168 and **10 mL** of Na (10,000 mg/L) M13461.
100,000 ug/L Std. - **10 mL** of Mg (10,000 mg/L) M13319, **10 mL** of Fe (10,000 mg/L) M13463, **10 mL** of Ca (10,000 mg/L) M13467 and **10 mL** Al (10,000 mg/L) M13462.
500,000 ug/L Std. - **50 mL** of Mg (10,000 mg/L), **50 mL** of Fe (10,000 mg/L), **50 mL** of Ca (10,000 mg/L) and **50 mL** of Al (10,000 mg/L)
1000k ug/L Std. - **100 mL** of Mg (10,000 mg/L), **100 mL** of Fe (10,000 mg/L), **100 mL** of Ca (10,000 mg/L) and **100 mL** of Al (10,000 mg/L)

		Instrument:	CETAC
Standard Log #:	M13510	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	06/01/2018	Expiration Date:	06/01/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13511	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	06/04/2018	Lot #:	176877
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13506	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-042CR
Expiration Date (if any):	05/30/2019	Catalog #:	XCTWI-4-500

Standard ID#:	M13507	Vendor:	Spex CertiPrep
Analyst:	NAH	Chemical:	Custom Assurance Standard
Date Received:	05/22/2018	Lot #:	48-041CR
Expiration Date (if any):	05/30/2019	Catalog #:	XSPIKE-1-250

Standard ID#:	M13508	Vendor:	RESTEK
Analyst:	NAH	Chemical:	Diatomaceous earth (Celite 566)
Date Received:	05/22/2018	Lot #:	811030-BG
Expiration Date (if any):	N/A	Catalog #:	26033

Standard ID#:	M13495	Vendor:	LabChem
Analyst:	LJF	Chemical:	STANNOUS CHLORIDE
Date Received:	05/15/2018	Lot #:	H052-17
Expiration Date (if any):		Catalog #:	LC251701

		Instrument:	ICP 6000
Standard Log #:	M13485	Standard:	Na & K ICAL
Analyst:	MDS	Concentrations:	0.5, 1, 5, 10, 50, 100, and 200 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into seven, 200 mL volumetric flasks, pipetted the following from Na (1000 µg/mL) M13339 and K (1000 µg/mL) M13340 and brought up to volume using milli-Q H_2O. (2% HNO_3) *0.5 mg/L std.* - **0.1 mL** of each *1.0 mg/L std.* - **0.2 mL** of each *5.0 mg/L std.* - **1.0 mL** of each *10 mg/L std.* - **2.0 mL** of each *50 mg/L std.* - **10 mL** of each *100 mg/L std.* -**20 mL** of each, also used for Continuing Calibration Verification *200 mg/L std.* - **40 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13486	Standard:	NaK ICV
Analyst:	MDS	Concentrations:	100 mg/L (Na, K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 250 mL volumetric flask, pipetted **2.5 mL** of K (10,000 mg/L) M13400 and Na (10,000 mg/L) M13402 and brought up to volume using Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13487	Standard:	Na,K ICVLL
Analyst:	MDS	Concentrations:	3 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	08/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.15 mL** of Na (10,000 µg/mL) M13402 and **0.15 mL** K (10,000 µg/mL) M13400 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

		Instrument:	ICP 6000
Standard Log #:	M13488	Standard:	Na,K MRL
Analyst:	MDS	Concentrations:	1 mg/L (Na,K)
Prep Date:	05/07/2018	Expiration Date:	05/2019
Prep:	Into a 500 mL volumetric flask, pipetted **0.5 mL** of Na (1000 µg/mL) M13339 and **0.5 mL** K (1000 µg/mL) M13340 and brought to volume with Milli-Q H_2O. (2% HNO_3)		

Standard ID#:	M13484	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Y 10,000 mg/L
Date Received:	05/03/2018	Lot #:	1805105
Expiration Date (if any):	10/31/2019	Catalog #:	HP10M67-1

		Instrument:	ICP 6000
Standard Log #:	M13471	Standard:	B&Si ICAL
Analyst:	MDS	Concentrations:	50, 200, 1000, 2000 and 10,000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/2019
Prep:	Into five, 1 L volumetric flasks, pipetted the following from stock standards B (1000 mg/L) M13390 and Si (1000 mg/L) M13394 and brought up to volume using milli-Q H_2O. *50 ug/L std.* - **0.05 mL** of each *200 ug/L std.* - **0.2 mL** of each *1000 ug/L std.* -**1.0 mL** of each, also used for Continuing Calibration Verification *2000 ug/L std.* - **2.0 mL** of each *10,000 ug/L std.* -**10 mL** of each		

		Instrument:	ICP 6000
Standard Log #:	M13472	Standard:	B&Si ICV
Analyst:	MDS	Concentrations:	1000 ug/L (B, Si)
Prep Date:	04/26/2018	Expiration Date:	07/02/2018
Prep:	Into a 1 L volumetric flask, pipetted **10 mL** of Custom Assurance Std. #23 (100 mg/L Al, As, **B**, Ba, Ca, Co, Cr, Cu, Fe, Li, Mg, Mn, Mo, Ni, Pb, Sb, Se, Sn, Sr, Ti, Tl, V, Zn) M13364 and **1.0 mL** Si (1000 mg/L) M13085 and brought up to volume using milli-Q H_2O.		

		Instrument:	ICP 6000
Standard Log #:	M13473	Standard:	B & Si ICSAB
Analyst:	MDS	Concentrations:	500,000 µg/L (Al, Ca, Fe, Mg) 500 µg/L (B,Si)
Prep Date:	04/26/2018	Expiration Date:	10/30/2018
Prep:	Into a 100 mL volumetric flask, pipetted **10 mL** of Interferents A custom stock (5000 mg/L Al, Ca, Mg and 2000 mg/L Fe) M13305 , **0.05 mL** of B (1000 µg/mL) M13390 , **0.05 mL** of Si (1000 µg/mL) M13394 and **3 mL** of Fe (10,000 mg/L) M13321 and brought up to volume using Milli-Q H_2O.		

Standard ID#:	M13467	Vendor:	CPI
Analyst:	NAH	Chemical:	Ca 10000 mg/L
Date Received:	04/20/2018	Lot #:	147497-47
Expiration Date (if any):	10/2019	Catalog #:	4400-10M91

Standard ID#:	M13468	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	04/24/2018	Lot #:	174236
Expiration Date (if any):		Catalog #:	H331-500

		Instrument:	CETAC
Standard Log #:	M13469	Reagent:	Hg Aqua Regia
Analyst:	LJF		
Prep Date:	04/24/2018	Expiration Date:	04/24/2018
Prep:	Carefully mixed **3** parts HCl AB.656 with **1** part HNO_3 AB.655 in a hood.		

Standard ID#:	M13462	Vendor:	CPI
Analyst:	NAH	Chemical:	Al 10000 mg/L
Date Received:	04/20/2018	Lot #:	158058-23
Expiration Date (if any):	10/2019	Catalog #:	4400-10M11

Standard ID#:	M13463	Vendor:	CPI
Analyst:	NAH	Chemical:	Fe 10000 mg/L
Date Received:	04/20/2018	Lot #:	156651-18
Expiration Date (if any):	10/2019	Catalog #:	4400-10M261

Standard ID#:	M13464	Vendor:	CPI
Analyst:	NAH	Chemical:	Mg 10000 mg/L
Date Received:	04/20/2018	Lot #:	148250-67
Expiration Date (if any):	10/2019	Catalog #:	4400-10M311

Standard ID#:	M13465	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10000 mg/L
Date Received:	04/20/2018	Lot #:	172053-2
Expiration Date (if any):	10/2019	Catalog #:	4400-10M411

Standard ID#:	M13466	Vendor:	CPI
Analyst:	NAH	Chemical:	S 10000 mg/L
Date Received:	04/20/2018	Lot #:	129880-37
Expiration Date (if any):	10/2019	Catalog #:	4400-10M544

Standard ID#:	M13457	Vendor:	CPI
Analyst:	NAH	Chemical:	Barium 1000 mg/L
Date Received:	04/20/2018	Lot #:	158364-3
Expiration Date (if any):	10/2019	Catalog #:	S4400-100041

Standard ID#:	M13458	Vendor:	CPI
Analyst:	NAH	Chemical:	Ag 1000 mg/L
Date Received:	04/20/2018	Lot #:	162712-9
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000511

Standard ID#:	M13459	Vendor:	CPI
Analyst:	NAH	Chemical:	Sb 1000 mg/L
Date Received:	04/20/2018	Lot #:	153992-1
Expiration Date (if any):	10/2019	Catalog #:	S4400-100023

Standard ID#:	M13460	Vendor:	CPI
Analyst:	NAH	Chemical:	Se 1000 mg/L
Date Received:	04/20/2018	Lot #:	154366-16
Expiration Date (if any):	10/2019	Catalog #:	S4400-1000491

Standard ID#:	M13461	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10000 mg/L
Date Received:	04/20/2018	Lot #:	107139-108
Expiration Date (if any):	10/2019	Catalog #:	4400-10M521

Standard Log #:	M13445	Reagent:	Potassium Persulfate Solution
Analyst:	LJF		
Prep Date:	04/19/2018	Expiration Date:	10/19/2018
Prep:	Into a 1 L volumetric flask, partially filled with milli-Q H_2O, dissolved **50 g** potassium persulfate M12652 and brought up to volume.		

		Instrument:	Hach 2100 turbidity meter
Standard Log #:	M13446	Standard:	Turbity ICAL
Analyst:	NAH	Concentrations:	20, 100, 200 ntu
Prep Date:	04/19/2018	Expiration Date:	12/2019
Prep:	Using the hach vials , pipet the following: *20 ntu Std.* = **1 ml** M13436 and 9 mls DI H20. *100 ntu Std.* = **5 mls** M13436 and 5 mls DI H20. *200 ntu Std.* = ***10 mls*** M13436 *and* 0 mls DI H20.		

LPMT1-04
Metals Reagents and Standards
Prep Logbook
Created: 12/19/17

NOTEBOOK VIEW: LTN_LPMT1_04_Default, NOTEBOOK: LPMT1_04, PAGE: 35
Page is Locked
Author: nhenn on: 4/19/2018 11:15:48 AM
Page is not Witnessed
Project: Unassigned
Page Title: 041118

		Instrument:	ICP 6000
Standard Log #:	M13438	Standard:	Sulfur ICAL
Analyst:	MDS	Concentrations:	1000 10,000 100,000 1000K µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	07/2019
Prep:	Into four, 100 mL volumetric flasks, pipetted the following from stock standard S (10,000 µg/mL) M13391 and brought up to volume using milli-Q H_2O. *1000 ug/L std.* - **0.01 mL** *10,000 ug/L std.* - **0.1 mL** *100,000 ug/L std.* -**1.0 mL**, also used as the CCV *1000K ug/L std.* - **10 mL**		

		Instrument:	ICP 6000
Standard Log #:	M13439	Standard:	Sulfur ICV
Analyst:	MDS	Concentrations:	100,000 µg/L (S)
Prep Date:	04/11/2018	Expiration Date:	01/19/2019
Prep:	Into a 100 mL volumetric flask, pipetted **1.0 mL** of S (10,000 µg/mL) M13280 and brought up to volume using Milli-Q H_2O.		

Standard Log #:	M13437	Instrument:	ICP
Analyst:	NAH	Standard:	LOQ 3050 B&Si Spiking Solution
Prep Date:	04/10/2018	Expiration Date:	07/19

Prep:

Into a 1 L volumetric flask, pipetted the following and brought up to volume with Milli-Q H_2O. (5% HNO_3)

Analyte	Final MDL Conc. (ug/L)	Std. ID #	Std. Conc. (mg/L)	Volume (mL) pipetted
B	52	M13390	1000	2.6
Si	192	M13394	1000	9.6

Of this base standard, pipetted **1 mL** into a 50 mL digestion tube for a digested working standard.

Content below was appended to locked page by mszymanski on 4/19/2018 12:20:57 PM

Standard ID#:	M13436a	Vendor:	HACH
Analyst:	NAH	Chemical:	StablCal 200 NTU
Date Received:	04/10/2018	Lot #:	A7354
Expiration Date (if any):	12/2019	Catalog #:	2660449

Standard ID#:	M13400	Vendor:	CPI
Analyst:	NAH	Chemical:	K 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	106958-116
Expiration Date (if any):	08/2019	Catalog #:	4400-10M411

Standard ID#:	M13401	Vendor:	CPI
Analyst:	NAH	Chemical:	Y 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	139448-54
Expiration Date (if any):	08/2019	Catalog #:	4400-10M671

Standard ID#:	M13402	Vendor:	CPI
Analyst:	NAH	Chemical:	Na 10,000 ug/mL
Date Received:	02/15/2018	Lot #:	107139-126
Expiration Date (if any):	08/2019	Catalog #:	4400-10M521

Standard Log #:	M13388	Reagent:	SPLP EXTRACTION FLUID EAST #
Analyst:	BMM	pH:	4.20 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 4.20 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard Log #:	M13389	Reagent:	SPLP EXTRACTION FLUID WEST #
Analyst:	BMM	pH:	5.00 ± 0.05
Prep Date:	01/23/2018	Expiration Date:	01/23/2019
Prep:	Into a 20 L carboy filled with DI H_2O, adjust pH to 5.00 ± 0.05 using 60/40 SPLP extraction fluid acid mixture M12457 .		

Standard ID#:	M13390	Vendor:	CPI
Analyst:	NAH	Chemical:	Boron 1000 ug/mL
Date Received:	01/23/2018	Lot #:	158372-29
Expiration Date (if any):	07/2019	Catalog #:	S4400-100074

Standard ID#:	M13391	Vendor:	CPI
Analyst:	NAH	Chemical:	Sulfur 10000 ug/mL
Date Received:	01/23/2018	Lot #:	129880-28
Expiration Date (if any):	07/2019	Catalog #:	4400-10M544

Standard ID#:	M13392	Vendor:	CPI
Analyst:	NAH	Chemical:	Arsenic 1000 ug/mL
Date Received:	01/23/2018	Lot #:	143356-61
Expiration Date (if any):	07/2019	Catalog #:	S4400-100031

Standard ID#:	M13393	Vendor:	CPI
Analyst:	NAH	Chemical:	Molybdenum 1000 ug/mL
Date Received:	01/23/2018	Lot #:	134169R-102
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000343

Standard ID#:	M13394	Vendor:	CPI
Analyst:	NAH	Chemical:	Silicon 1000 ug/mL
Date Received:	01/23/2018	Lot #:	142610-58
Expiration Date (if any):	07/2019	Catalog #:	S4400-1000504F

Standard ID#:	M13350	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10000 mg/L
Date Received:	12/12/2017	Lot #:	1729606
Expiration Date (if any):	06//2019	Catalog #:	10M67-1

Standard ID#:	M13226	Vendor:	FISHER
Analyst:	LJF	Chemical:	SODIUM CHLORIDE
Date Received:	07/21/2017	Lot #:	170229
Expiration Date (if any):		Catalog #:	S271-500

Standard ID#:	M13199	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana I soil
Date Received:	05/15/2017	Lot #:	2710a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13200	Vendor:	National Institute of Standards and Te
Analyst:	NAH	Chemical:	SRM Montana II soil
Date Received:	05/15/2017	Lot #:	2711a
Expiration Date (if any):		Catalog #:	

Standard ID#:	M13186	Vendor:	FISHER
Analyst:	LJF	Chemical:	HYDROXYLAMINE SULFATE
Date Received:	05/22/2017	Lot #:	166161
Expiration Date (if any):		Catalog #:	H331-500

Standard ID#:	M13187	Vendor:	Environmental Express
Analyst:	NAH	Chemical:	Yttrium 10,000 ug/mL
Date Received:	05/22/2017	Lot #:	1705408
Expiration Date (if any):	11/16/2018	Catalog #:	HP10M67-1

Standard ID#:	M13080	Vendor:	FISHER
Analyst:	LJF	Chemical:	POTASSIUM PERMANGANATE
Date Received:	01/30/2017	Lot #:	164080
Expiration Date (if any):		Catalog #:	P279-212

Standard ID#:	M13059	Vendor:	ACROS ORGANICS
Analyst:	LJF	Chemical:	POTASSIUM PERSULFATE
Date Received:	12/19/2016	Lot #:	A0375670
Expiration Date (if any):		Catalog #:	424185000

Standard ID#:	M13024	Vendor:	METTLER TOLEDO
Analyst:	LJF	Chemical:	FRISCOLYT
Date Received:	11/01/2016	Lot #:	1B167D
Expiration Date (if any):		Catalog #:	51340053

INORGANIC
CLP FORMS
DOCUMENTS

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447995
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 17:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.9		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.32	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	51	M	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447995
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 20:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	0.91	J	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447992
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/22/2020 09:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	90		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447992
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 16:41
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.1		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.5		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447992
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 19:55
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447991
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 16:23
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.5		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.72		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	28		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13MW4

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447991
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 19:39
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447993
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/22/2020 10:16
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	93		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447993
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 16:59
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	4.1		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	1.4		0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

13TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447993
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 20:15
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450341
Analytical Method:	EPA 9060A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 03:04
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450341
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/24/2020 14:22
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	9.3		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.1		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	65		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450340
Analytical Method:	EPA 9060A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 02:47
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450340
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	5.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/27/2020 08:47
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
14808-79-8	Sulfate	130		4.0	7.5	15	15

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450340
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/24/2020 14:02
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	17		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	3.2	M	0.12	0.20	0.40	0.40

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449330
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:27
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449330
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 18:57
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.4	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.73		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	5.8		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449331
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:40
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48MW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449331
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 19:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.5	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.3		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	25		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449332
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:54
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

48TW3

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449332
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 19:37
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	3.0		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	5.4		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	25		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449334
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 02:25
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449334
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 20:18
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	1.5	U	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.20	U	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450342
Analytical Method:	EPA 9060A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 03:20
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW01

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450342
Analytical Method:	EPA 9056A	Date Received:	07/24/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173456	Analysis Date/Time	07/24/2020 14:43
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.9		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.26	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	1.5	U	0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447994
Analytical Method:	EPA 9056A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173314	Analysis Date/Time	07/21/2020 17:17
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	5.7		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.33	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	54		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW04

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	447994
Analytical Method:	EPA 9060A	Date Received:	07/21/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173667	Analysis Date/Time	07/31/2020 20:35
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449333
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 02:08
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

49MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449333
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 19:58
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	2.3	J	1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	0.18	J	0.12	0.20	0.40	0.40
14808-79-8	Sulfate	16		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449329
Analytical Method:	EPA 9060A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173668	Analysis Date/Time	08/01/2020 01:14
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:	ICAL 0398 I	Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
TOC	Total Organic Carbon	1.5	U	0.50	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

50MW02

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	449329
Analytical Method:	EPA 9056A	Date Received:	07/23/2020
Dilution Factor:	1.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173401	Analysis Date/Time	07/23/2020 18:36
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
16887-00-6	Chloride	7.6		1.0	1.5	3.0	3.0
14797-55-8	Nitrate Nitrogen	2.2		0.12	0.20	0.40	0.40
14808-79-8	Sulfate	62		0.80	1.5	3.0	3.0

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

IDW-48/49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 410.4	Date Received:	07/24/2020
Dilution Factor:	2.00	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173688	Analysis Date/Time	07/31/2020 13:17
Analytical Prep Batch #:	77490	Prep. Date/Time:	07/31/2020 08:16
ICAL Calibration #:		Concentration Units:	mg/L

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
COD	COD	570		30	70	150	150

CT LABORATORIES
delivering more than data from your environmental analyses

1

INORGANIC ANALYSIS DATA SHEET

Sample Description

IDW-48/49

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix (soil/water):	GROUND WATER	SDG No.:	154947
% Solids:		Lab Sample ID:	450344
Analytical Method:	EPA 9040C	Date Received:	07/24/2020
Dilution Factor:	1	TCLP/SPLP Extraction Date/time:	
Analytical Run #:	173461	Analysis Date/Time	07/24/2020 14:05
Analytical Prep Batch #:		Prep. Date/Time:	
ICAL Calibration #:		Concentration Units:	S.U.

CAS #	Analyte	Concentration	Qualifiers	DL	LOD	LOQ	RL
PH	pH	7.99					

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314

Lab Sample ID: 452167

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	11/20/19	01:11	15.00	13.63	91	90	110
Nitrate Nitrogen	11/20/19	01:11	3.500	3.282	94	90	110
Sulfate	11/20/19	01:11	25.00	23.31	93	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401

Lab Sample ID: 453613

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	5/11/20	18:25	15.00	13.91	93	90	110
Nitrate Nitrogen	5/11/20	18:25	3.500	3.338	95	90	110
Sulfate	5/11/20	18:25	25.00	25.29	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688 Lab Sample ID: 460411

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/31/20 13:17	400.0	414.4	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

ICV

2A-1

INITIAL CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668 Lab Sample ID: 460094

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	6/8/20	19:50	50.00	48.76	98	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314

Lab Sample ID: 449134

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/21/20	15:28	15.00	14.29	95	90	110
Nitrate Nitrogen	7/21/20	15:28	3.500	3.536	101	90	110
Sulfate	7/21/20	15:28	25.00	24.03	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314

Lab Sample ID: 449136

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/22/20	10:34	15.00	14.29	95	90	110
Nitrate Nitrogen	7/22/20	10:34	3.500	3.542	101	90	110
Sulfate	7/22/20	10:34	25.00	24.15	97	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314

Lab Sample ID: 449138

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/22/20	09:04	15.00	14.29	95	90	110
Nitrate Nitrogen	7/22/20	09:04	3.500	3.541	101	90	110
Sulfate	7/22/20	09:04	25.00	24.03	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314

Lab Sample ID: 449140

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/21/20	19:41	15.00	14.22	95	90	110
Nitrate Nitrogen	7/21/20	19:41	3.500	3.527	101	90	110
Sulfate	7/21/20	19:41	25.00	23.98	96	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401

Lab Sample ID: 453264

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/23/20	16:55	15.00	14.54	97	90	110
Nitrate Nitrogen	7/23/20	16:55	3.500	3.515	100	90	110
Sulfate	7/23/20	16:55	25.00	25.26	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453267

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/24/20	13:01	15.00	15.09	101	90	110
Nitrate Nitrogen	7/24/20	13:01	3.500	3.638	104	90	110
Sulfate	7/24/20	13:01	25.00	25.94	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453270

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/24/20	17:25	15.00	15.12	101	90	110
Nitrate Nitrogen	7/24/20	17:25	3.500	3.654	104	90	110
Sulfate	7/24/20	17:25	25.00	26.21	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401

Lab Sample ID: 453611

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/23/20	21:19	15.00	14.51	97	90	110
Nitrate Nitrogen	7/23/20	21:19	3.500	3.497	100	90	110
Sulfate	7/23/20	21:19	25.00	25.22	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401

Lab Sample ID: 453628

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/23/20	22:19	15.00	14.62	97	90	110
Nitrate Nitrogen	7/23/20	22:19	3.500	3.529	101	90	110
Sulfate	7/23/20	22:19	25.00	25.40	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453685

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/25/20	00:02	15.00	14.80	99	90	110
Nitrate Nitrogen	7/25/20	00:02	3.500	3.591	103	90	110
Sulfate	7/25/20	00:02	25.00	25.44	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453687

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/24/20	20:07	15.00	15.11	101	90	110
Nitrate Nitrogen	7/24/20	20:07	3.500	3.653	104	90	110
Sulfate	7/24/20	20:07	25.00	26.19	105	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453689

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/27/20	08:07	15.00	14.15	94	90	110
Nitrate Nitrogen	7/27/20	08:07	3.500	3.508	100	90	110
Sulfate	7/27/20	08:07	25.00	24.77	99	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453696

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Chloride	7/27/20	11:09	15.00	14.93	100	90	110
Nitrate Nitrogen	7/27/20	11:09	3.500	3.625	104	90	110
Sulfate	7/27/20	11:09	25.00	25.62	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173667

Lab Sample ID: 455141

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/31/20	17:54	50.00	51.16	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173667

Lab Sample ID: 455145

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/31/20	21:23	50.00	51.16	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173667

Lab Sample ID: 455149

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	8/1/20	00:41	50.00	52.15	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668 Lab Sample ID: 455158

ICAL Calibration #: ICAL 0398 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/31/20	17:54	50.00	51.16	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668 Lab Sample ID: 455161

ICAL Calibration #: ICAL 0398 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	7/31/20	21:23	50.00	51.16	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668

Lab Sample ID: 455166

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	8/1/20	00:41	50.00	52.15	104	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668

Lab Sample ID: 455168

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time		Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
Total Organic Carbon	8/1/20	03:39	50.00	52.77	106	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688

Lab Sample ID: 455222

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/31/20 13:17	400.0	404.7	101	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688

Lab Sample ID: 455225

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/31/20 13:17	400.0	412.0	103	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No.

CCV

2A-2

CONTINUING CALIBRATION VERIFICATION

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688

Lab Sample ID: 455227

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Spiked Conc.	Measured Conc.	%R**	Lower Limit (1)	Upper Limit (1)
COD	7/31/20 13:17	400.0	409.6	102	90	110

Default Limits (not applicable to MDL Check) **No percent recovery is calculated for MDL checks. The check is simply whether the analyte is detected.

(1) Control Limits: Mercury 80-120; Other Metals 90-110; Cyanide 85-115

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

3-1

INITIAL CALIBRATION BLANKS

ICB

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668 Lab Sample ID: 460095

Analytical Prep Batch #: Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	06/08/2020 20:04	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688

Lab Sample ID: 460412

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/31/2020 13:17	10.20			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314

Lab Sample ID: 452168

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	11/20/2019 01:31	0.4853	U	1.0	1.5
Nitrate Nitrogen	11/20/2019 01:31	0.06860	U	0.12	0.20
Sulfate	11/20/2019 01:31	0.6402	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

ICB

3-1

INITIAL CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401

Lab Sample ID: 453614

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	05/12/2020 08:00	0.5245	U	1.0	1.5
Nitrate Nitrogen	05/12/2020 08:00	0	U	0.12	0.20
Sulfate	05/12/2020 08:00	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314

Lab Sample ID: 449135

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/22/2020 10:52	0.5149	U	1.0	1.5
Nitrate Nitrogen	07/22/2020 10:52	0.07620	U	0.12	0.20
Sulfate	07/22/2020 10:52	0.6905	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314 Lab Sample ID: 449137

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/22/2020 09:22	0.5155	U	1.0	1.5
Nitrate Nitrogen	07/22/2020 09:22	0.07680	U	0.12	0.20
Sulfate	07/22/2020 09:22	0.6834	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314 Lab Sample ID: 449139

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/21/2020 19:59	0.5159	U	1.0	1.5
Nitrate Nitrogen	07/21/2020 19:59	0.07750	U	0.12	0.20
Sulfate	07/21/2020 19:59	0.6880	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173667

Lab Sample ID: 455146

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/31/2020 21:37	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173667

Lab Sample ID: 455150

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	08/01/2020 00:55	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668

Lab Sample ID: 455162

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/31/2020 21:37	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was
less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668

Lab Sample ID: 455167

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	08/01/2020 00:55	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668

Lab Sample ID: 455169

Analytical Prep Batch # 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	08/01/2020 03:53	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688

Lab Sample ID: 455223

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/31/2020 13:17	0.4000			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688

Lab Sample ID: 455226

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/31/2020 13:17	5.300			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688

Lab Sample ID: 455228

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
COD	07/31/2020 13:17	10.20			35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456 Lab Sample ID: 453271

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/24/2020 17:45	0.5147	U	1.0	1.5
Nitrate Nitrogen	07/24/2020 17:45	0.05805	U	0.12	0.20
Sulfate	07/24/2020 17:45	0.5867	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401

Lab Sample ID: 453612

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/23/2020 21:39	0	U	1.0	1.5
Nitrate Nitrogen	07/23/2020 21:39	0	U	0.12	0.20
Sulfate	07/23/2020 21:39	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401

Lab Sample ID: 453629

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/23/2020 22:39	0.5109	U	1.0	1.5
Nitrate Nitrogen	07/23/2020 22:39	0.06290	U	0.12	0.20
Sulfate	07/23/2020 22:39	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453686

Analytical Prep Batch #

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/25/2020 00:22	0.5303	U	1.0	1.5
Nitrate Nitrogen	07/25/2020 00:22	0.06040	U	0.12	0.20
Sulfate	07/25/2020 00:22	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456 Lab Sample ID: 453688

Analytical Prep Batch # Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/24/2020 20:27	0.5026	U	1.0	1.5
Nitrate Nitrogen	07/24/2020 20:27	0.05760	U	0.12	0.20
Sulfate	07/24/2020 20:27	0.5769	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453690

Analytical Prep Batch #:

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/27/2020 08:27	0	U	1.0	1.5
Nitrate Nitrogen	07/27/2020 08:27	0	U	0.12	0.20
Sulfate	07/27/2020 08:27	0	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

CCB

3-2

CONTINUING CALIBRATION BLANKS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456

Lab Sample ID: 453697

Analytical Prep Batch #

Preparation Date/Time:

ICAL Calibration #:

Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/27/2020 11:29	0	U	1.0	1.5
Nitrate Nitrogen	07/27/2020 11:29	0	U	0.12	0.20
Sulfate	07/27/2020 11:29	0.5837	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173314 Lab Sample ID: 449132

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/21/2020 16:05	0.5279	U	1.0	1.5
Nitrate Nitrogen	07/21/2020 16:05	0.07850	U	0.12	0.20
Sulfate	07/21/2020 16:05	0.6864	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173688 Lab Sample ID: 454511

Analytical Prep Batch # 77490 Preparation Date/Time: 07/31/2020 08:16

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total COD	07/31/2020 13:17	10.20	U	15	35

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173667 Lab Sample ID: 455143

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/31/2020 18:21	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173668 Lab Sample ID: 455160

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Total Organic Carbon	07/31/2020 18:21	0	U	0.5	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173401 Lab Sample ID: 453266

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/23/2020 17:36	0	U	1.0	1.5
Nitrate Nitrogen	07/23/2020 17:36	0	U	0.12	0.20
Sulfate	07/23/2020 17:36	0.5767	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

Sample No

MB

3-3

METHOD BLANKS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

SDG No.: 154947

Analytical Run #: 173456 Lab Sample ID: 453269

Analytical Prep Batch # 0 Preparation Date/Time:

ICAL Calibration #: Concentration Units: mg/L

Analysis Type: Initial Analysis

Analyte	Analysis Date/Time	Measured Concentration	C***	Detection Limit**	Control Limit
Chloride	07/24/2020 13:42	0.5254	U	1.0	1.5
Nitrate Nitrogen	07/24/2020 13:42	0.06034	U	0.12	0.20
Sulfate	07/24/2020 13:42	0.5806	U	0.8	1.5

** Detection Limit only reported if value was less than the control limit.
***A "U" indicates the analyte was not detected in the method blank at the detection limit or the Control Limit whichever was less.

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	449141	Parent Sample No.:	447995
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173314	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/21/2020	Analysis Time: --------	18:11

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	13.3		5.9		8.00	92			
Nitrate Nitrogen	88-111	2.27		0.32	J	2.00	98			
Sulfate	87-112	56.6		51		8.00	70			*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	455147	Parent Sample No.:	447995
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173667	ICAL Calibration #:	ICAL 0398 I

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/31/2020	Analysis Time: --------	21:55

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	54.0		0.91	J	50.0	106		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	453273	Parent Sample No.:	450340
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173456	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/24/2020	Analysis Time: --------	18:26

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	24.9		17		8.00	99		IC	
Nitrate Nitrogen	88-111	5.44		3.2		2.00	112		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	453273	Parent Sample No.:	450340
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173456	ICAL Calibration #:	

ReRun *Re-Analysis #1* Analysis Date: ----- 07/27/2020 Analysis Time: -------- 09:28

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Sulfate	87-112	166		130		40.0	90		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5A

SPIKE SAMPLE RECOVERY

Sample Description: **49EB2**

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	453616	Parent Sample No.:	449334
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	173401	ICAL Calibration #:	

Analysis Type: *Initial Analysis* Analysis Date: ----- 07/23/2020 Analysis Time: -------- 20:58

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	7.79		BDL	U	8.00	97		IC
Nitrate Nitrogen	88-111	1.98		BDL	U	2.00	99		IC
Sulfate	87-112	7.92		BDL	U	8.00	99		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	455148	Parent Sample No.:	455147
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173667	ICAL Calibration #:	ICAL 0398 I

Analysis Type *Initial Analysis* Analysis Date: ----- 07/31/2020 Analysis Time: -------- 22:08

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Total Organic Carbon	85-111	52.7		0.91	J	50.0	104		TOC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

13MW2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	452092	Parent Sample No.:	449141
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	173314	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/21/2020	Analysis Time: --------	18:29

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	13.4		5.9		8.00	94		IC	
Nitrate Nitrogen	88-111	2.30		0.32	J	2.00	99		IC	
Sulfate	87-112	56.8		51		8.00	72		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	453274	Parent Sample No.:	453273
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173456	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/24/2020	Analysis Time: --------	18:46

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M	
Chloride	87-111	24.7		17		8.00	96		IC	
Nitrate Nitrogen	88-111	5.48		3.2		2.00	114		IC	*FAIL*

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

48MW06

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	453274	Parent Sample No.:	453273
Analytical Prep Batch #	0	Analytical Preparation Date/Time:	
Analytical Run #:	173456	ICAL Calibration #:	

ReRun *Re-Analysis #1* Analysis Date: ----- 07/27/2020 Analysis Time: -------- 09:48

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Sulfate	87-112	170		130		40.0	100		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

5C

SPIKE DUPLICATE SAMPLE RECOVERY

Sample Description

49EB2

Lab Name:	CT Laboratories	Contract:	WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix:	LIQUID	SDG No.:	154947
% Solids for Sample:		Concentration Units:	mg/L
Sample No	453617	Parent Sample No.:	453616
Analytical Prep Batch #		Analytical Preparation Date/Time:	
Analytical Run #:	173401	ICAL Calibration #:	

Analysis Type	*Initial Analysis*	Analysis Date: -----	07/23/2020	Analysis Time: --------	21:59

Analyte	Control Limit (%R)	Spike Result	C (Spike)	Parent Result	C (Parent)	Spike Amount	%R	Q	M
Chloride	87-111	8.01		BDL	U	8.00	100		IC
Nitrate Nitrogen	88-111	2.02		BDL	U	2.00	101		IC
Sulfate	87-112	8.18		BDL	U	8.00	102		IC

BDL = analyte concentration was below detection limit

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 154947

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 173314

ICAL Calibration #:

Sample #: 449142

Parent Sample #: 447995

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/21/2020	17:53	10	5.9		5.90		0		
Nitrate Nitrogen	07/21/2020	17:53	10	0.32	J	0.319	J	0		
Sulfate	07/21/2020	17:53	10	51		51.2		0		

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

IDW-48/49

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 154947

% Solid for Sample:

Concentration Units: S.U.

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 173461

ICAL Calibration #:

Sample #: 450598

Parent Sample #: 450344

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
pH	07/24/2020	14:05	1	7.99		8.01		0		ELEC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

13MW2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 154947

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 173667

ICAL Calibration #: ICAL 0398 I

Sample #: 455144

Parent Sample #: 447995

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M	
Total Organic Carbon	07/31/2020	21:08	20	0.91	J	0.50	U	200		TOC	*FAIL*

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

48MW06

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 154947

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time 0

Analytical Run #: 173456

ICAL Calibration #:

Sample #: 453272

Parent Sample #: 450340

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/24/2020	18:05	10	17		17.9		5		IC
Nitrate Nitrogen	07/24/2020	18:05	10	3.2		3.26		2		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

48MW06

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 154947

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 2

Analytical Preparation Date/Time 0

Analytical Run #: 173456

ICAL Calibration #:

Sample #: 453272

Parent Sample #: 450340

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	07/27/2020	09:08	10	130		131		1		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6

DUPLICATES

Sample Description

49EB2

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

Matrix: LIQUID

SDG No.: 154947

% Solid for Sample:

Concentration Units: mg/L

Analytical Prep Batch # 1

Analytical Preparation Date/Time

Analytical Run #: 173401

ICAL Calibration #:

Sample #: 453615

Parent Sample #: 449334

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Original Parent Conc. (S)	C	Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/23/2020	20:38	10	1.0	U	1.0	U	0		IC
Nitrate Nitrogen	07/23/2020	20:38	10	0.12	U	0.12	U	0		IC
Sulfate	07/23/2020	20:38	10	0.80	U	0.80	U	0		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 173667
ICAL Calibration #: ICAL 0398 I
Sample #: 455148
Parent Sample #: 455147

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Total Organic Carbon	07/31/2020	22:08	20	54.0		52.7		2		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **13MW2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 173314
ICAL Calibration #:
Sample #: 452092
Parent Sample #: 449141

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/21/2020	18:29	15	13.3		13.4		1		IC
Nitrate Nitrogen	07/21/2020	18:29	15	2.27		2.30		1		IC
Sulfate	07/21/2020	18:29	15	56.6		56.8		0		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW06**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 173456
ICAL Calibration #:
Sample #: 453274
Parent Sample #: 453273

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/24/2020	18:46	15	24.9		24.7		1		IC
Nitrate Nitrogen	07/24/2020	18:46	15	5.44		5.48		1		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **48MW06**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #: 0
Analytical Preparation Date/Time:
Analytical Run #: 173456
ICAL Calibration #:
Sample #: 453274
Parent Sample #: 453273

ReRun *Re-Analysis #1*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Sulfate	07/27/2020	09:48	15	166		170		2		IC

CT LABORATORIES
delivering more than data from your environmental analyses

6A

MATRIX SPIKE DUPLICATES

Sample Description: **49EB2**

Lab Name: CT Laboratories
Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49
Matrix: LIQUID
SDG No.: 154947
% Solid for Sample:
Concentration Units: mg/L
Analytical Prep Batch #:
Analytical Preparation Date/Time:
Analytical Run #: 173401
ICAL Calibration #:
Sample #: 453617
Parent Sample #: 453616

Analysis Type *Initial Analysis*

Analyte	Analysis Date/Tim		RPD Limit	Matrix Spik Parent Conc. (S)	C	Matrix Spike Duplicate Conc. (D)	C	RPD	Q	M
Chloride	07/23/2020	21:59	15	7.79		8.01		3		IC
Nitrate Nitrogen	07/23/2020	21:59	15	1.98		2.02		2		IC
Sulfate	07/23/2020	21:59	15	7.92		8.18		3		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 154947

Concentration Units: mg/L

Analytical Run #: 173314

Sample No.:#: 449133

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/21/2020 15:46	87-111	14.50		15.00	97		
Nitrate Nitrogen	07/21/2020 15:46	88-111	3.445		3.500	98		
Sulfate	07/21/2020 15:46	87-112	24.53		25.00	98		

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 154947

Concentration Units: mg/L

Analytical Run #: 173688 Sample No.:#: 454513

Analytical Prep Batch #: 77490 Preparation Date/Time: 07/31/2020 08:16

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
COD	07/31/2020 13:17	90-110	414.4		400.0	104		SP

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 154947

Concentration Units: mg/L

Analytical Run #: 173667

Sample No.:#: 455142

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	07/31/2020 18:08	85-111	51.04		50.00	102		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 154947

Concentration Units: mg/L

Analytical Run #: 173668

Sample No.:#: 455159

Analytical Prep Batch #: 0

Preparation Date/Time:

ICAL Calibration #: ICAL 0398 I

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Total Organic Carbon	07/31/2020 18:08	85-111	51.04		50.00	102		TOC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra SDG No.: 154947

Concentration Units: mg/L

Analytical Run #: 173401 Sample No.:#: 453265

Analytical Prep Batch #: 0 Preparation Date/Time:

ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/23/2020 17:15	87-111	14.83		15.00	99		IC
Nitrate Nitrogen	07/23/2020 17:15	88-111	3.407		3.500	97		IC
Sulfate	07/23/2020 17:15	87-112	25.66		25.00	103		IC

CT LABORATORIES
delivering more than data from your environmental analyses

7-1

Sample No:

LABORATORY CONTROL SAMPLE - AQUEOUS

LCS

Lab Name: CT Laboratories

Contract: WESTON SOLUTIONS, INC.-RADFORD AAP SWMU-49

LCS Source: SPEX and Ultra

SDG No.: 154947

Concentration Units: mg/L

Analytical Run #: 173456

Sample No.:#: 453268

Analytical Prep Batch #: 0

Preparation Date/Time:

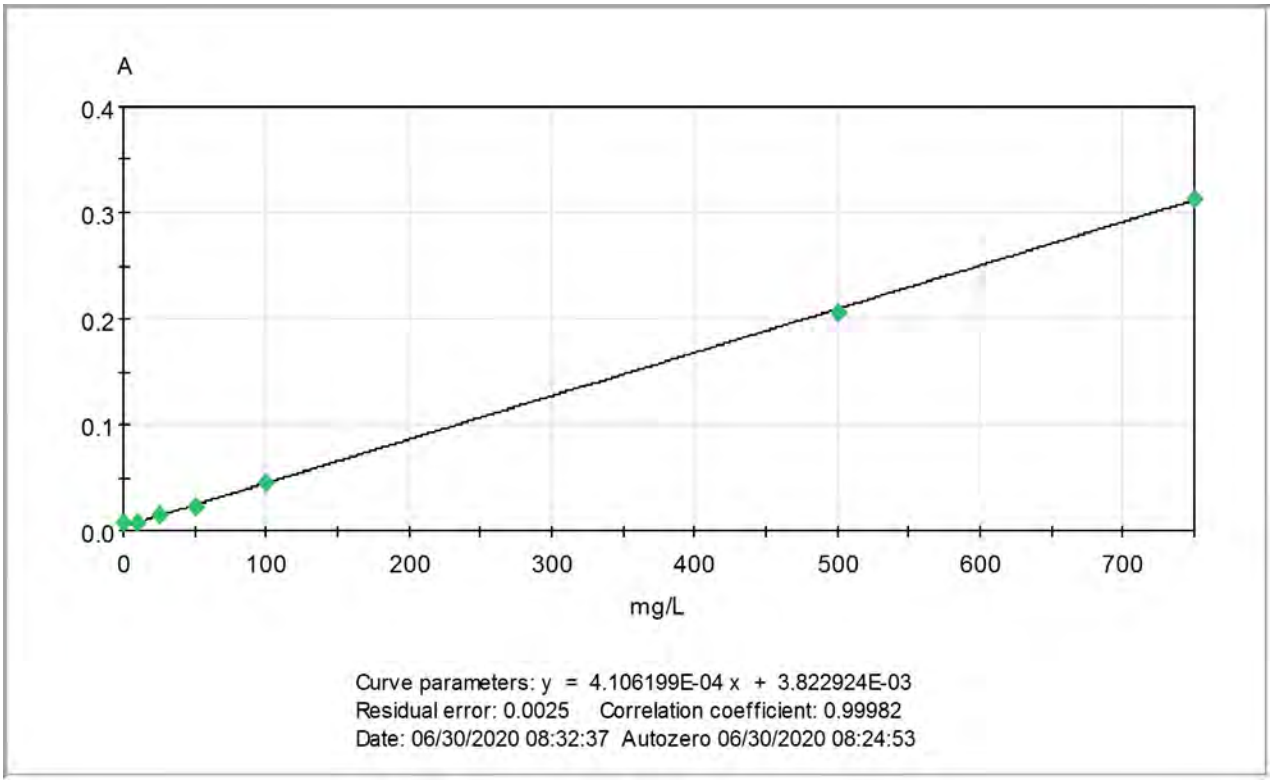
ICAL Calibration #:

Analysis Type ---------- Initial Analysis

Analyte	Analysis Date/Time	Control Limit (%R)	Spike Result	C	Spike Amount	%R	Q	M
Chloride	07/24/2020 13:22	87-111	15.26		15.00	102		IC
Nitrate Nitrogen	07/24/2020 13:22	88-111	3.496		3.500	100		IC
Sulfate	07/24/2020 13:22	87-112	26.09		25.00	104		IC

INORGANICS
RAW DATA
DOCUMENTS

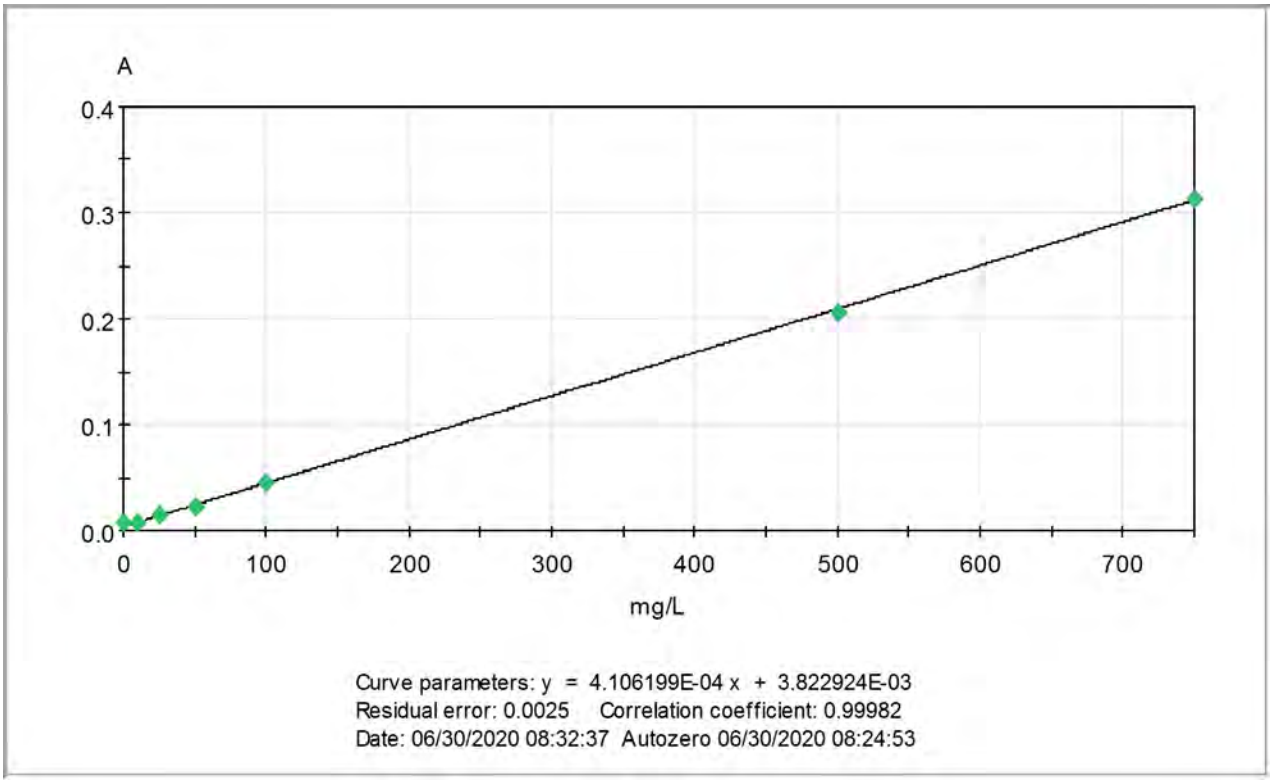
Method: COD W49999.mqa (600 nm)
Last modified: 06/30/2020 08:34:21 by CTLABORATORIES
Spectrophotometer: GENESYS 30
Serial number: 9A1W117104
Firmware: 104



Standards

No.	Concentration [mg/L]	Ordinate [A]	Error [A]	Used
1	0.0	0.007	0.003	Yes
2	10.0	0.007	-0.001	Yes
3	25.0	0.015	0.001	Yes
4	50.0	0.022	-0.002	Yes
5	100.0	0.045	0.000	Yes
6	500.0	0.206	-0.003	Yes
7	750.0	0.314	0.002	Yes

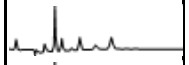
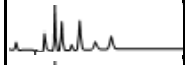
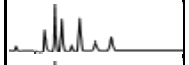
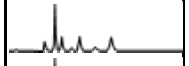
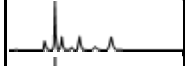
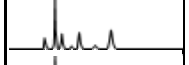
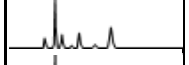
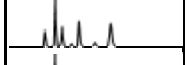
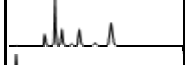
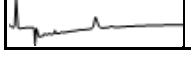
Method: COD W49999.mqa (600 nm)
Last modified: 06/30/2020 08:34:21 by CTLABORATORIES
Spectrophotometer: GENESYS 30
Serial number: 9A1W117104
Firmware: 104
Autozero: 07/31/2020 12:57:51
Measured: 07/31/2020 13:17:12 by CTLABORATORIES
Result filename: 173687 688 DATA.rqa



Sample	Dilution Factor	Ordinate [A]	Concentration [mg/L]
CCV	1	0.169	402.3
CCB	1	0.003	-2.0
454509	1	0.163	387.7
454508	1	0.006	5.3
446870 (X50)	1	0.132	312.2
447988	1	0.010	15.0
448712 (X4)	1	0.078	180.6
448798	1	0.044	97.8
MSW448798	1	0.111	261.0
MSDW448798	1	0.113	265.9
448800 (X50)	1	0.223	533.8
449494 (X50)	1	0.119	280.5
CCV		0.121	discarded
CCV	1	0.172	409.6
CCB	1	0.005	2.9
449496 (X100)	1	0.122	287.8

449497 (X100)	1	0.174	414.4
449498 (X50)	1	0.239	572.7
451914 (X50)	1	0.306	735.9
451961	1	0.033	71.1
MSW451961	1	0.099	231.8
MSDW451961	1	0.099	231.8
CCV	1	0.170	404.7
CCB	1	0.004	0.4
ICV	1	0.174	414.4
ICB	1	0.008	10.2
448843	1	0.008	10.2
MSW448843	1	0.074	170.9
MSDW448843	1	0.073	168.5
449324 (X400)	1	0.192	458.3
MSW449324 (X400)	1	0.236	565.4
MSDW449324 (X400)	1	0.236	565.4
449325 (X200)	1	0.273	655.5
449326 (X200)	1	0.285	684.8
CCV	1	0.173	412.0
CCB	1	0.006	5.3
449327 (X100)	1	0.193	460.7
449328 (X100)	1	0.153	363.3
450344 (X2)	1	0.121	285.4
CCV	1	0.172	409.6
CCB	1	0.008	10.2

Sequence: 111919 - IC2732A
Last Update Operator: AQUION

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	STD1	1.0000	Calibration Standard	1	25	5000	Anions 1.0	IC2732A	Finished
	STD2	1.0000	Calibration Standard	2	26	5000	Anions 1.0	IC2732A	Finished
	STD3	1.0000	Calibration Standard	3	27	5000	Anions 1.0	IC2732A	Finished
	STD4	1.0000	Calibration Standard	4	28	5000	Anions 1.0	IC2732A	Finished
	STD5	1.0000	Calibration Standard	5	29	5000	Anions 1.0	IC2732A	Finished
	STD6	1.0000	Calibration Standard	6	30	5000	Anions 1.0	IC2732A	Finished
	STD7	1.0000	Calibration Standard	7	31	5000	Anions 1.0	IC2732A	Finished
	STD8	1.0000	Calibration Standard	8	32	5000	Anions 1.0	IC2732A	Finished
	STD9	1.0000	Calibration Standard	9	33	5000	Anions 1.0	IC2732A	Finished
	ICV	1.0000	Unknown		34	5000	Anions 1.0	IC2732A	Finished
	ICB	1.0000	Unknown		35	5000	Anions 1.0	IC2732A	Finished

Calibration Concentrations

Instrument:AQUION 4	Cal. File: IC2732A				ICV	IC2716 2729		Analyst/Date: TMG 11/19/2019		
Analyte	Cal Level 1 (mg/L)	Cal Level 2 (mg/L)	Cal Level 3 (mg/L)	Cal Level 4 (mg/L)	Cal Level 5 (mg/L)	Cal Level 6 (mg/L)	Cal Level 7 (mg/L)	Cal Level 8 (mg/L)	Cal Level 9 (mg/L)	ICV (mg/L)
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0		3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

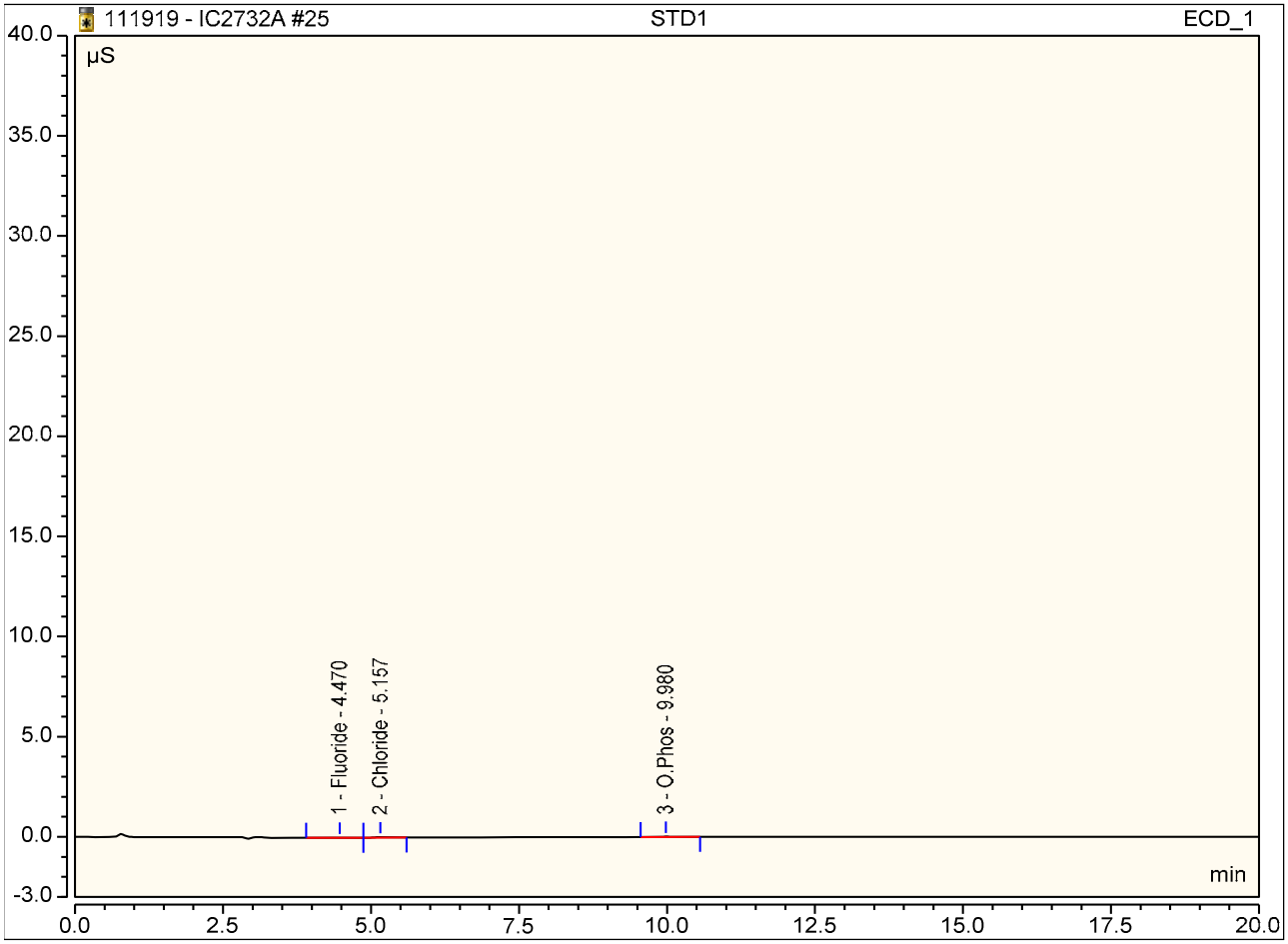
RJ 01/10/2020

Page 1110

Peak Integration Report

Sample Name:	**STD1**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 22:11**	*Run Time:*	**20.00**

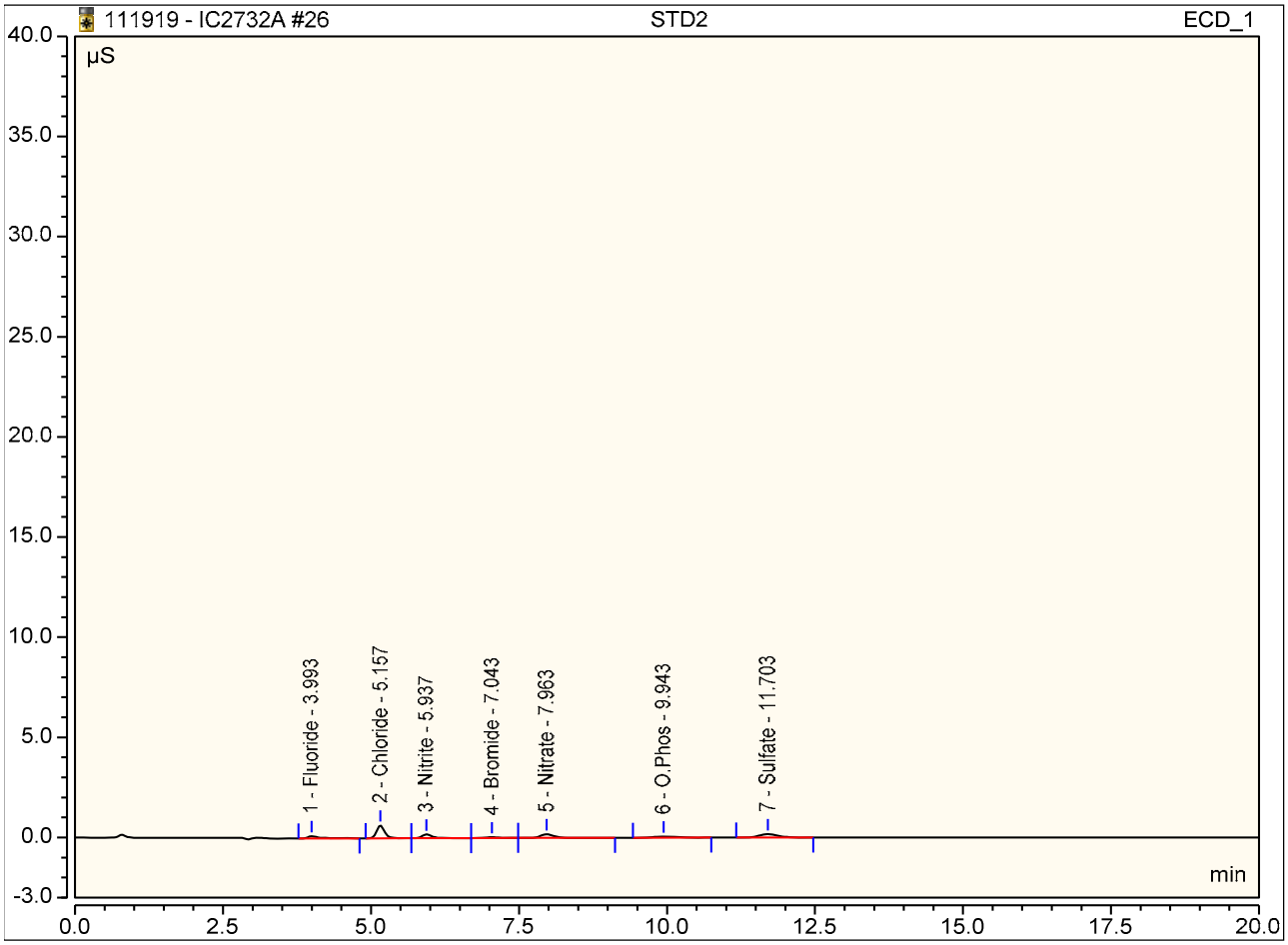
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.47	Fluoride	0.003	0.008	0.0159
2	5.16	Chloride	0.005	0.030	0.4934
3	9.98	O.Phos	0.007	0.017	n.a.



Peak Integration Report

Sample Name:	**STD2**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 22:31**	*Run Time:*	**20.00**

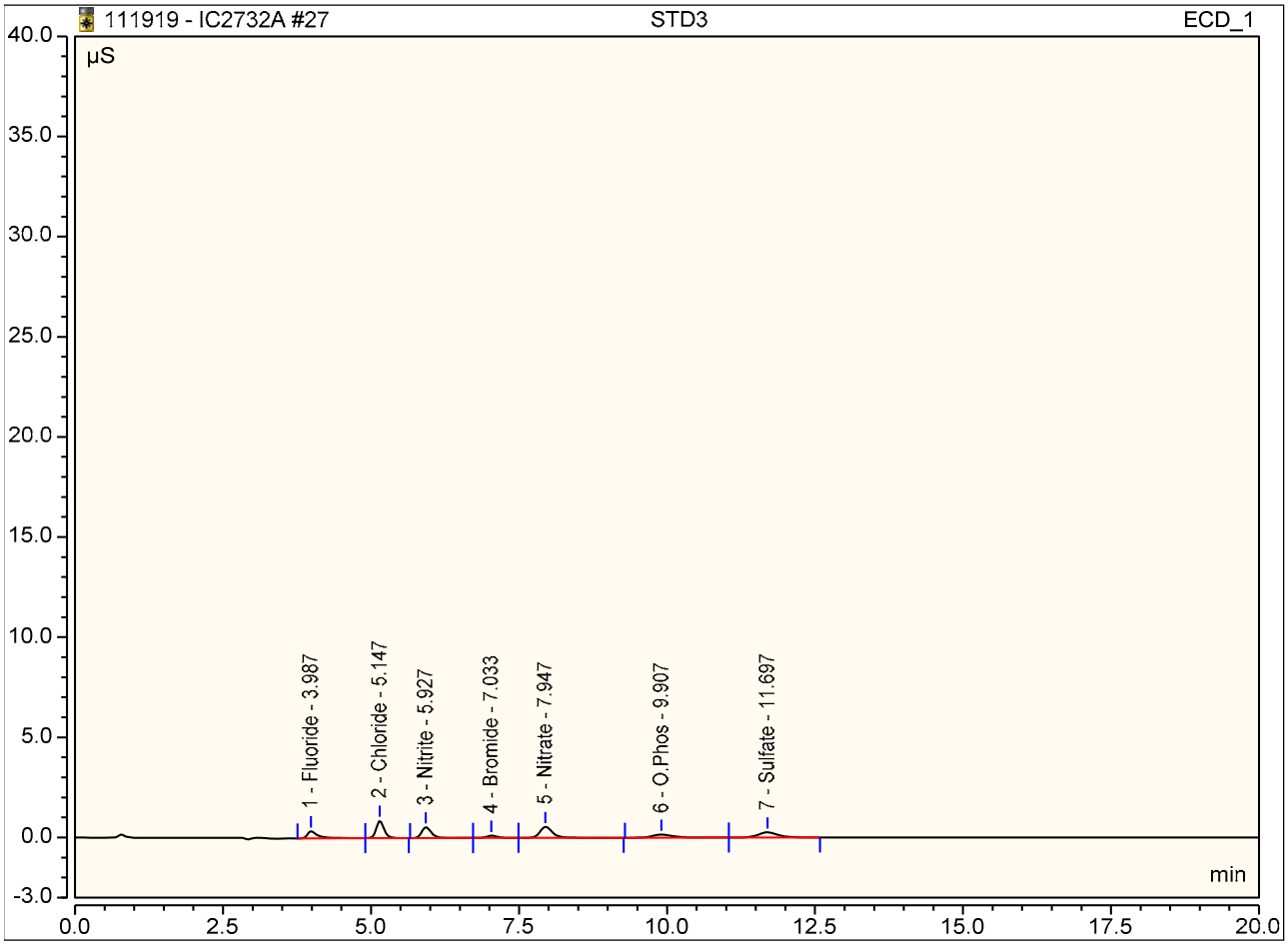
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.029	0.121	0.1155
2	5.16	Chloride	0.101	0.642	0.9050
3	5.94	Nitrite	0.036	0.184	0.1202
4	7.04	Bromide	0.008	0.038	0.1043
5	7.96	Nitrate	0.047	0.187	0.1597
6	9.94	O.Phos	0.026	0.064	0.0958
7	11.70	Sulfate	0.066	0.172	1.0380



Peak Integration Report

Sample Name:	**STD3**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 22:51**	*Run Time:*	**20.00**

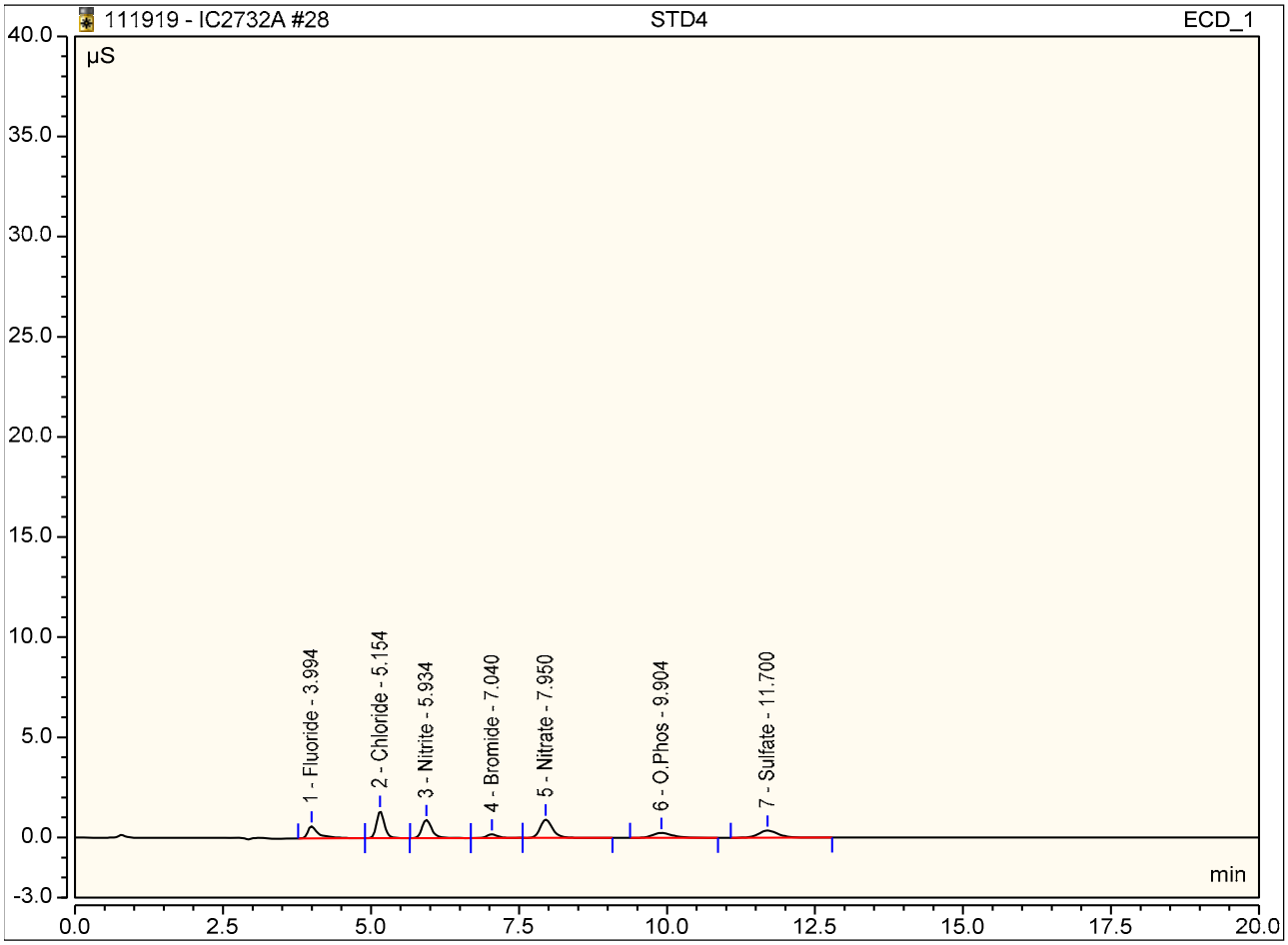
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.080	0.360	0.3013
2	5.15	Chloride	0.137	0.880	1.0634
3	5.93	Nitrite	0.106	0.542	0.3092
4	7.03	Bromide	0.023	0.111	0.3002
5	7.95	Nitrate	0.136	0.546	0.3358
6	9.91	O.Phos	0.061	0.155	0.3113
7	11.70	Sulfate	0.099	0.257	1.2514



Peak Integration Report

Sample Name:	**STD4**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 23:11**	*Run Time:*	**20.00**

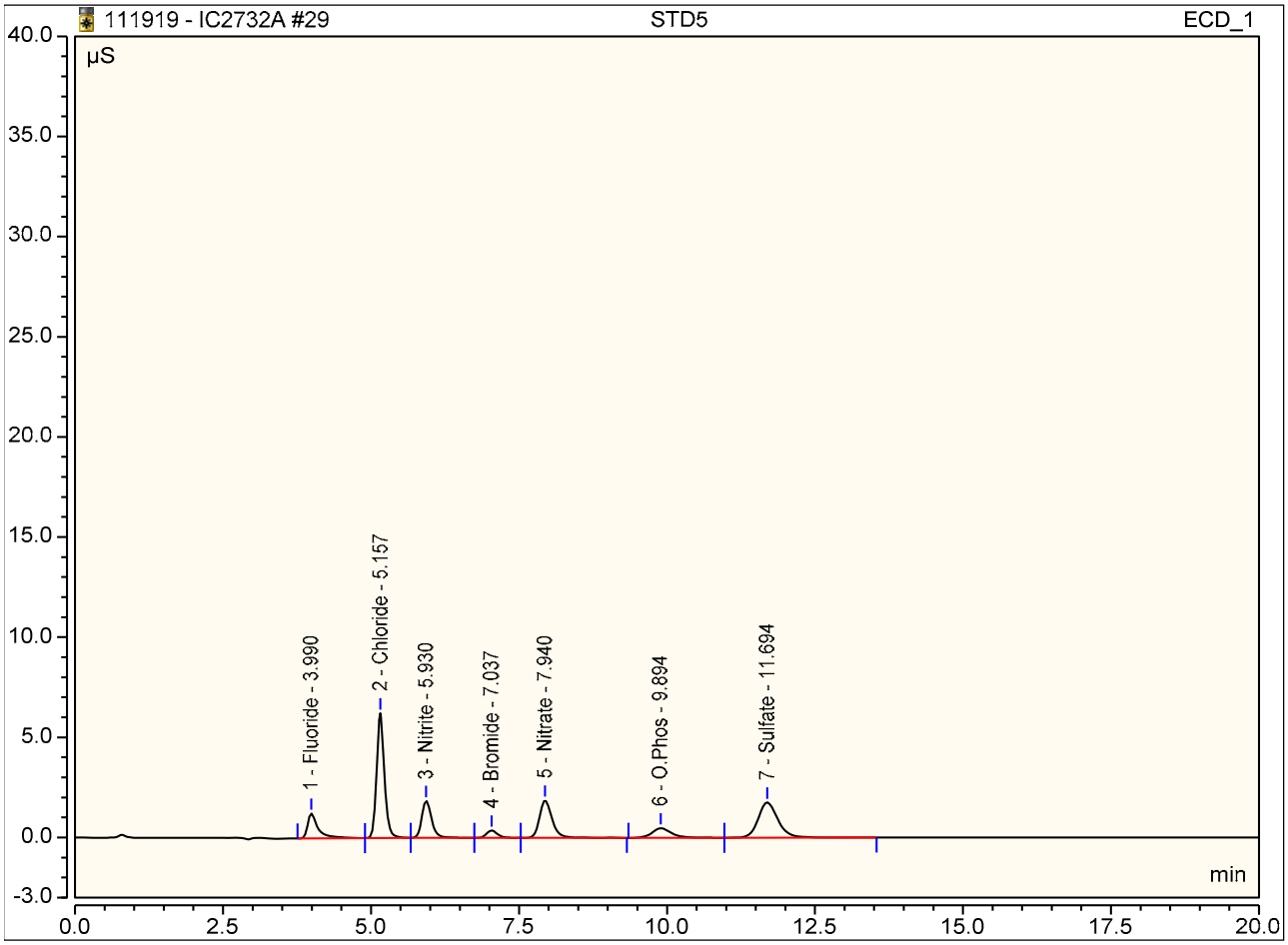
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.137	0.608	0.5149
2	5.15	Chloride	0.213	1.369	1.3911
3	5.93	Nitrite	0.179	0.913	0.5039
4	7.04	Bromide	0.039	0.184	0.5019
5	7.95	Nitrate	0.228	0.922	0.5172
6	9.90	O.Phos	0.094	0.246	0.5097
7	11.70	Sulfate	0.138	0.355	1.4957



Peak Integration Report

Sample Name:	**STD5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 23:31**	*Run Time:*	**20.00**

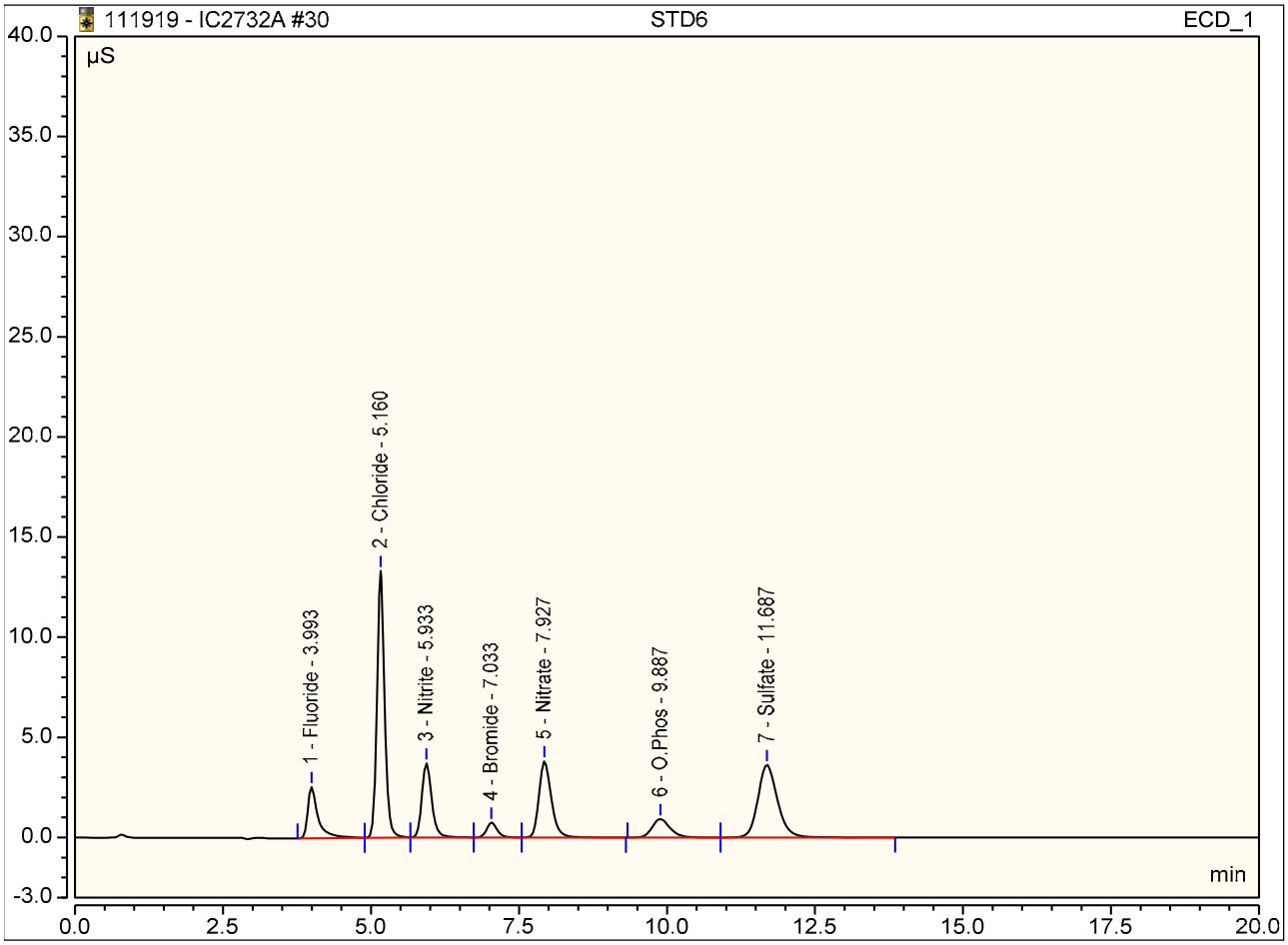
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.262	1.249	0.9787
2	5.16	Chloride	0.948	6.228	4.5546
3	5.93	Nitrite	0.359	1.845	0.9890
4	7.04	Bromide	0.078	0.372	1.0010
5	7.94	Nitrate	0.461	1.870	0.9770
6	9.89	O.Phos	0.176	0.474	1.0173
7	11.69	Sulfate	0.683	1.757	4.9423



Peak Integration Report

Sample Name:	**STD6**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**19-Nov-2019 / 23:51**	*Run Time:*	**20.00**

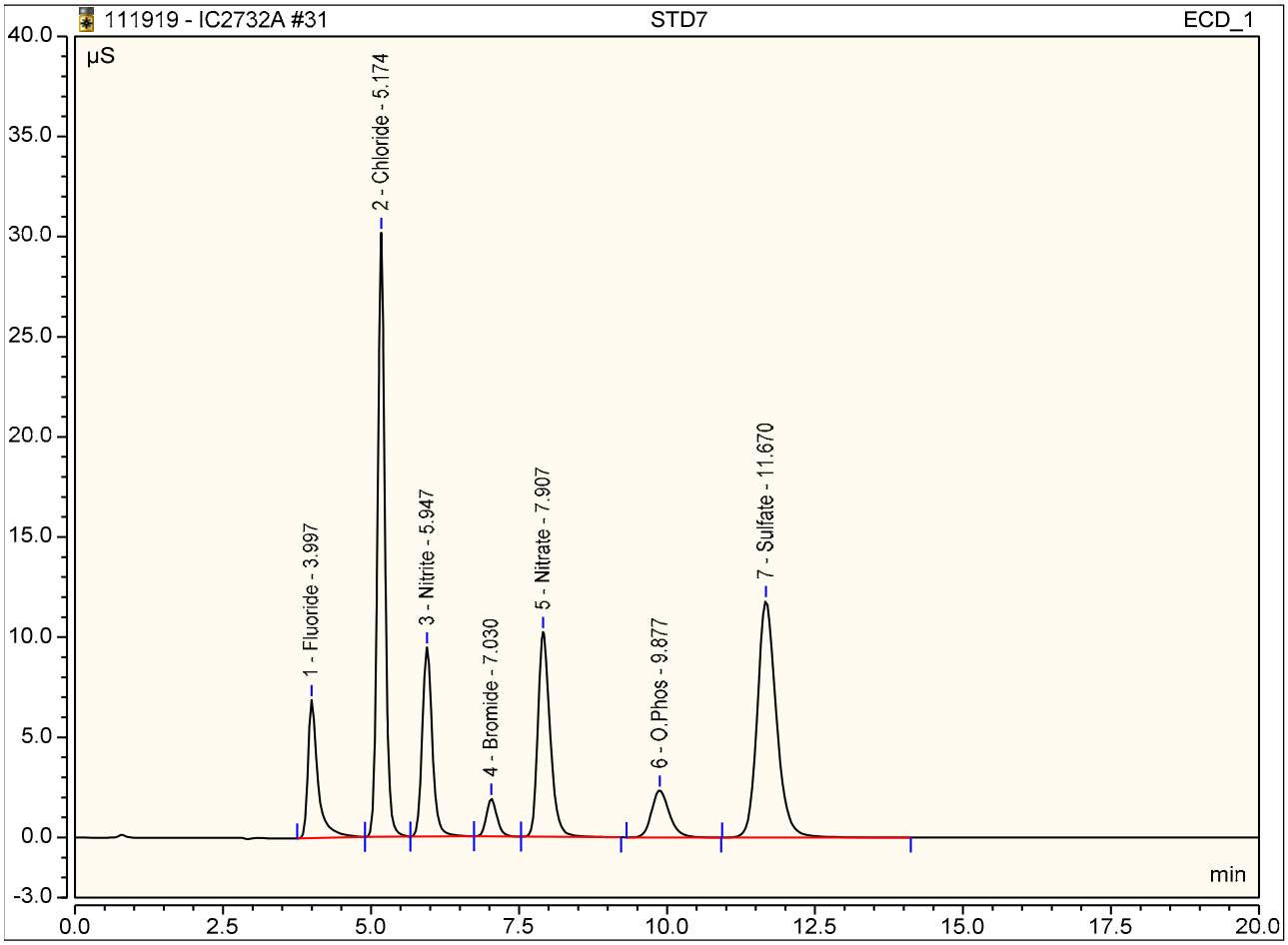
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.99	Fluoride	0.525	2.569	1.9523
2	5.16	Chloride	1.975	13.318	8.9813
3	5.93	Nitrite	0.721	3.702	1.9614
4	7.03	Bromide	0.155	0.743	1.9885
5	7.93	Nitrate	0.933	3.812	1.9075
6	9.89	O.Phos	0.334	0.925	1.9907
7	11.69	Sulfate	1.400	3.627	9.4805



Peak Integration Report

Sample Name:	**STD7**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 00:11**	*Run Time:*	**20.00**

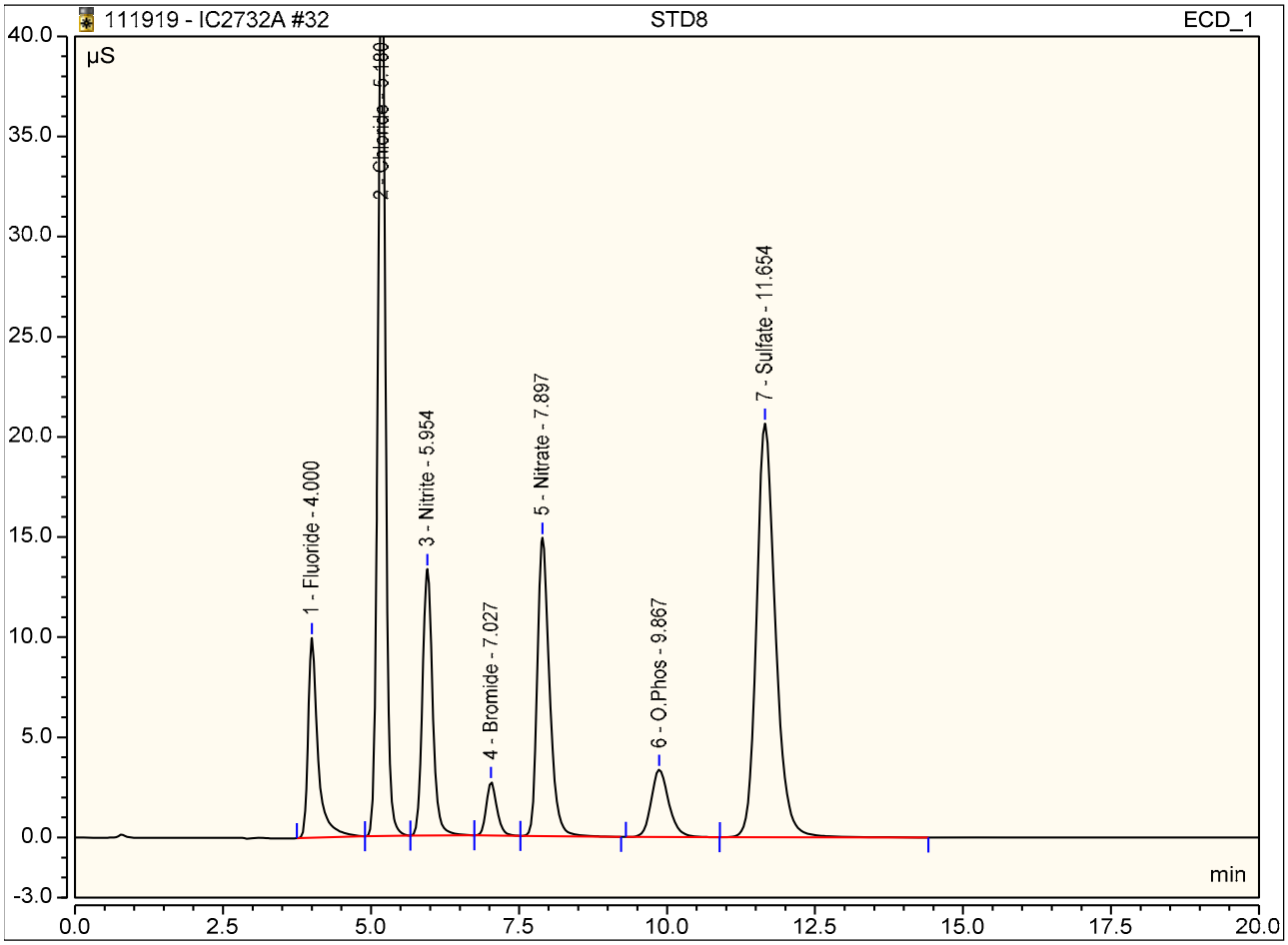
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	1.353	6.894	5.0215
2	5.17	Chloride	4.365	30.163	19.2743
3	5.95	Nitrite	1.857	9.442	5.0163
4	7.03	Bromide	0.391	1.888	5.0041
5	7.91	Nitrate	2.458	10.224	4.9183
6	9.88	O.Phos	0.821	2.345	4.9987
7	11.67	Sulfate	4.437	11.813	28.6959



Peak Integration Report

Sample Name:	**STD8**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 00:31**	*Run Time:*	**20.00**

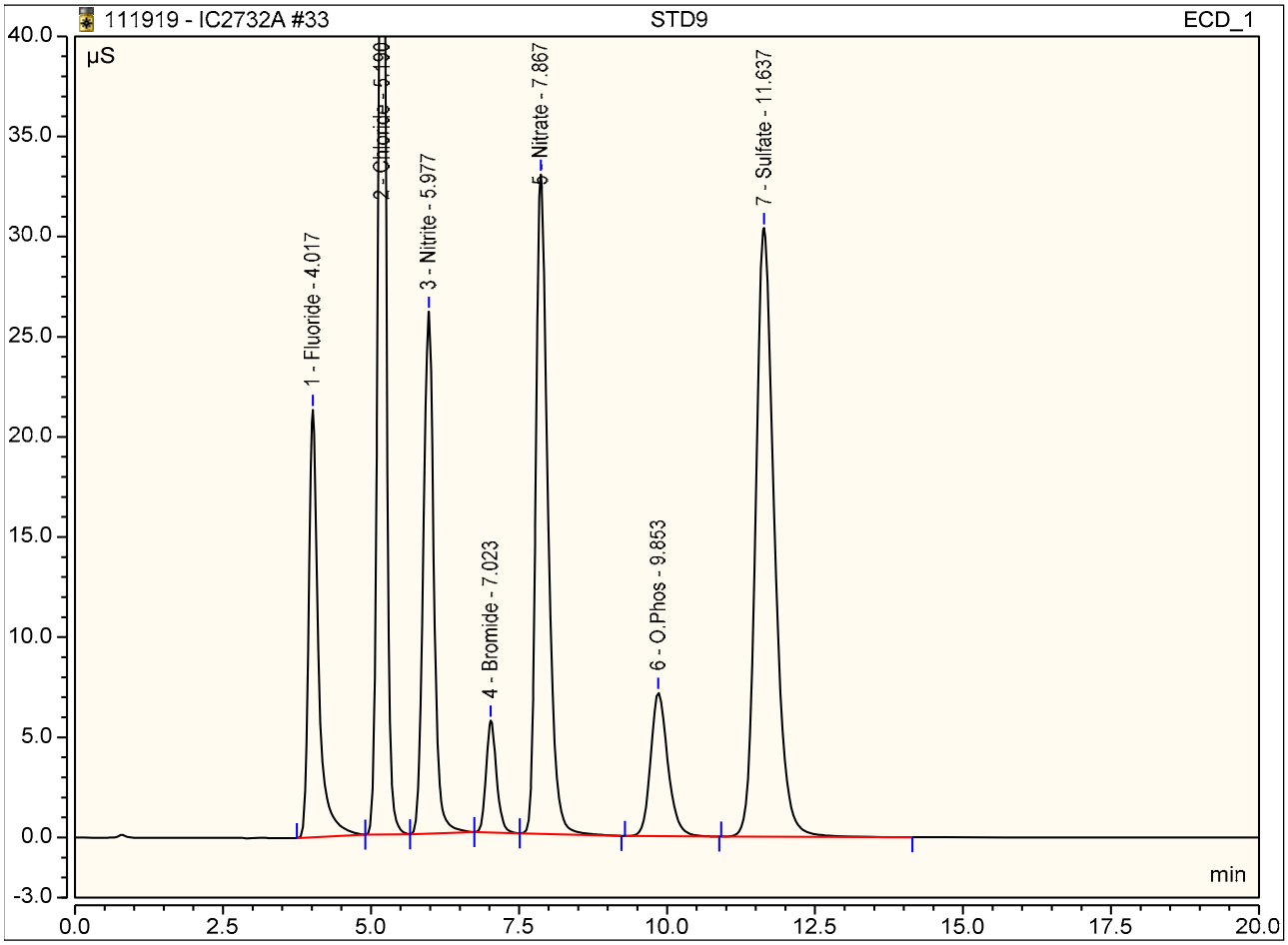
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	1.932	9.980	7.1693
2	5.18	Chloride	6.794	47.101	29.7375
3	5.95	Nitrite	2.640	13.302	7.1237
4	7.03	Bromide	0.555	2.679	7.1053
5	7.90	Nitrate	3.555	14.892	7.0844
6	9.87	O.Phos	1.164	3.364	7.1117
7	11.65	Sulfate	7.652	20.652	49.0387



Peak Integration Report

Sample Name:	**STD9**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Calibration Standard**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 00:51**	*Run Time:*	**20.00**

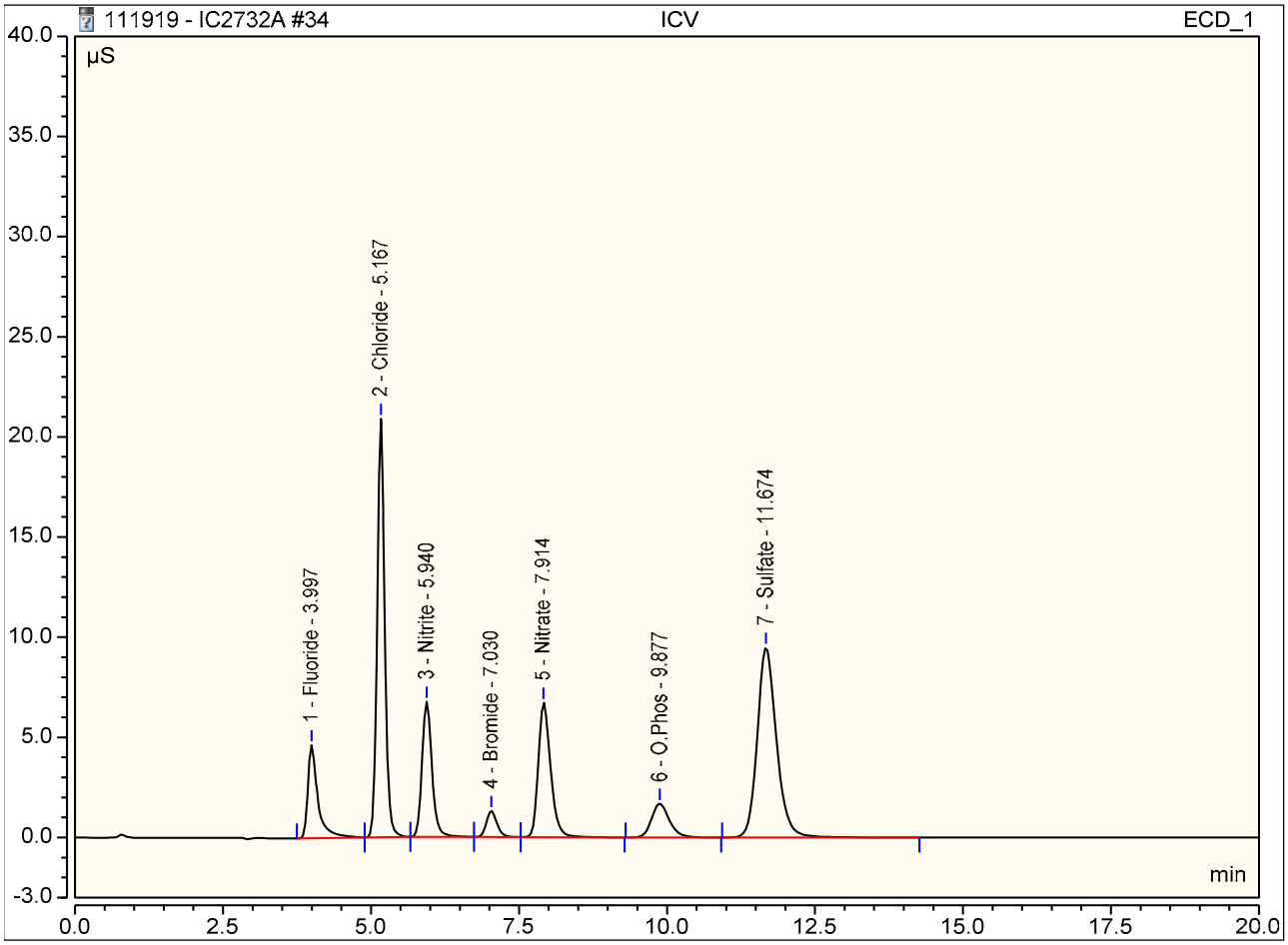
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.02	Fluoride	4.069	21.343	15.0910
2	5.19	Chloride	9.373	64.211	40.8494
3	5.98	Nitrite	5.402	26.068	14.5498
4	7.02	Bromide	1.138	5.595	14.5750
5	7.87	Nitrate	7.791	32.919	15.4457
6	9.85	O.Phos	2.416	7.164	14.8404
7	11.64	Sulfate	11.172	30.393	71.3076



Peak Integration Report

Sample Name:	**ICV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 01:11**	*Run Time:*	**20.00**

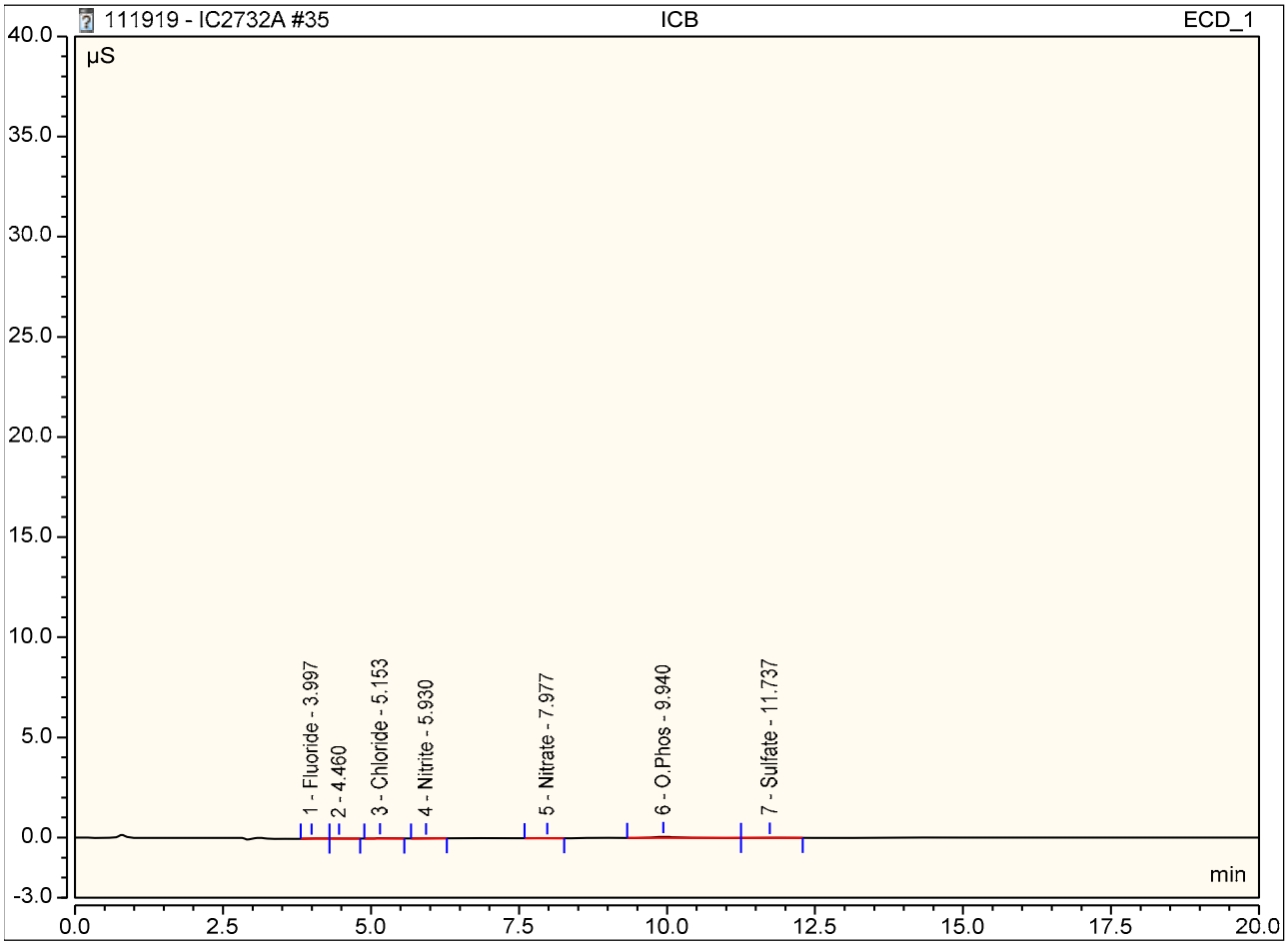
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	0.918	4.652	3.4087
2	5.17	Chloride	3.055	20.893	13.6312
3	5.94	Nitrite	1.319	6.762	3.5717
4	7.03	Bromide	0.270	1.299	3.4635
5	7.91	Nitrate	1.629	6.713	3.2822
6	9.88	O.Phos	0.595	1.685	3.6058
7	11.67	Sulfate	3.585	9.487	23.3079



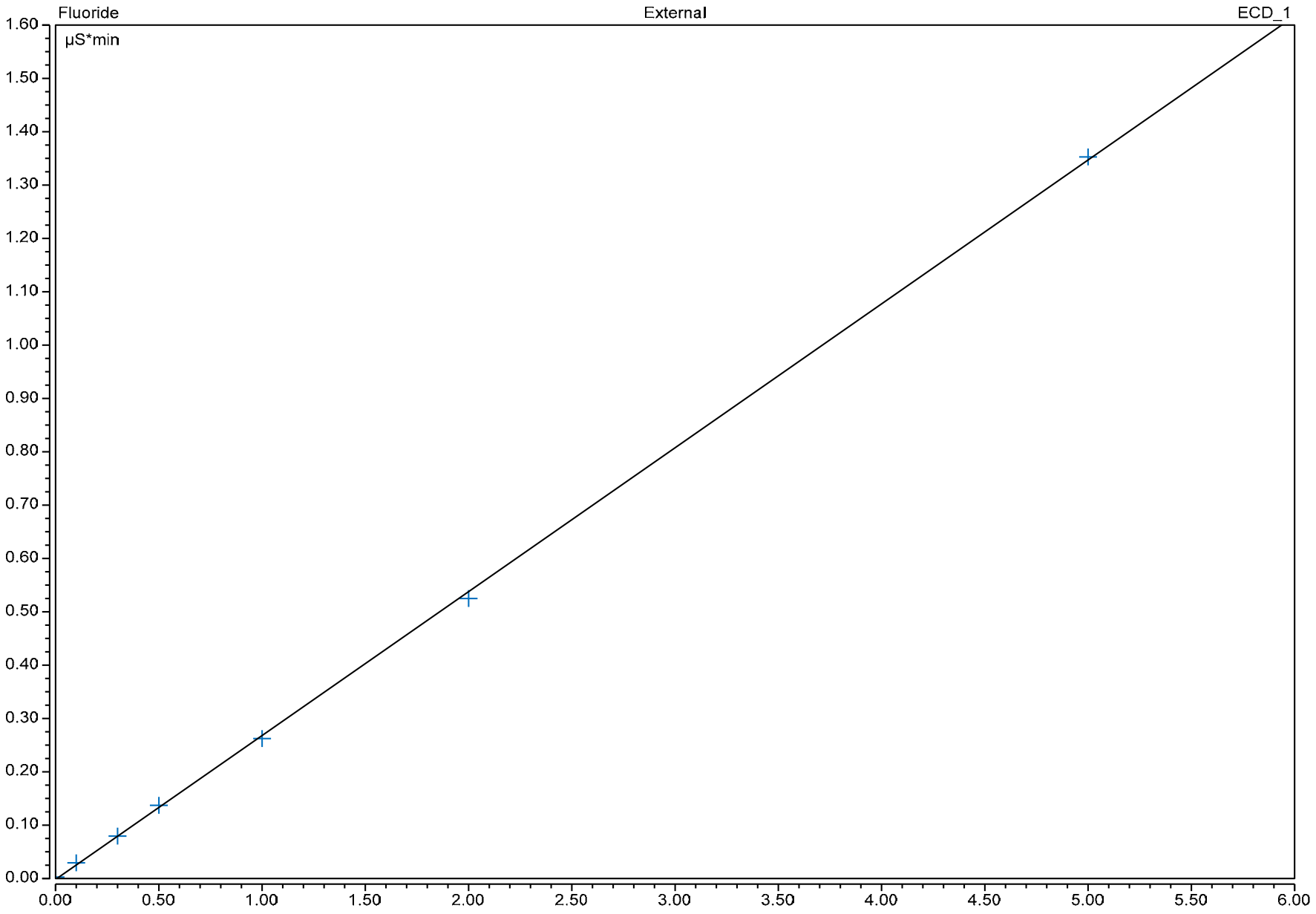
Peak Integration Report

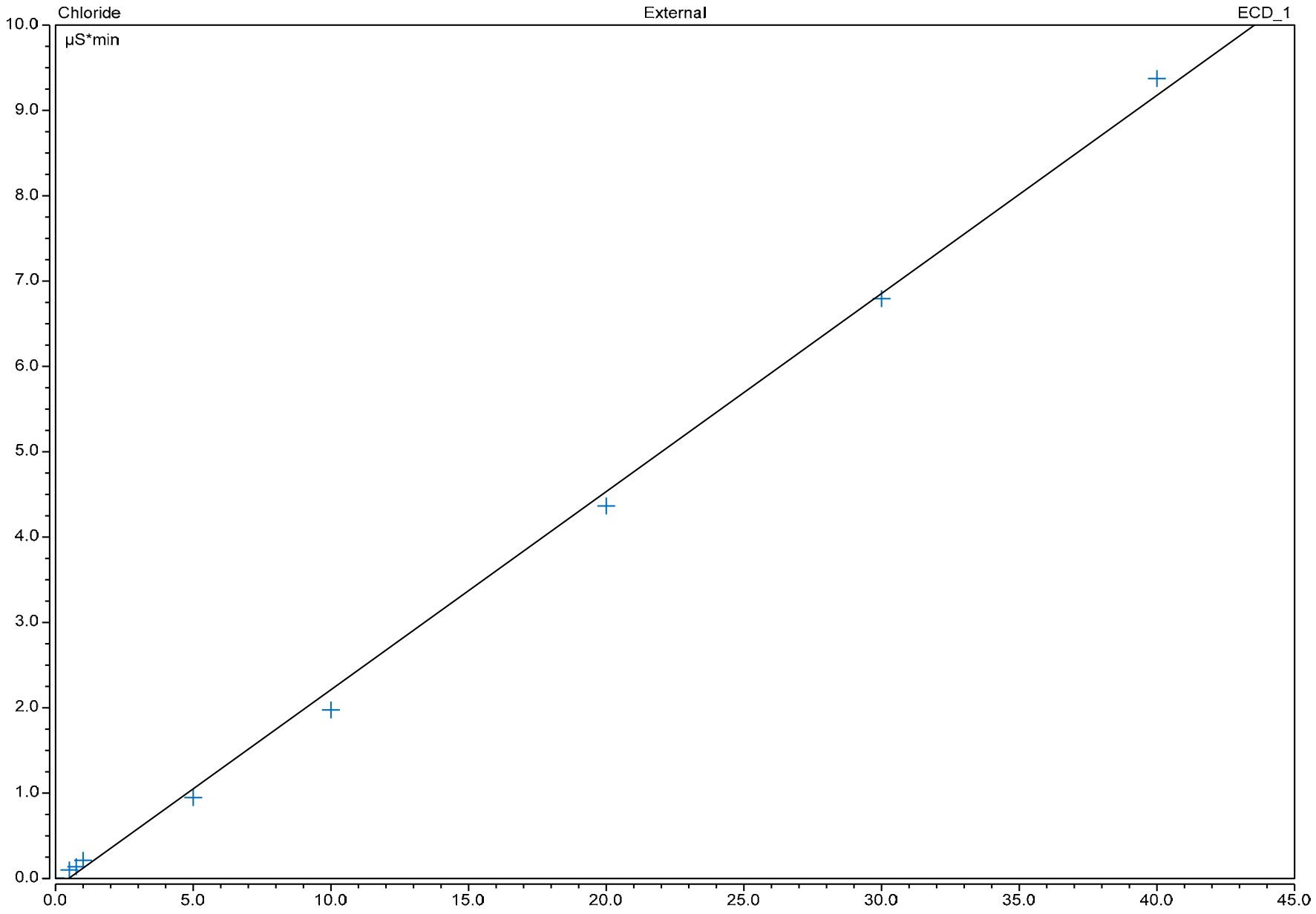
Sample Name:	**ICB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**20-Nov-2019 / 01:31**	*Run Time:*	**20.00**

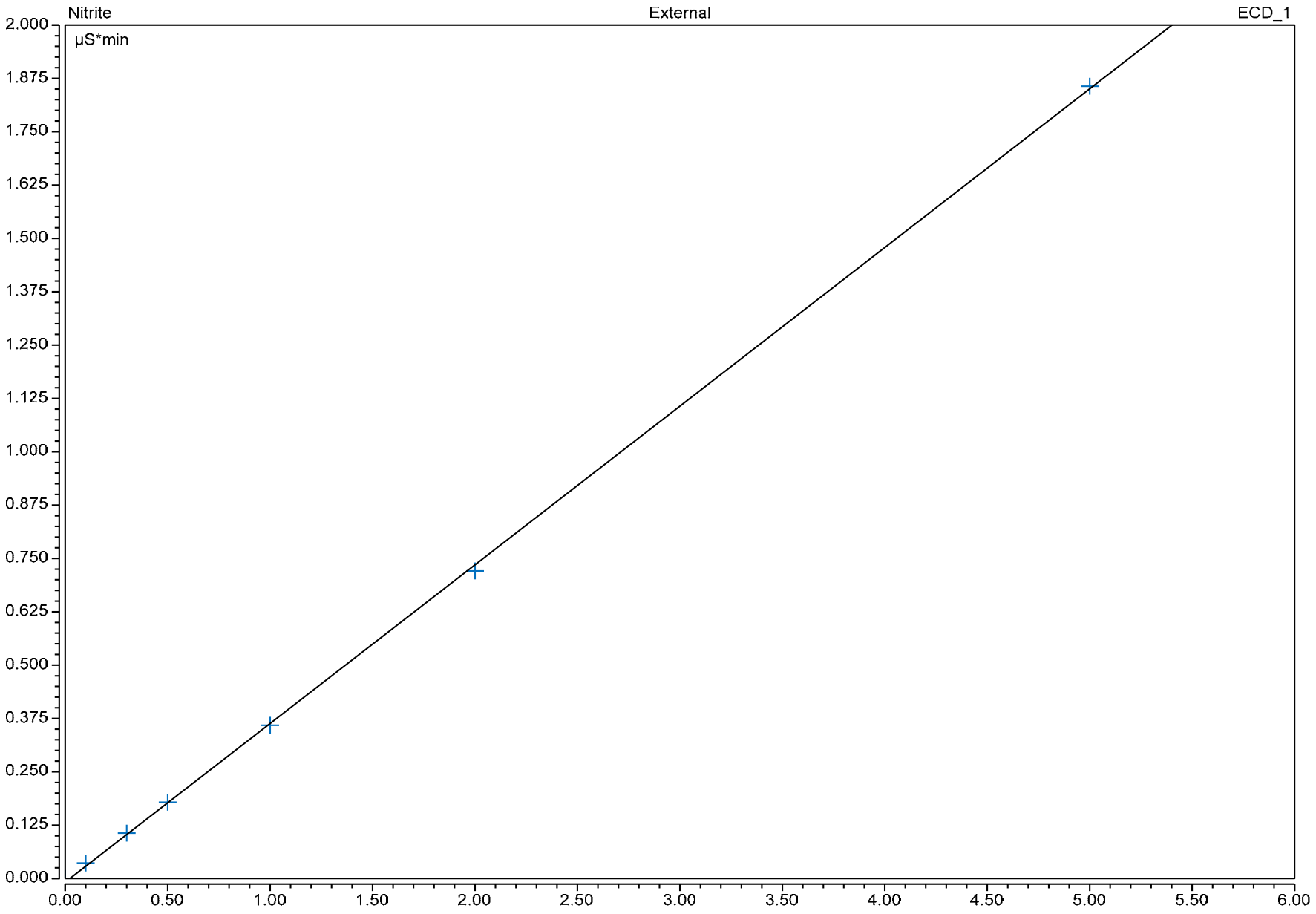
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	4.00	Fluoride	0.002	0.010	0.0126
3	5.15	Chloride	0.003	0.018	0.4853
4	5.93	Nitrite	0.001	0.005	0.0258
5	7.98	Nitrate	0.001	0.004	0.0686
6	9.94	O.Phos	0.026	0.058	0.0923
7	11.74	Sulfate	0.003	0.007	0.6402



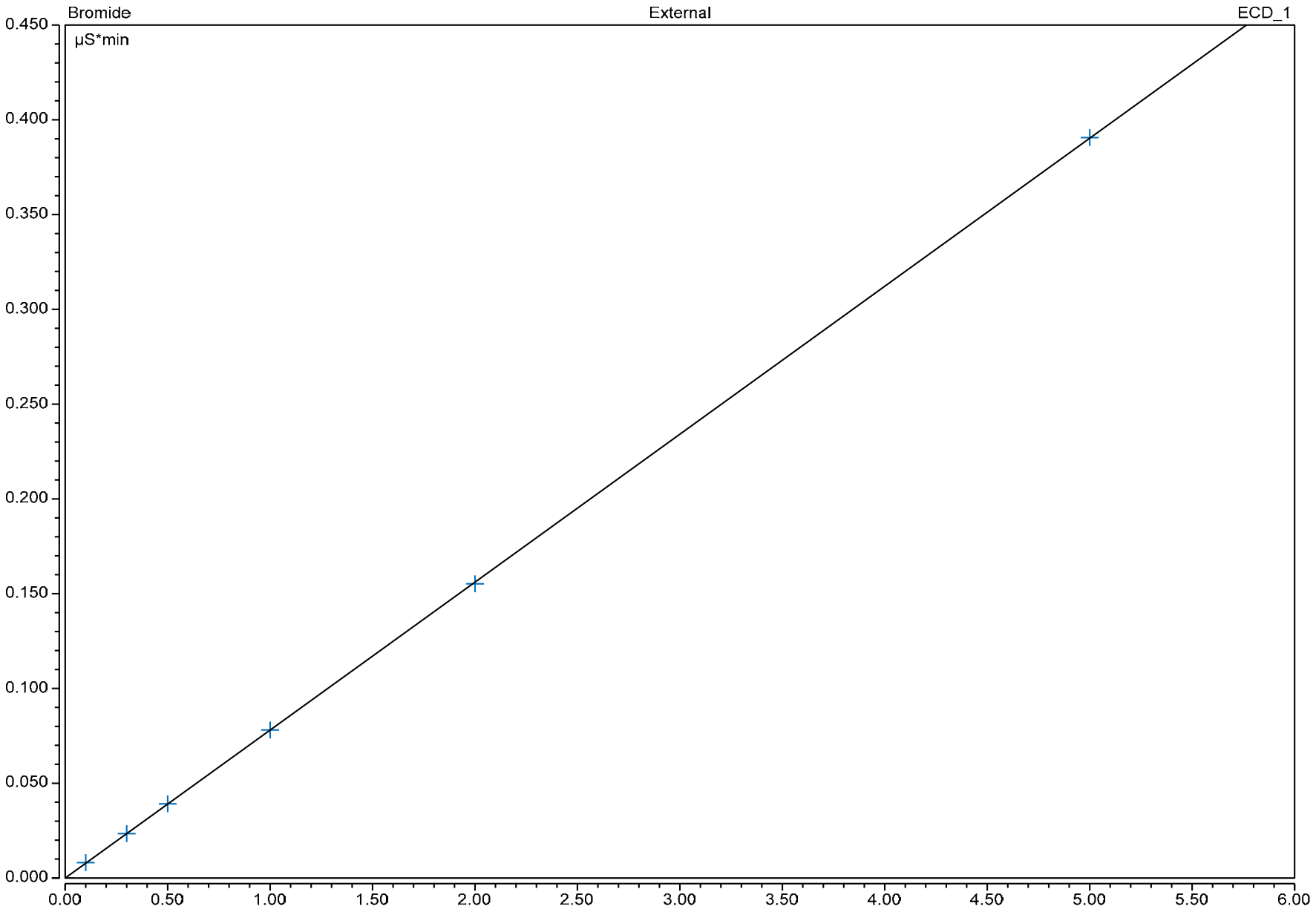
Peak No.	Peak Name	Cal.Type	Eval.Type	Number of Points	Rel.Std.Dev. %	Coeff.of Determination	C0 (Offset)	C1 (Slope)	C2 (Curve)
1	Fluoride	Lin, WithOffset	Area	7	2.2106	0.99979	-0.0017	0.2697	0.0000
2	Chloride	Lin, WithOffset	Area	9	5.9184	0.99817	-0.1095	0.2321	0.0000
3	Nitrite	Lin, WithOffset	Area	6	1.6717	0.99986	-0.0086	0.3718	0.0000
4	Bromide	Lin, WithOffset	Area	6	0.4433	0.99999	0.0000	0.0781	0.0000
5	Nitrate	Lin, WithOffset	Area	7	3.3958	0.99935	-0.0338	0.5066	0.0000
6	O.Phos	Lin, WithOffset	Area	7	1.1453	0.99994	0.0109	0.1621	0.0000
7	*Sulfate*	*Lin, WithOffset*	*Area*	*8*	*4.6746*	*0.99891*	*-0.0984*	*0.1581*	*0.0000*
Maximum					**5.9184**	0.99999			
Minimum					0.4433	**0.99817**			

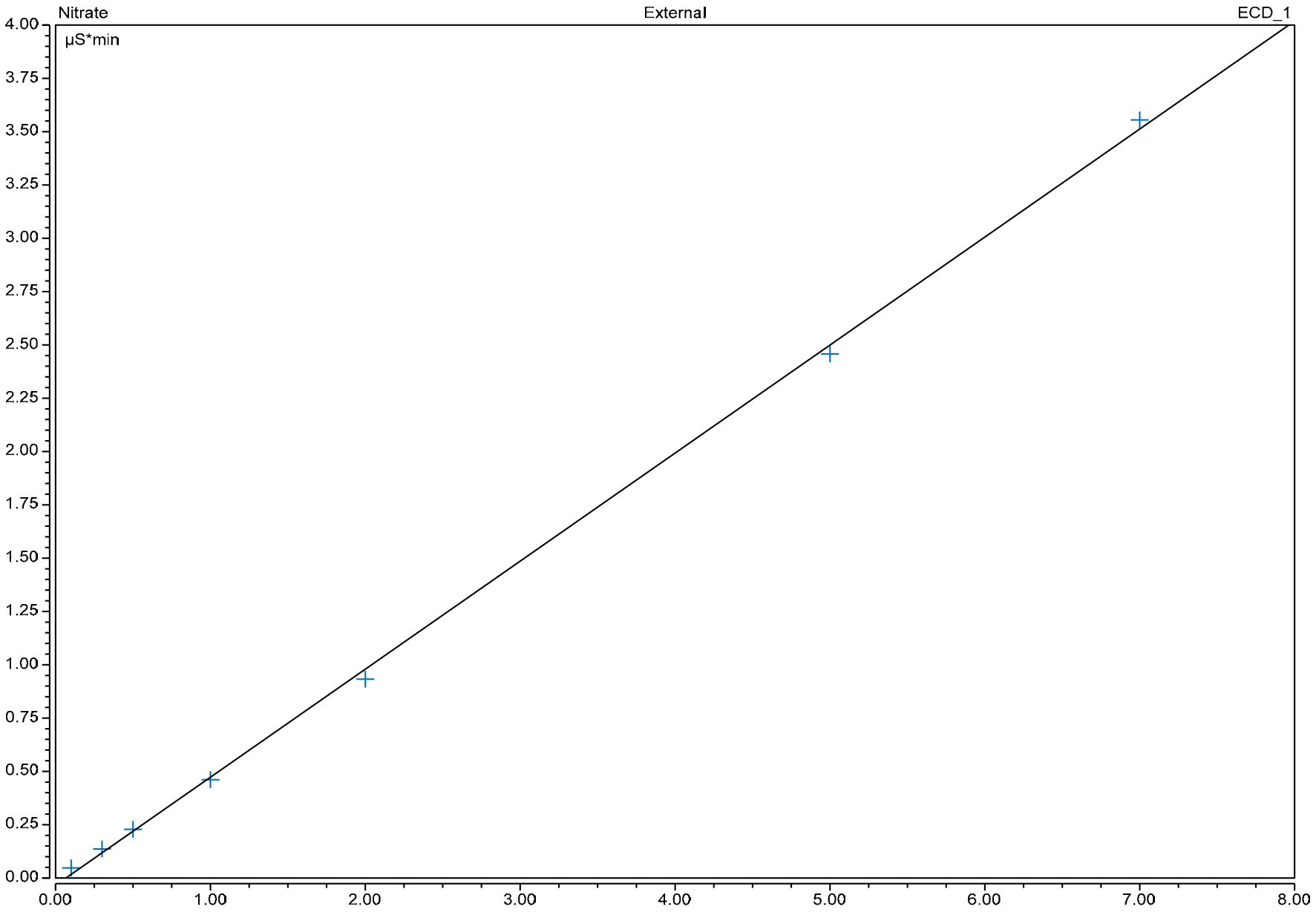

Fluoride
External
ECD_1
µS*min
1.60
1.50
1.40
1.30
1.20
1.10
1.00
0.90
0.80
0.70
0.60
0.50
0.40
0.30
0.20
0.10
0.00
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00


Chloride
External
ECD_1
µS*min
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.0
5.0
10.0
15.0
20.0
25.0
30.0
35.0
40.0
45.0

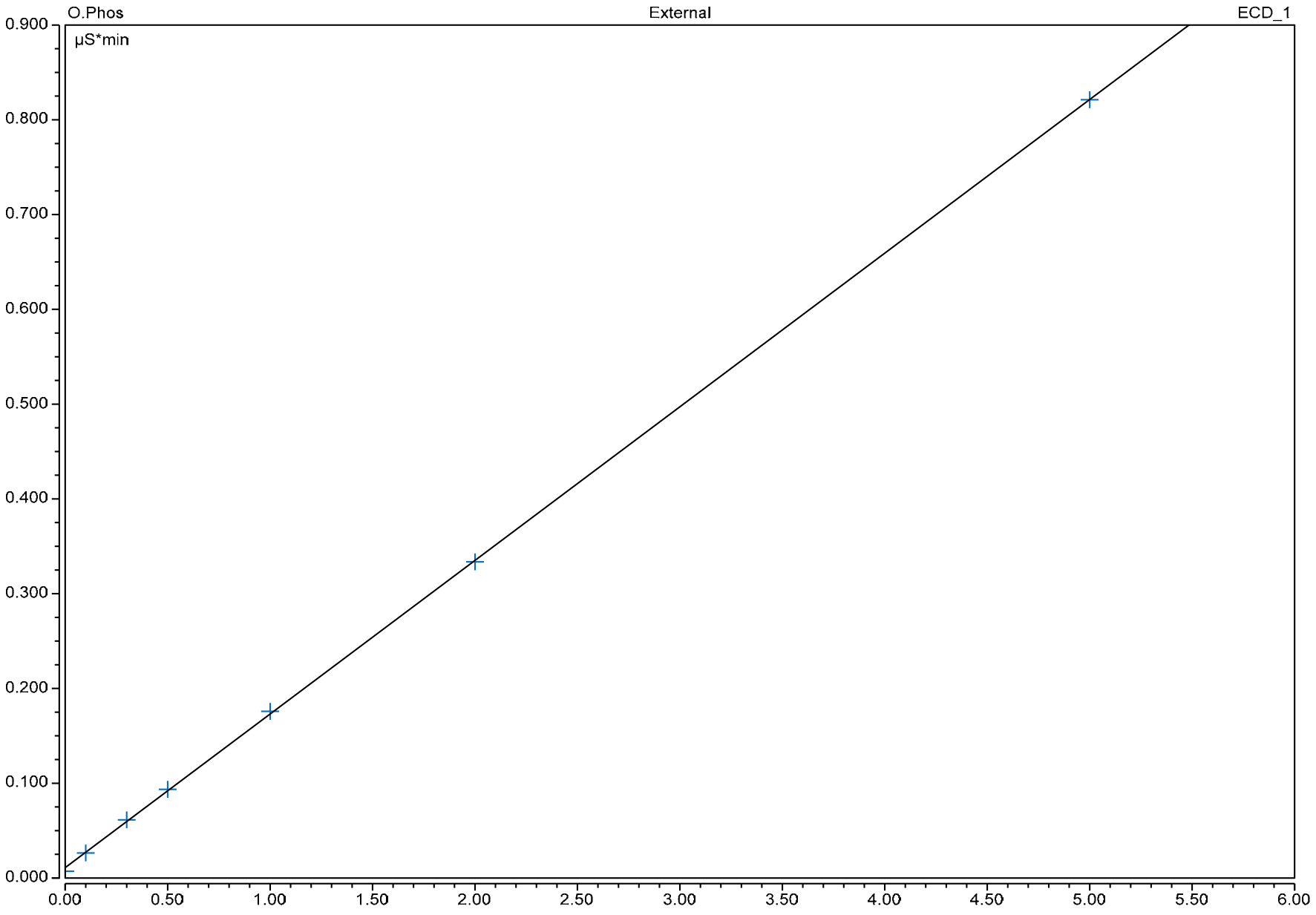

Nitrite
External
ECD_1
µS*min
2.000
1.875
1.750
1.625
1.500
1.375
1.250
1.125
1.000
0.875
0.750
0.625
0.500
0.375
0.250
0.125
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

RJ 01/10/2020

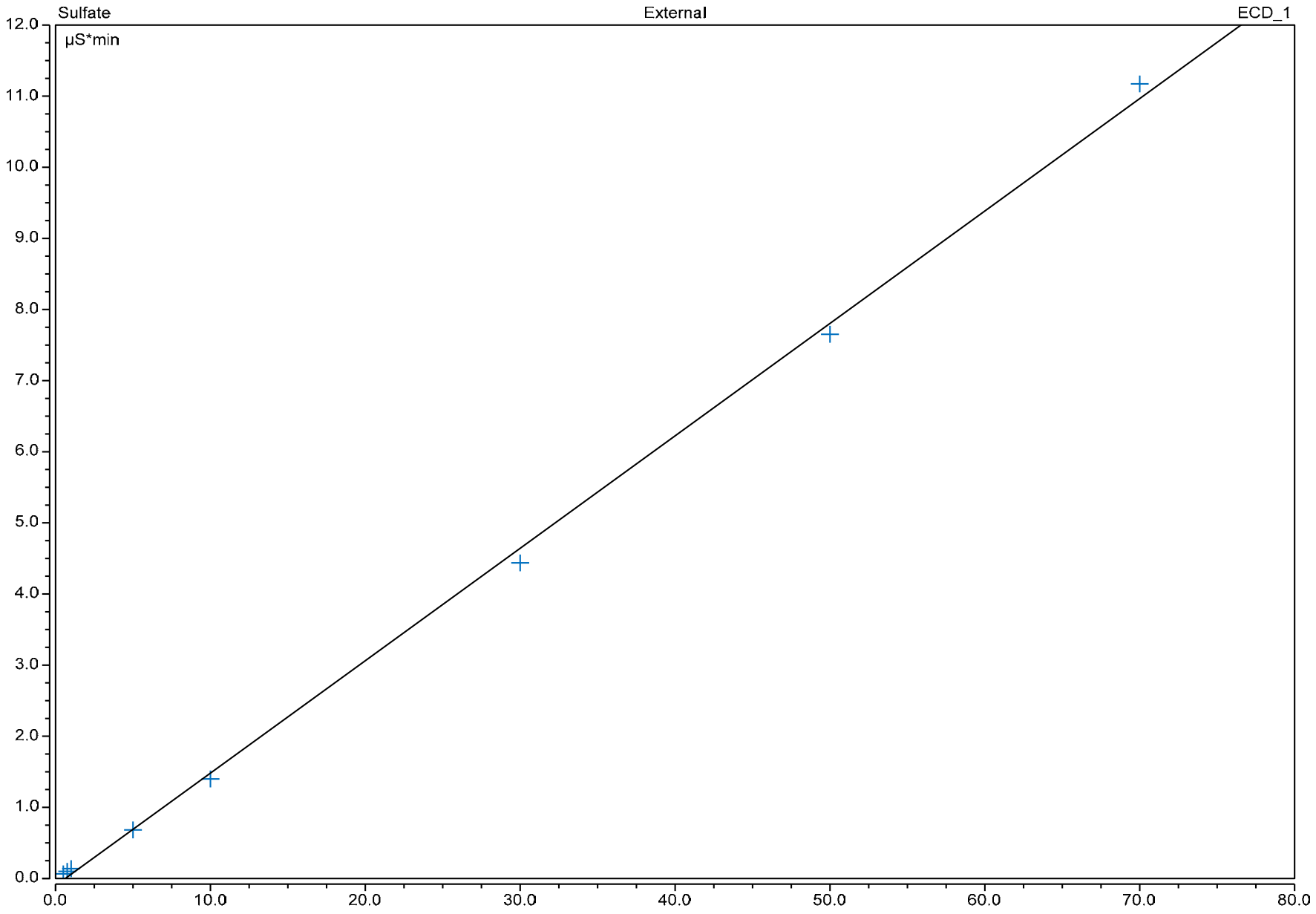

Bromide
External
ECD_1
µS*min
0.450
0.400
0.350
0.300
0.250
0.200
0.150
0.100
0.050
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

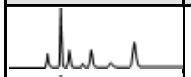
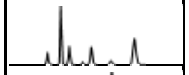
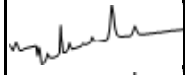
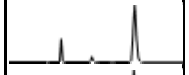
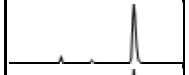
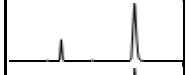
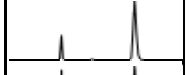
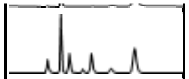
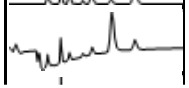

Nitrate
External
ECD_1
µS*min
4.00
3.75
3.50
3.25
3.00
2.75
2.50
2.25
2.00
1.75
1.50
1.25
1.00
0.75
0.50
0.25
0.00
0.00
1.00
2.00
3.00
4.00
5.00
6.00
7.00
8.00

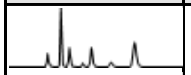
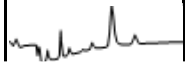
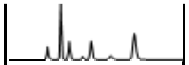
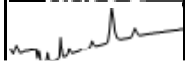
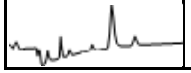
RJ 01/10/2020


O.Phos
External
ECD_1
µS*min
0.900
0.800
0.700
0.600
0.500
0.400
0.300
0.200
0.100
0.000
0.00
0.50
1.00
1.50
2.00
2.50
3.00
3.50
4.00
4.50
5.00
5.50
6.00

RJ 01/10/2020


Sulfate
External
ECD_1
µS*min
12.0
11.0
10.0
9.0
8.0
7.0
6.0
5.0
4.0
3.0
2.0
1.0
0.0
0.0
10.0
20.0
30.0
40.0
50.0
60.0
70.0
80.0

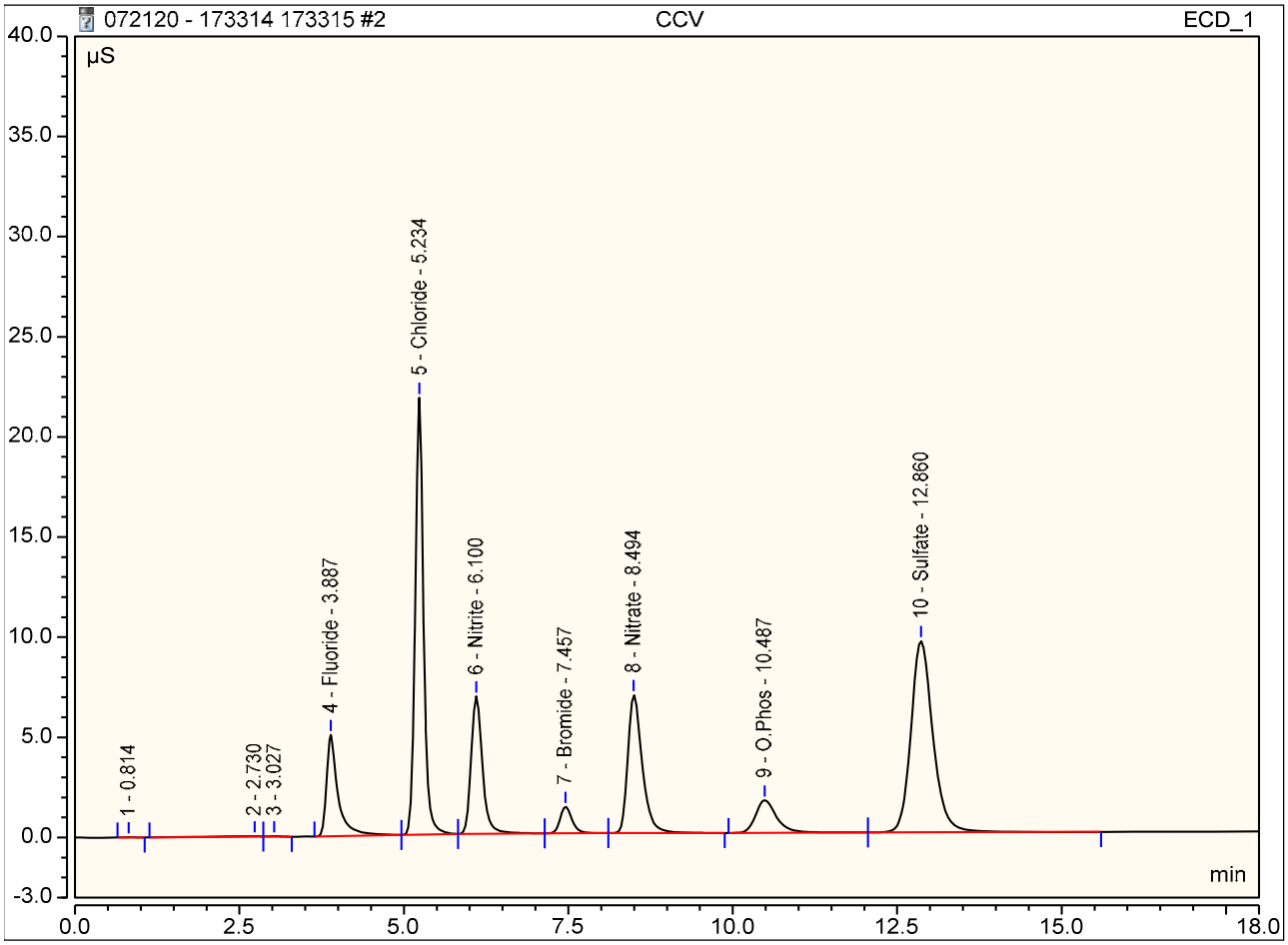
ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		2	5000	Anions 1.0	IC2732A	Finished
	LCSW	1.0000	Unknown		3	5000	Anions 1.0	IC2732A	Finished
	MBW	1.0000	Unknown		4	5000	Anions 1.0	IC2732A	Finished
	447991	1.0000	Unknown		5	5000	Anions 1.0	IC2732A	Finished
	447992	1.0000	Unknown		6	5000	Anions 1.0	IC2732A	Finished
	447993	1.0000	Unknown		7	5000	Anions 1.0	IC2732A	Finished
	447994	1.0000	Unknown		8	5000	Anions 1.0	IC2732A	Finished
	447995	1.0000	Unknown		9	5000	Anions 1.0	IC2732A	Finished
	DUP447995	1.0000	Unknown		10	5000	Anions 1.0	IC2732A	Finished
	MSW447995	1.0000	Unknown		11	5000	Anions 1.0	IC2732A	Finished
	MSDW447995	1.0000	Unknown		12	5000	Anions 1.0	IC2732A	Finished
	CCV	1.0000	Unknown		16	5000	Anions 1.0	IC2732A	Finished
	CCB	1.0000	Unknown		17	5000	Anions 1.0	IC2732A	Finished

ECD_1	Name	Dilution	Type	Level	Position	Volume	Instrument Method	Processing Method	Status
	CCV	1.0000	Unknown		20	5000	Anions 1.0	IC2732A	Finished
	CCB	1.0000	Unknown		21	5000	Anions 1.0	IC2732A	Finished
	CCV	1.0000	Unknown		24	5000	Anions 1.0	IC2732A	Finished
	CCB	1.0000	Unknown		25	5000	Anions 1.0	IC2732A	Finished
	447992X5	1.0000	Unknown		27	5000	Anions 1.0	IC2732A	Finished
	447993X5	1.0000	Unknown		28	5000	Anions 1.0	IC2732A	Finished
	CCV	1.0000	Unknown		29	5000	Anions 1.0	IC2732A	Finished
	CCB	1.0000	Unknown		30	5000	Anions 1.0	IC2732A	Finished

Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 15:28**	*Run Time:*	**18.00**

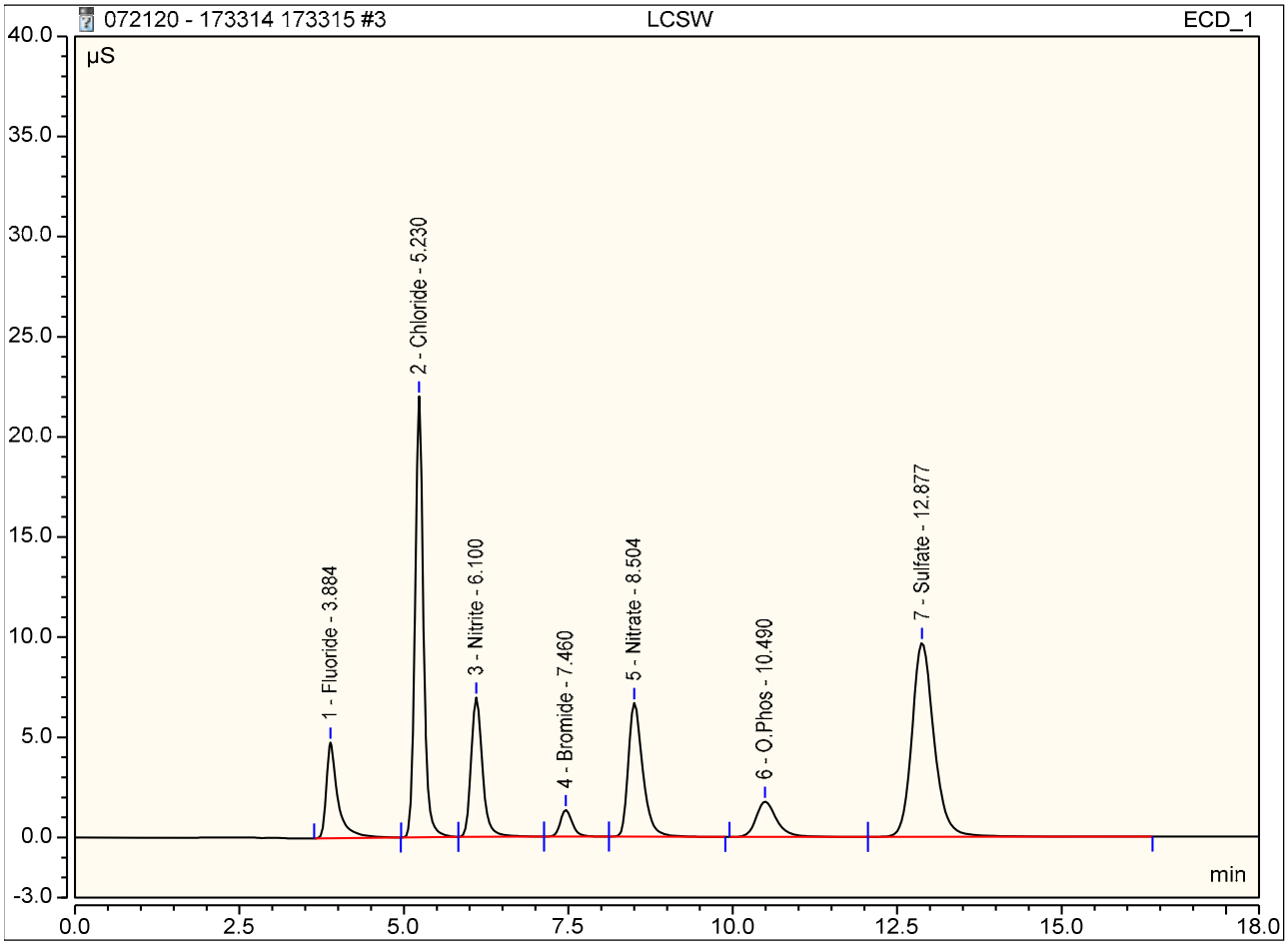
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
4	3.89	Fluoride	1.028	5.058	3.8185
5	5.23	Chloride	3.207	21.809	14.2855
6	6.10	Nitrite	1.369	6.863	3.7057
7	7.46	Bromide	0.282	1.322	3.6158
8	8.49	Nitrate	1.757	6.895	3.5359
9	10.49	O.Phos	0.605	1.624	3.6619
10	12.86	Sulfate	3.700	9.553	24.0323



Peak Integration Report

Sample Name:	**LCSW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 15:46**	*Run Time:*	**18.00**

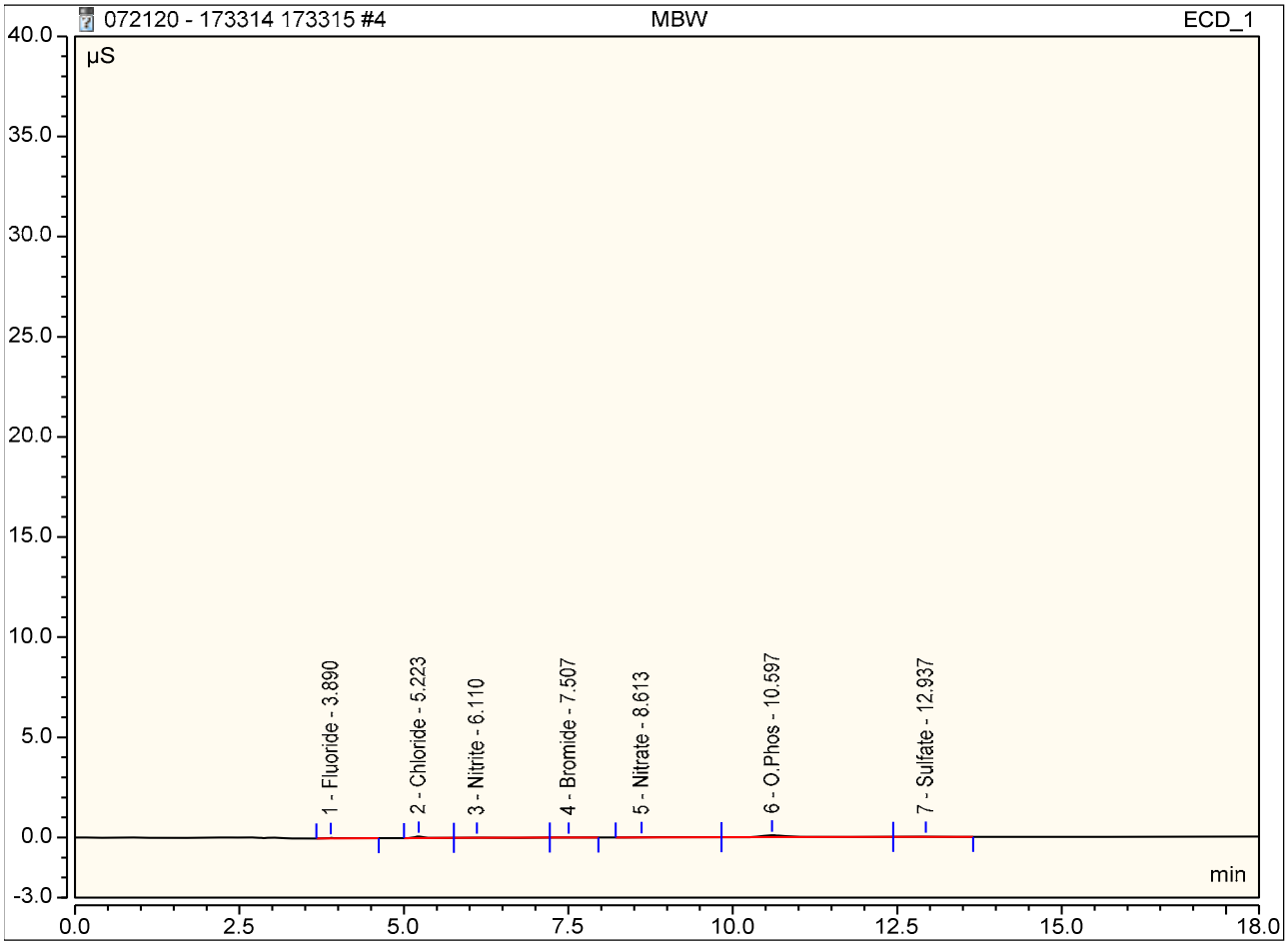
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.88	Fluoride	0.977	4.775	3.6289
2	5.23	Chloride	3.256	22.016	14.4987
3	6.10	Nitrite	1.392	6.950	3.7674
4	7.46	Bromide	0.284	1.324	3.6396
5	8.50	Nitrate	1.712	6.675	3.4452
6	10.49	O.Phos	0.642	1.761	3.8957
7	12.88	Sulfate	3.778	9.684	24.5275



Peak Integration Report

Sample Name:	**MBW**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 16:05**	*Run Time:*	**18.00**

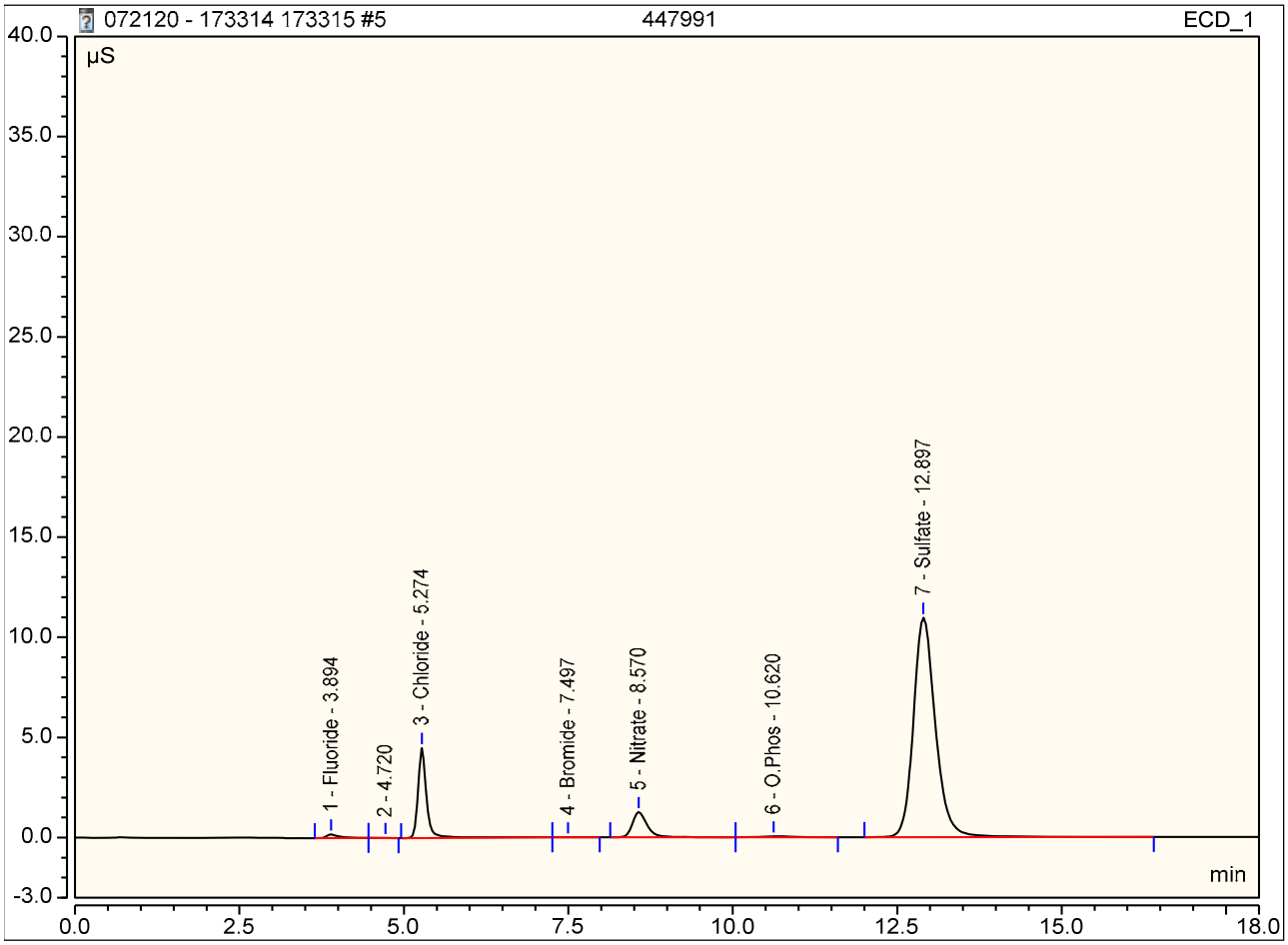
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.005	0.019	0.0244
2	5.22	Chloride	0.013	0.080	0.5279
3	6.11	Nitrite	0.005	0.021	0.0367
4	7.51	Bromide	0.002	0.006	0.0195
5	8.61	Nitrate	0.006	0.018	0.0785
6	10.60	O.Phos	0.043	0.089	0.1990
7	12.94	Sulfate	0.010	0.025	0.6864



Peak Integration Report

Sample Name:	**447991**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 16:23**	*Run Time:*	**18.00**

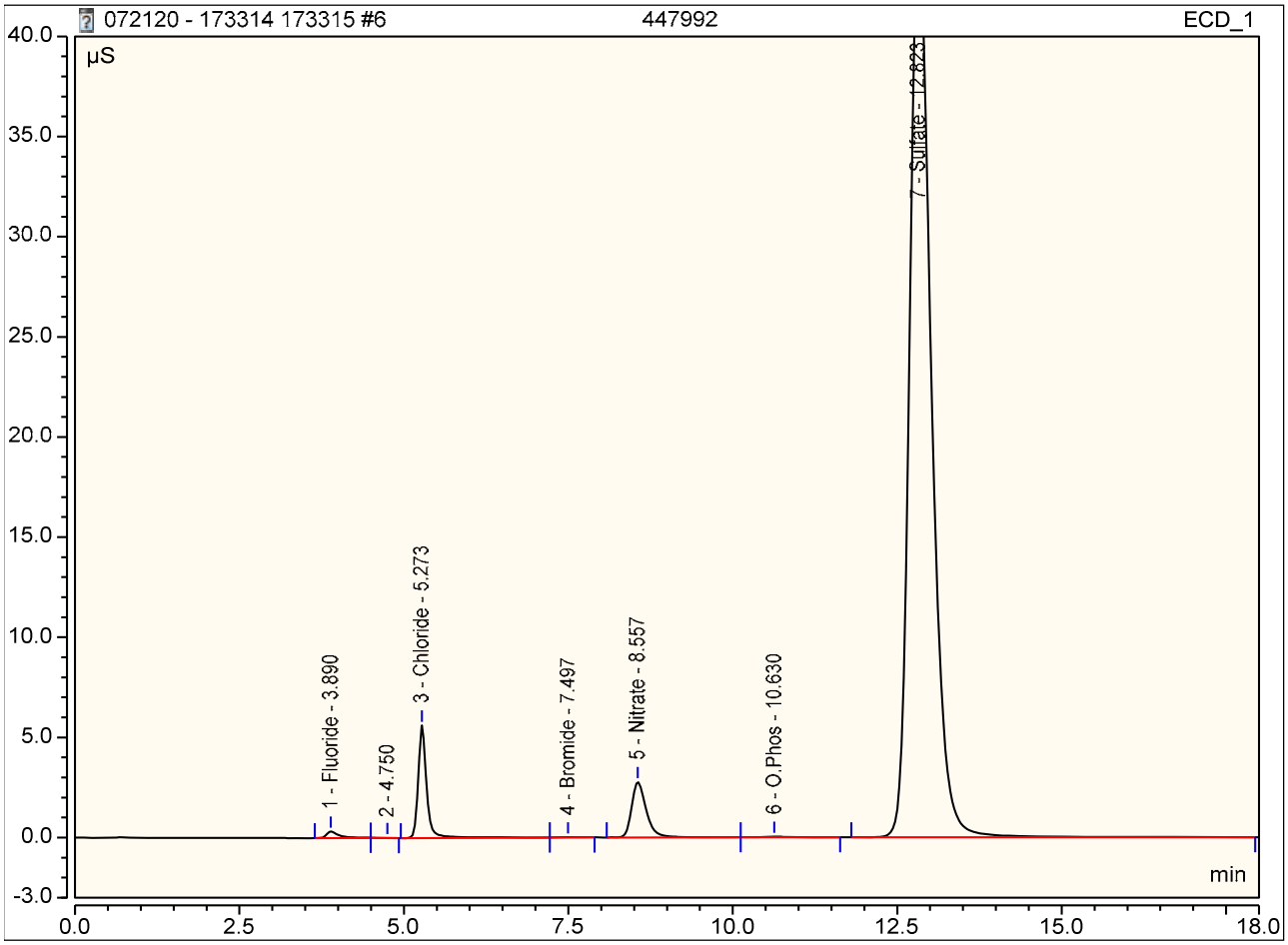
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.039	0.186	0.1519
3	5.27	Chloride	0.692	4.504	3.4527
4	7.50	Bromide	0.001	0.007	0.0193
5	8.57	Nitrate	0.328	1.258	0.7151
6	10.62	O.Phos	0.021	0.047	0.0651
7	12.90	Sulfate	4.256	10.950	27.5503



Peak Integration Report

Sample Name:	**447992**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 16:41**	*Run Time:*	**18.00**

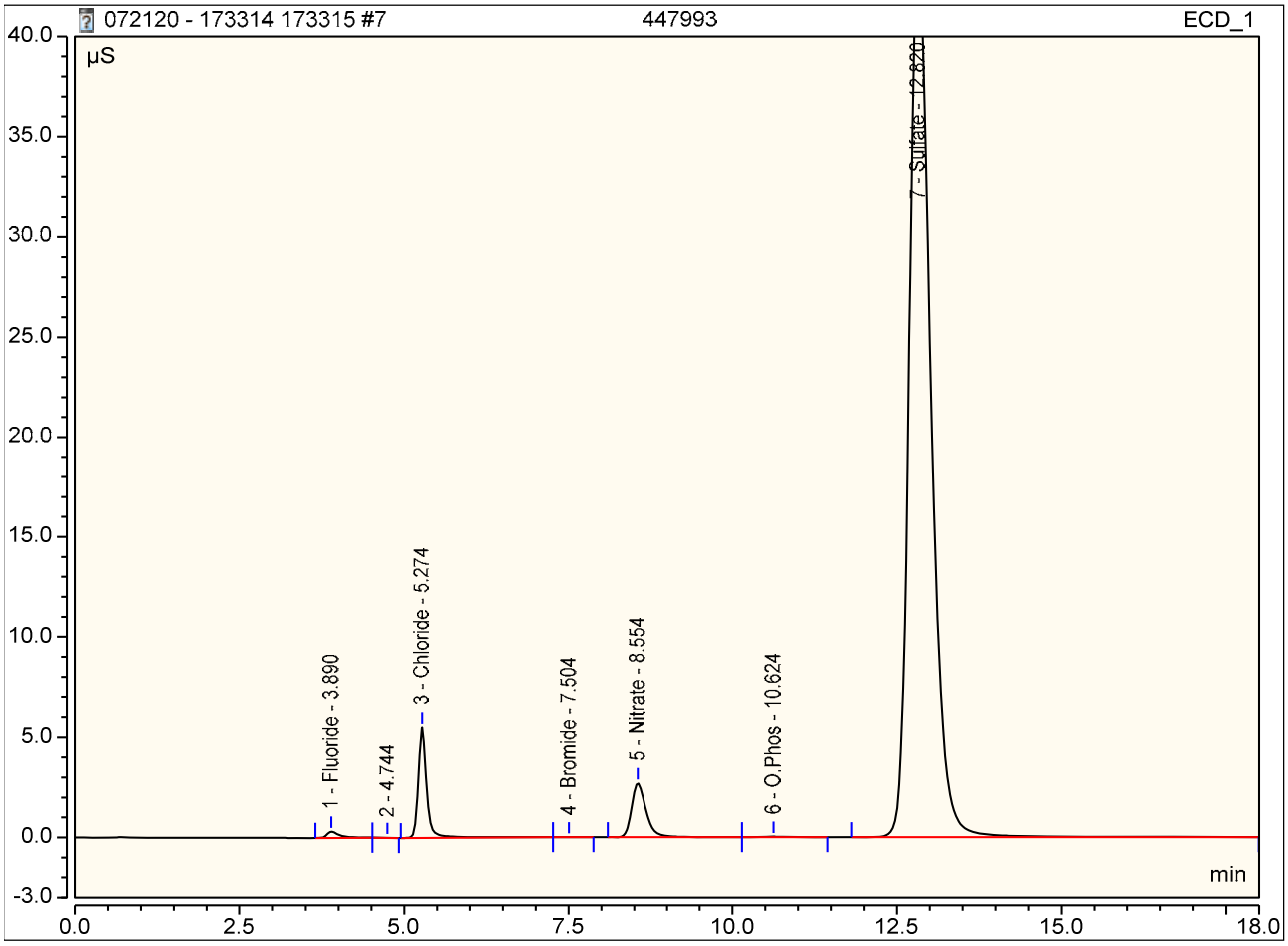
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.068	0.322	0.2604
3	5.27	Chloride	0.853	5.622	4.1467
4	7.50	Bromide	0.003	0.012	0.0346
5	8.56	Nitrate	0.716	2.768	1.4796
6	10.63	O.Phos	0.015	0.034	0.0263
7	12.82	Sulfate	17.323	45.208	110.2271



Peak Integration Report

Sample Name:	**447993**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 16:59**	*Run Time:*	**18.00**

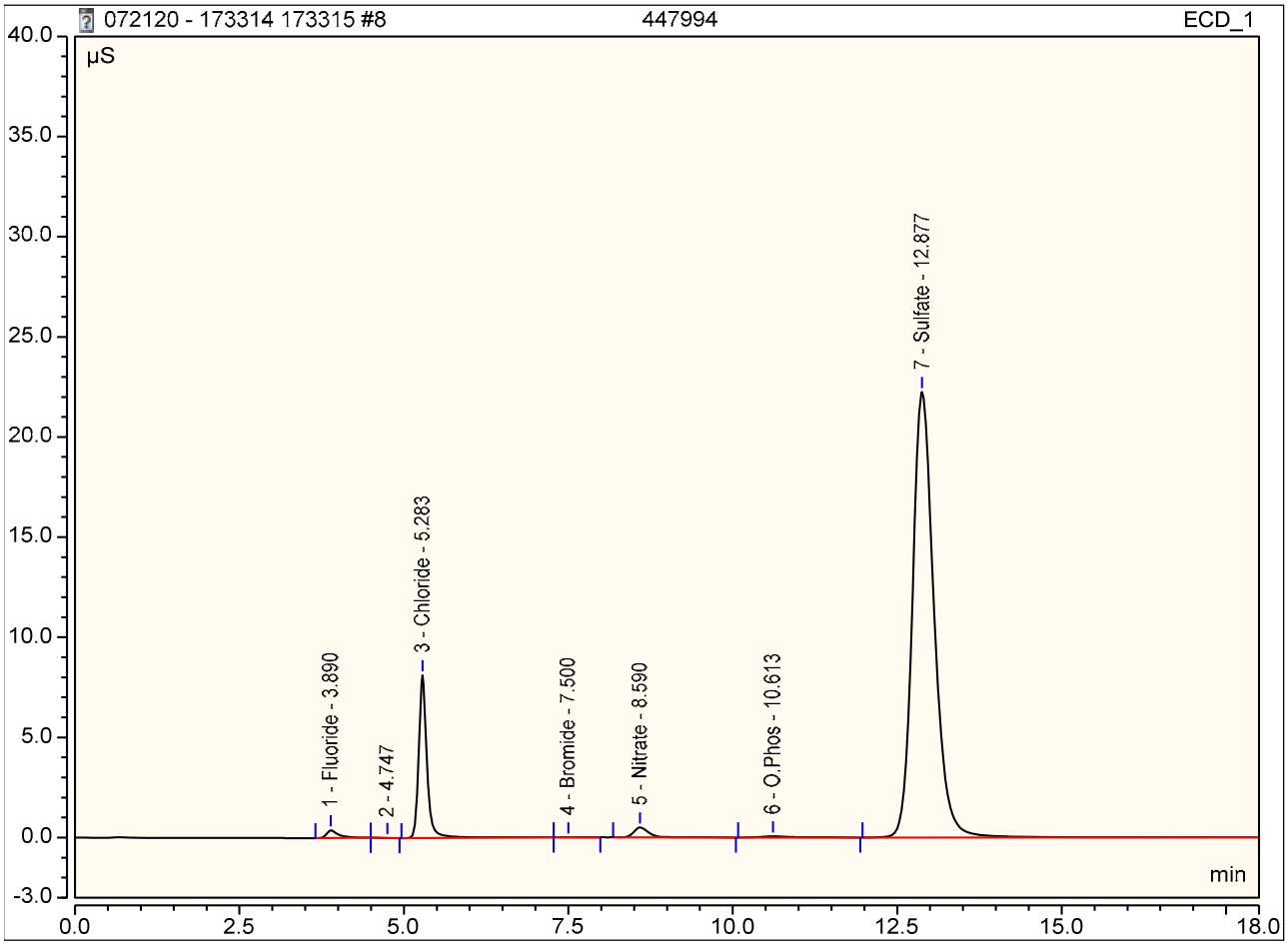
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.067	0.315	0.2557
3	5.27	Chloride	0.838	5.511	4.0835
4	7.50	Bromide	0.003	0.012	0.0328
5	8.55	Nitrate	0.699	2.714	1.4467
6	10.62	O.Phos	0.012	0.027	0.0067
7	12.82	Sulfate	16.874	44.290	107.3841



Peak Integration Report

Sample Name:	**447994**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 17:17**	*Run Time:*	**18.00**

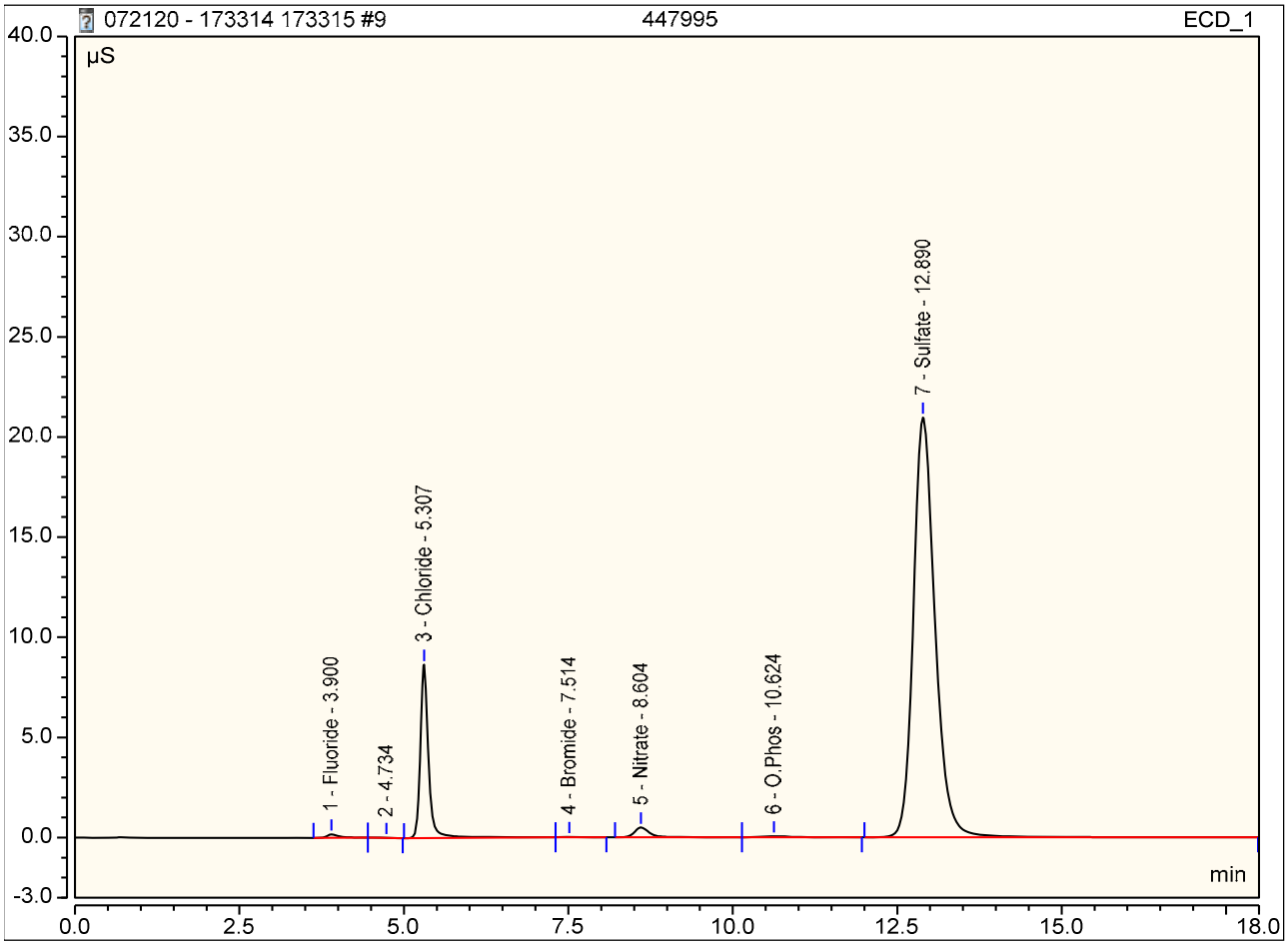
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.082	0.384	0.3096
3	5.28	Chloride	1.204	8.140	5.6595
4	7.50	Bromide	0.003	0.011	0.0324
5	8.59	Nitrate	0.133	0.501	0.3298
6	10.61	O.Phos	0.027	0.059	0.1000
7	12.88	Sulfate	8.481	22.242	54.2795



Peak Integration Report

Sample Name:	**447995**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 17:35**	*Run Time:*	**18.00**

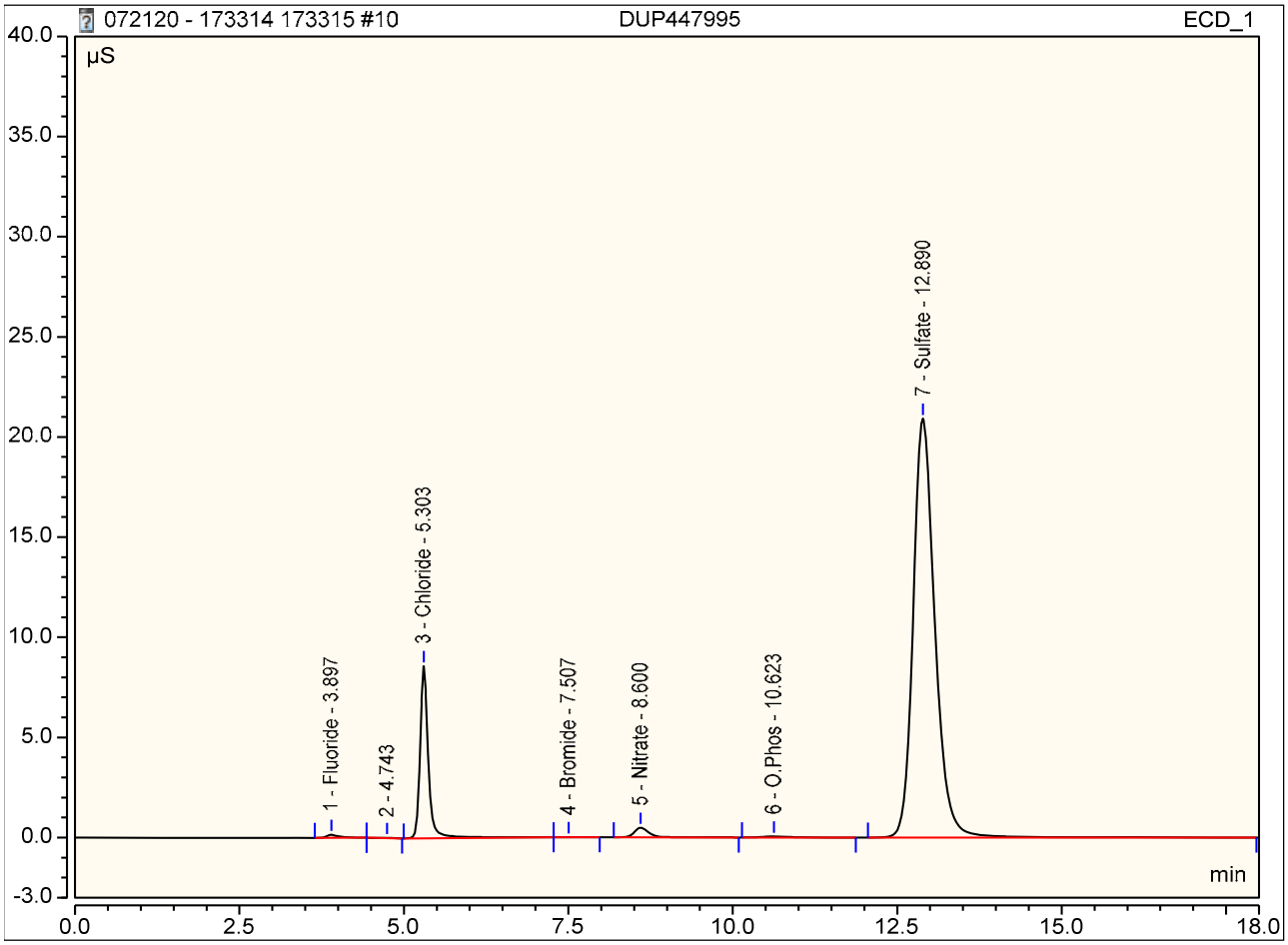
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.037	0.170	0.1426
3	5.31	Chloride	1.270	8.659	5.9421
4	7.51	Bromide	0.002	0.012	0.0319
5	8.60	Nitrate	0.128	0.484	0.3196
6	10.62	O.Phos	0.024	0.052	0.0825
7	12.89	Sulfate	8.007	20.951	51.2801



Peak Integration Report

Sample Name:	**DUP447995**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 17:53**	*Run Time:*	**18.00**

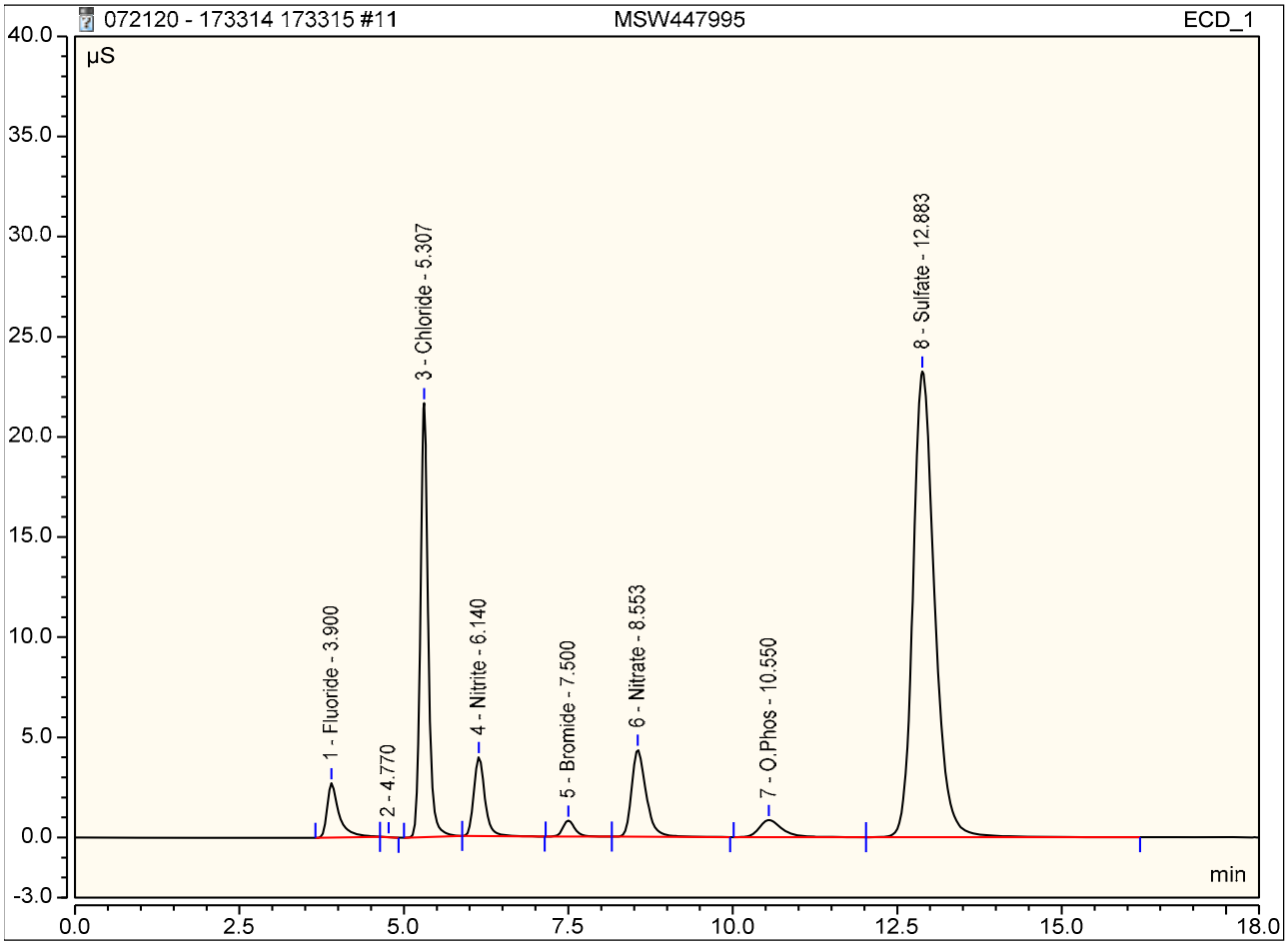
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.036	0.166	0.1389
3	5.30	Chloride	1.260	8.595	5.8979
4	7.51	Bromide	0.003	0.012	0.0339
5	8.60	Nitrate	0.128	0.483	0.3191
6	10.62	O.Phos	0.023	0.050	0.0726
7	12.89	Sulfate	7.994	20.912	51.1997



Peak Integration Report

Sample Name:	**MSW447995**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 18:11**	*Run Time:*	**18.00**

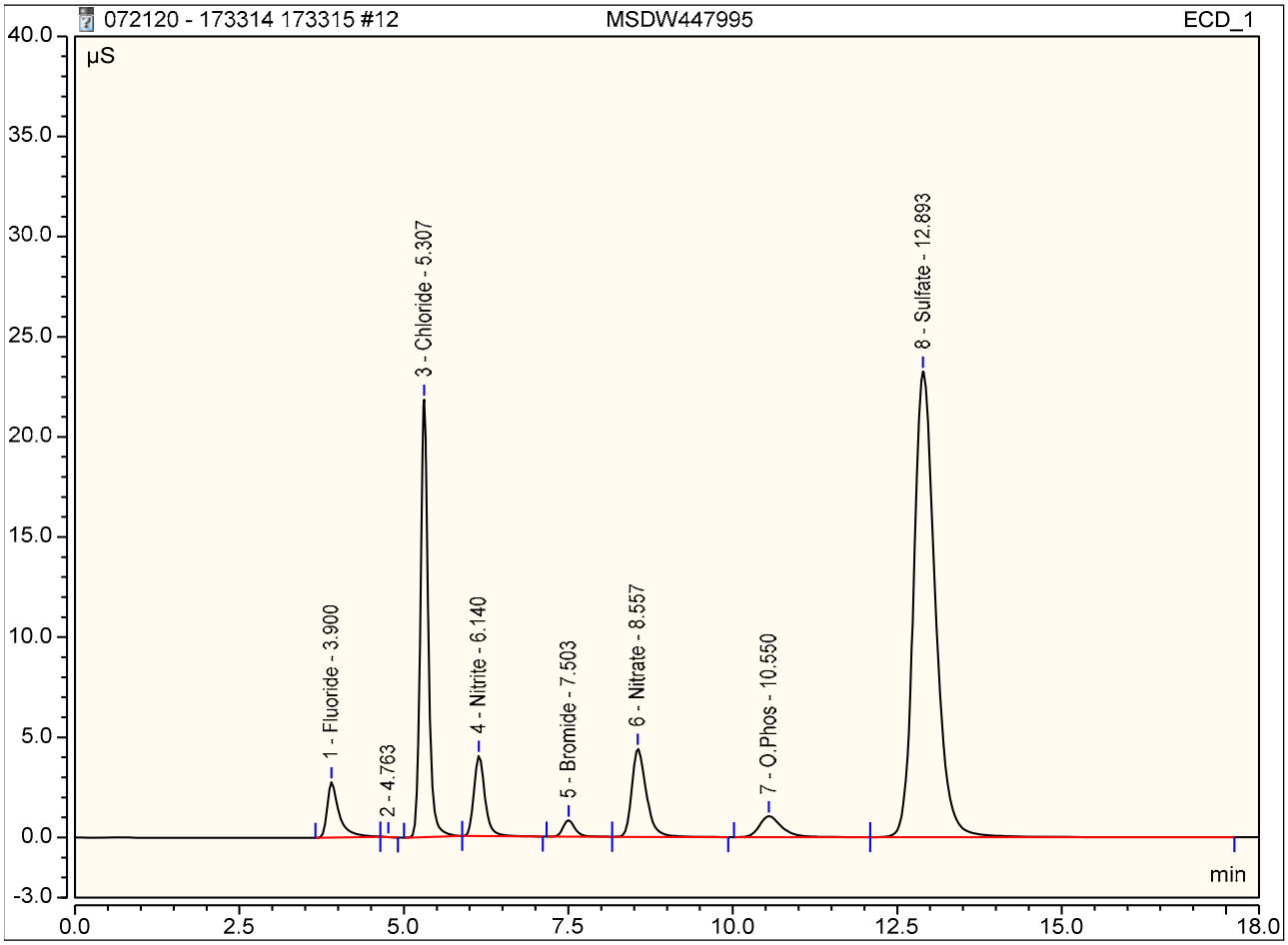
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.577	2.718	2.1470
3	5.31	Chloride	2.971	21.674	13.2708
4	6.14	Nitrite	0.770	3.953	2.0929
5	7.50	Bromide	0.170	0.798	2.1769
6	8.55	Nitrate	1.114	4.353	2.2662
7	10.55	O.Phos	0.342	0.852	2.0448
8	12.88	Sulfate	8.847	23.247	56.5947



Peak Integration Report

Sample Name:	**MSDW447995**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 18:29**	*Run Time:*	**18.00**

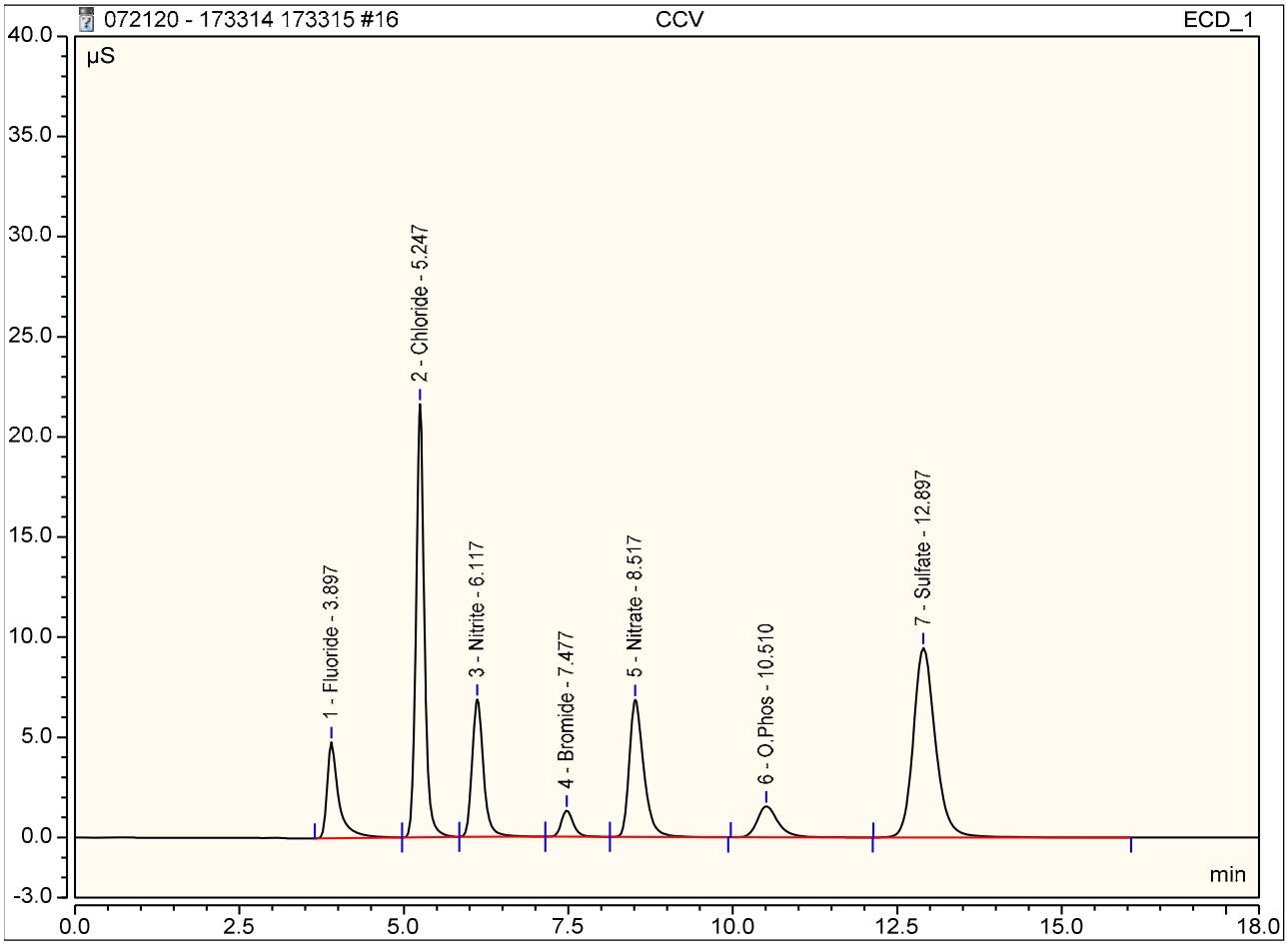
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.588	2.764	2.1848
3	5.31	Chloride	2.997	21.850	13.3836
4	6.14	Nitrite	0.782	4.016	2.1271
5	7.50	Bromide	0.172	0.808	2.2074
6	8.56	Nitrate	1.129	4.402	2.2950
7	10.55	O.Phos	0.415	1.043	2.4955
8	12.89	Sulfate	8.873	23.246	56.7609



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 19:41**	*Run Time:*	**18.00**

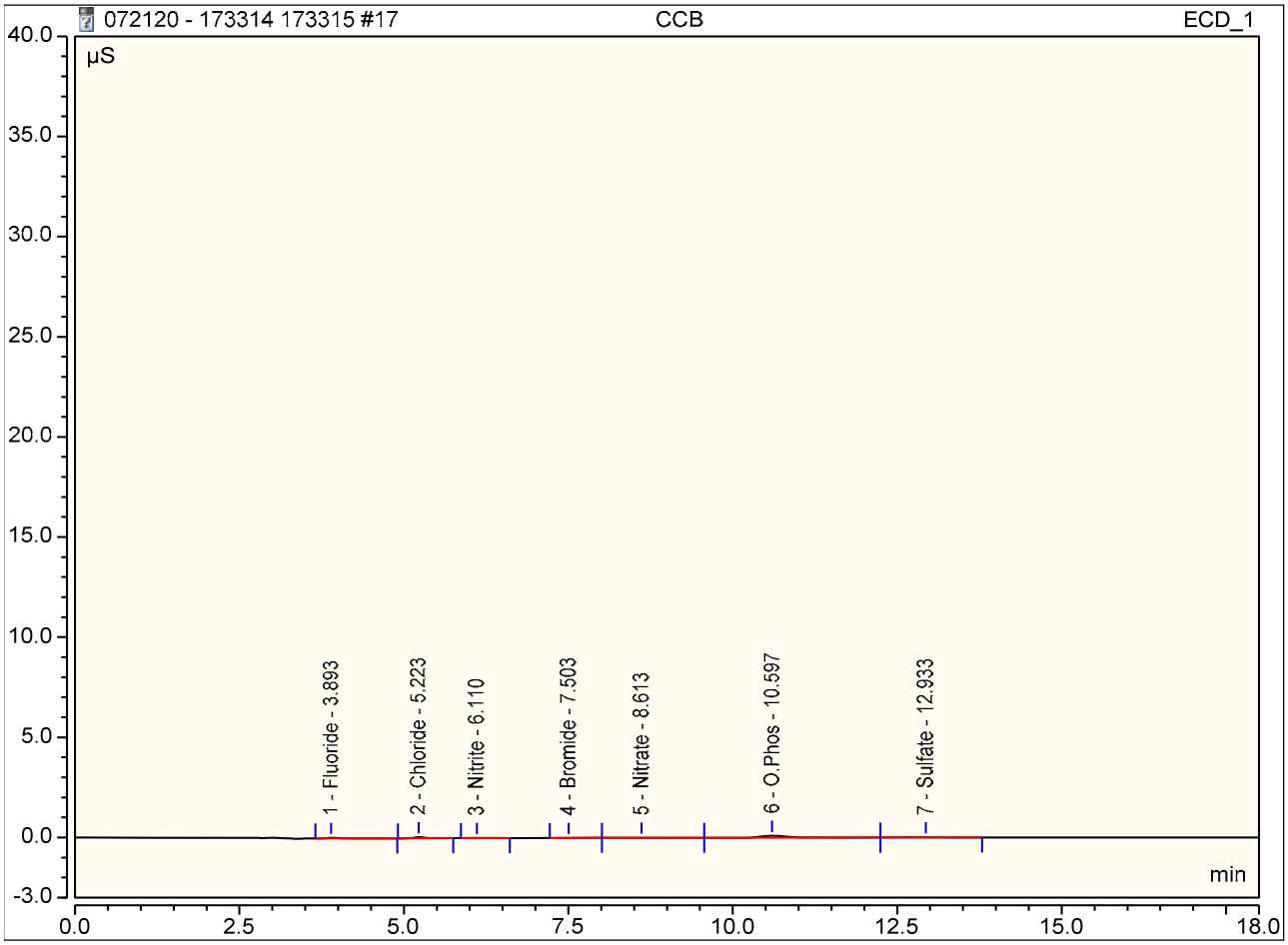
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.993	4.800	3.6880
2	5.25	Chloride	3.192	21.636	14.2229
3	6.12	Nitrite	1.375	6.865	3.7214
4	7.48	Bromide	0.281	1.311	3.5959
5	8.52	Nitrate	1.753	6.844	3.5268
6	10.51	O.Phos	0.578	1.551	3.4955
7	12.90	Sulfate	3.691	9.461	23.9752



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**21-Jul-2020 / 19:59**	*Run Time:*	**18.00**

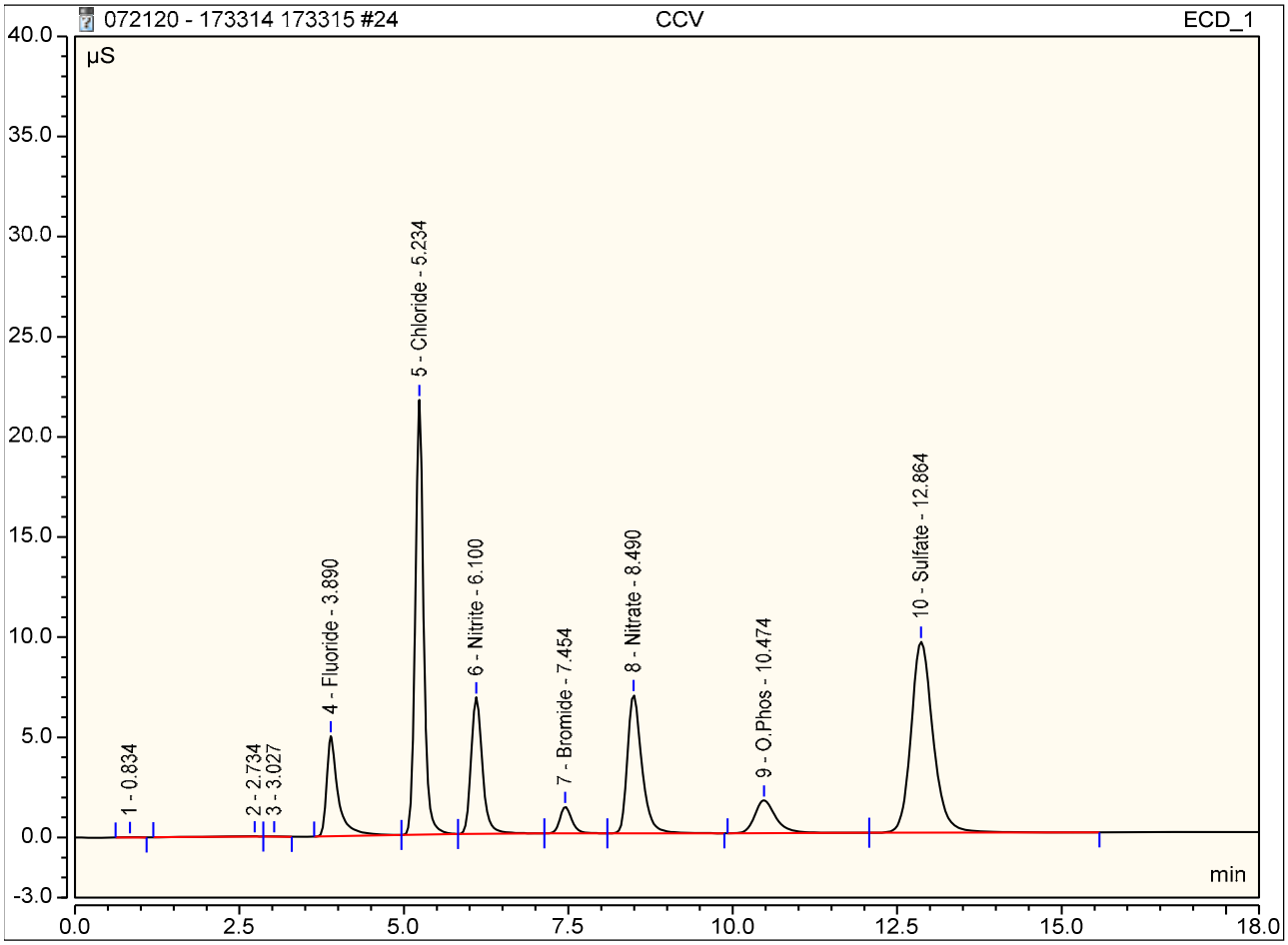
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.008	0.033	0.0372
2	5.22	Chloride	0.010	0.062	0.5159
3	6.11	Nitrite	0.004	0.020	0.0341
4	7.50	Bromide	0.002	0.008	0.0259
5	8.61	Nitrate	0.006	0.018	0.0775
6	10.60	O.Phos	0.048	0.102	0.2311
7	12.93	Sulfate	0.010	0.025	0.6880



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**22-Jul-2020 / 09:04**	*Run Time:*	**18.00**

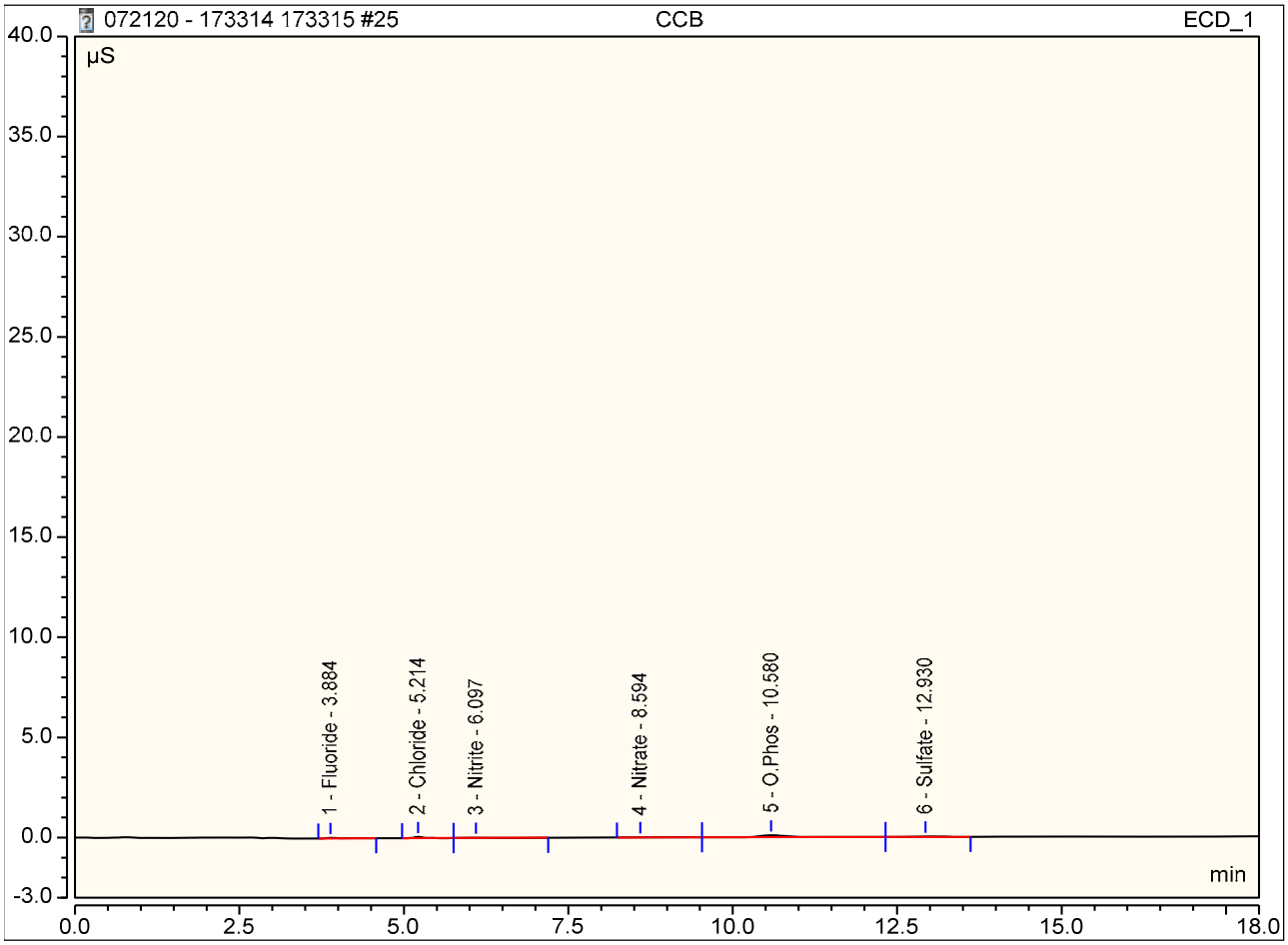
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
4	3.89	Fluoride	1.017	5.000	3.7769
5	5.23	Chloride	3.207	21.713	14.2884
6	6.10	Nitrite	1.364	6.820	3.6918
7	7.45	Bromide	0.282	1.322	3.6147
8	8.49	Nitrate	1.760	6.911	3.5410
9	10.47	O.Phos	0.609	1.636	3.6916
10	12.86	Sulfate	3.700	9.536	24.0307



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**22-Jul-2020 / 09:22**	*Run Time:*	**18.00**

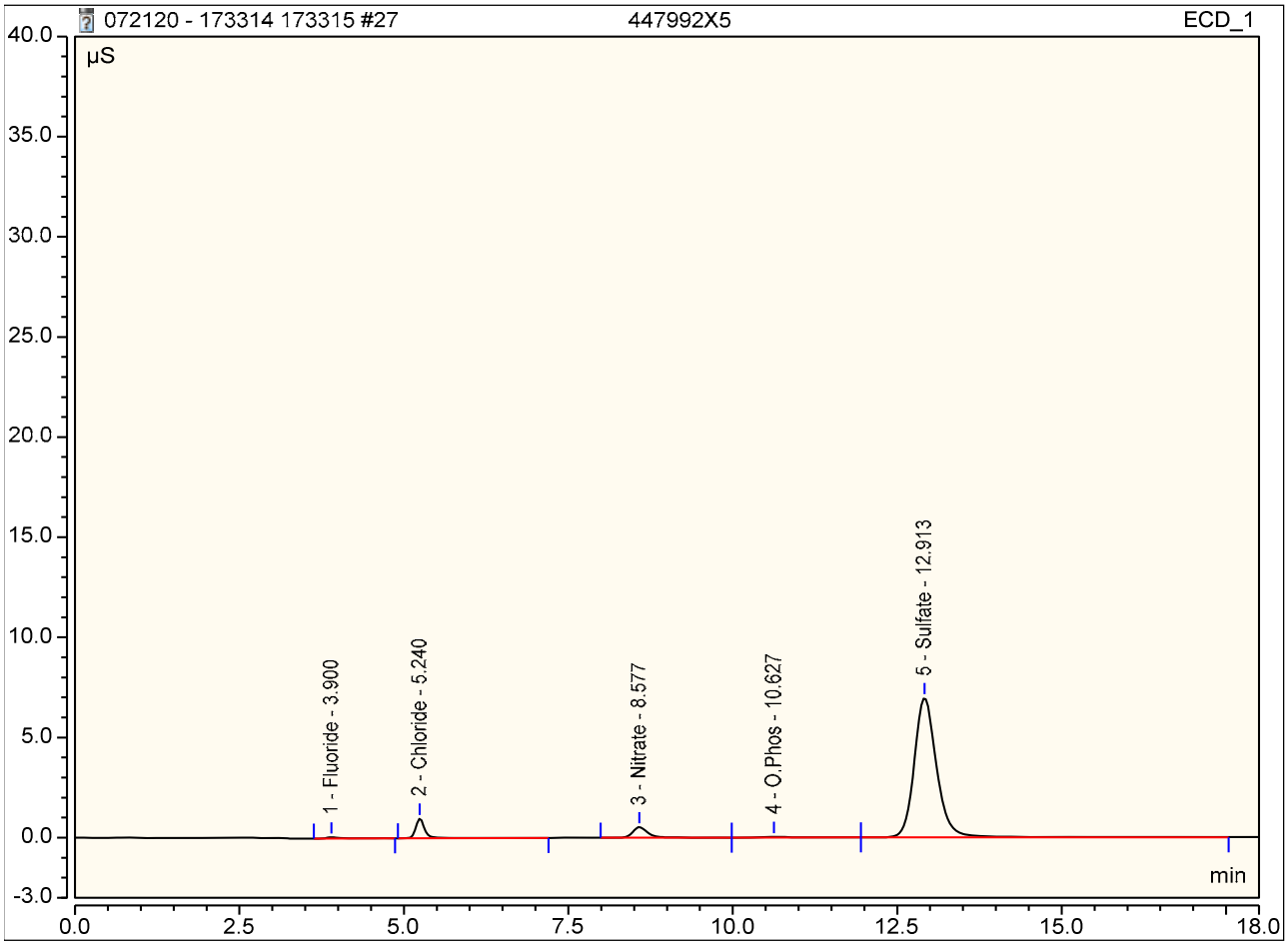
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.88	Fluoride	0.007	0.031	0.0329
2	5.21	Chloride	0.010	0.062	0.5155
3	6.10	Nitrite	0.005	0.021	0.0364
4	8.59	Nitrate	0.005	0.018	0.0768
5	10.58	O.Phos	0.046	0.095	0.2161
6	12.93	Sulfate	0.010	0.024	0.6834



Peak Integration Report

Sample Name:	**447992X5**		*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**		*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**		*Operator:*	**AQUION**
Inj. Date / Time:	**22-Jul-2020**	**/ 09:58**	*Run Time:*	**18.00**

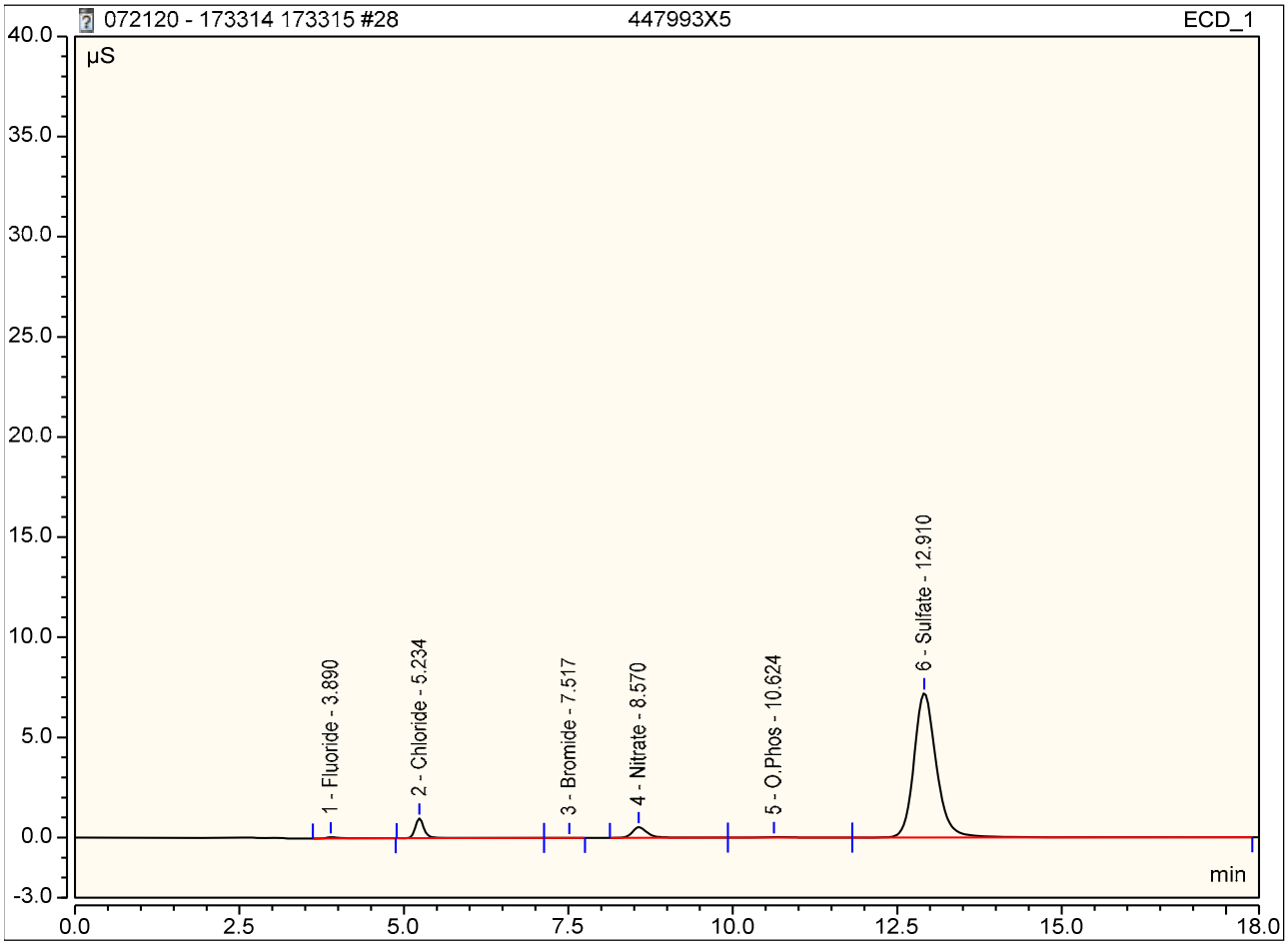
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	0.016	0.063	0.0652
2	5.24	Chloride	0.161	0.983	1.1657
3	8.58	Nitrate	0.139	0.526	0.3410
4	10.63	O.Phos	0.016	0.034	0.0327
5	12.91	Sulfate	2.758	6.961	18.0741



Peak Integration Report

Sample Name:	**447993X5**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**22-Jul-2020 / 10:16**	*Run Time:*	**18.00**

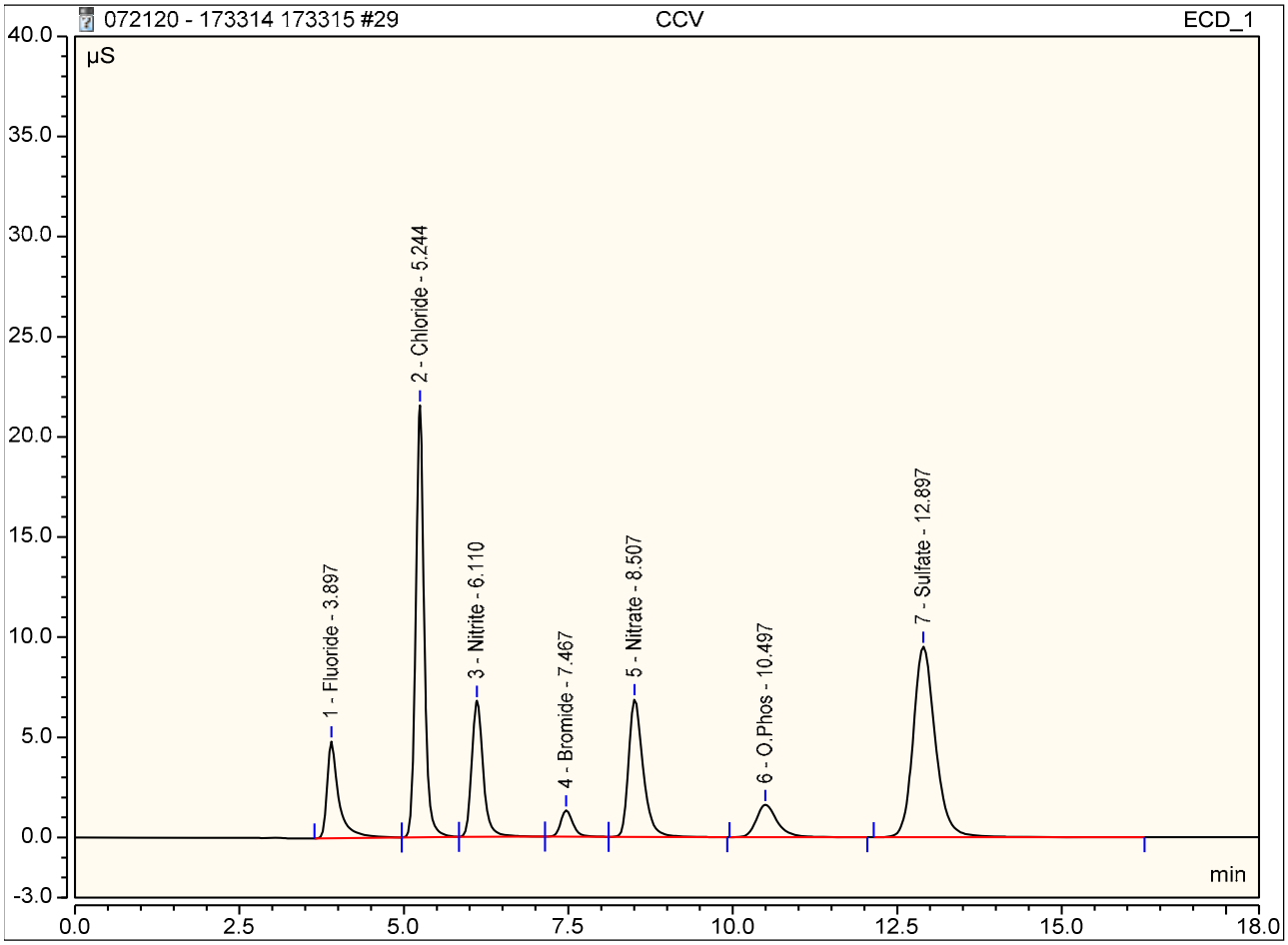
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.016	0.064	0.0673
2	5.23	Chloride	0.163	0.995	1.1743
3	7.52	Bromide	0.001	0.003	0.0086
4	8.57	Nitrate	0.141	0.534	0.3442
5	10.62	O.Phos	0.012	0.025	0.0089
6	12.91	Sulfate	2.857	7.204	18.6972



Peak Integration Report

Sample Name:	**CCV**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**22-Jul-2020 / 10:34**	*Run Time:*	**18.00**

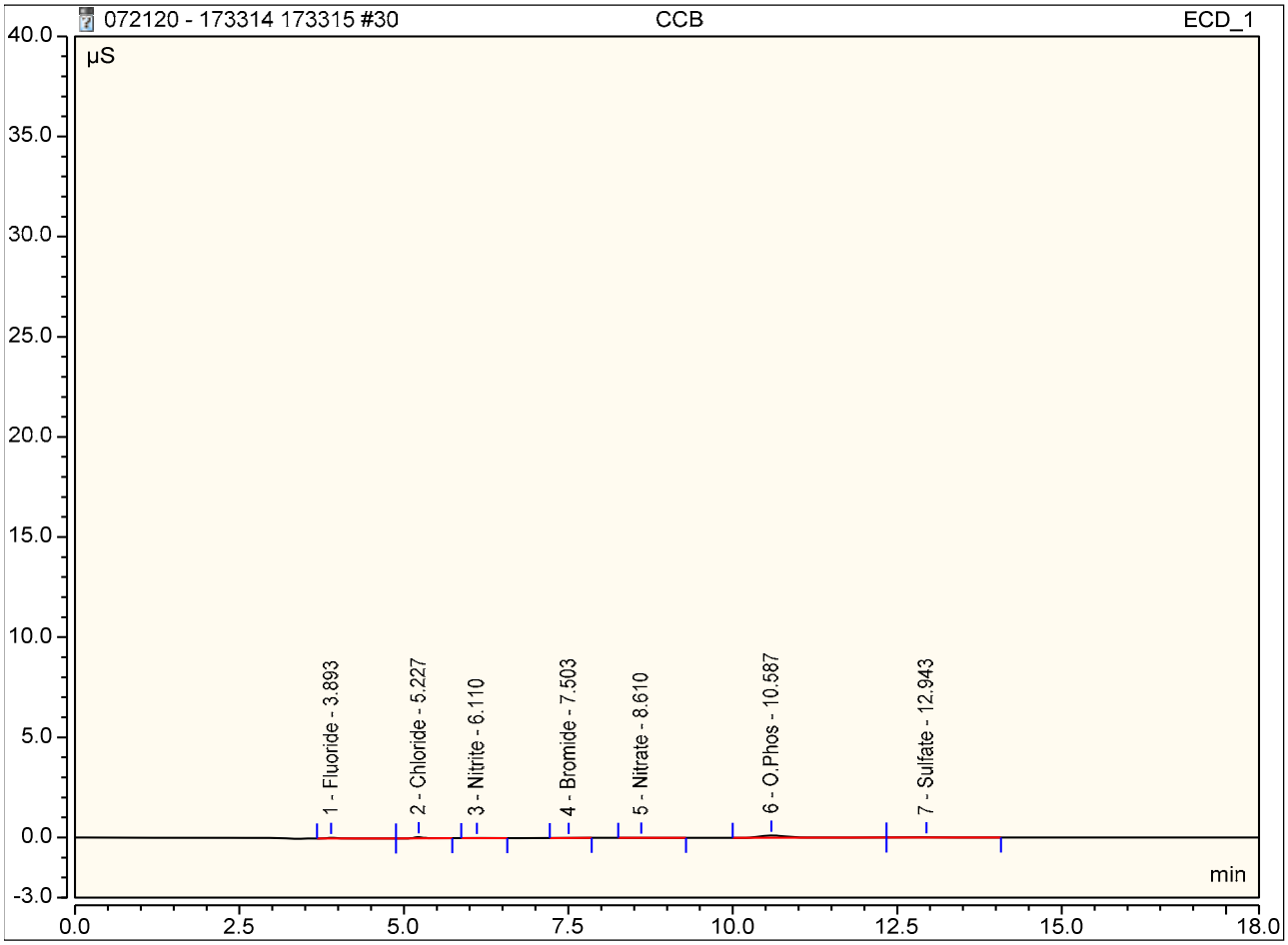
No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.90	Fluoride	1.004	4.838	3.7273
2	5.24	Chloride	3.207	21.568	14.2851
3	6.11	Nitrite	1.363	6.785	3.6875
4	7.47	Bromide	0.282	1.315	3.6137
5	8.51	Nitrate	1.760	6.875	3.5418
6	10.50	O.Phos	0.603	1.617	3.6505
7	12.90	Sulfate	3.719	9.516	24.1505



Peak Integration Report

Sample Name:	**CCB**	*Sequence Date:*	**05/04/2018**
Injection Type:	**Unknown**	*Dilution Factor:*	**1.0000**
Processing Method:	**IC2732A**	*Operator:*	**AQUION**
Inj. Date / Time:	**22-Jul-2020 / 10:52**	*Run Time:*	**18.00**

No.	Time min	Peak Name	Area µS*min	Height µS	Amount
1	3.89	Fluoride	0.008	0.034	0.0371
2	5.23	Chloride	0.010	0.061	0.5149
3	6.11	Nitrite	0.004	0.019	0.0337
4	7.50	Bromide	0.001	0.005	0.0161
5	8.61	Nitrate	0.005	0.017	0.0762
6	10.59	O.Phos	0.055	0.113	0.2697
7	12.94	Sulfate	0.011	0.025	0.6905



Schedule File: C:\INSTARCH\Sequences\System 2\051120 - ic3033.SCH

Line	Sample	Sample Type	Level	Method	Data File	Volume	Dilution
1	IB	Sample		ic3033.met	ib _001.dxd	1	1
2	STD1	Calibration St	1	ic3033.met	std1_002.dxd	1	1
3	STD2	Calibration St	2	ic3033.met	std2_003.dxd	1	1
4	STD3	Calibration St	3	ic3033.met	std3_004.dxd	1	1
5	STD4	Calibration St	4	ic3033.met	std4_005.dxd	1	1
6	STD5	Calibration St	5	ic3033.met	std5_006.dxd	1	1
7	STD6	Calibration St	6	ic3033.met	std6_007.dxd	1	1
8	STD7	Calibration St	7	ic3033.met	std7_008.dxd	1	1
9	STD8	Calibration St	8	ic3033.met	std8_009.dxd	1	1
10	STD9	Calibration St	9	ic3033.met	std9_010.dxd	1	1
12	ICV	Sample		ic3033.met	icv_012.dxd	1	1
15	ICB	Sample		ic3033.met	icb_015.dxd	1	1

Calibration Concentrations

Instrument:	DX-120 (2)	Cal. File:	IC3033		ICV	IC3025 IC3035		Analyst/Date: TMG 05/11/2020		
Analyte	Cal Level 1 (mg/L)	Cal Level 2 (mg/L)	Cal Level 3 (mg/L)	Cal Level 4 (mg/L)	Cal Level 5 (mg/L)	Cal Level 6 (mg/L)	Cal Level 7 (mg/L)	Cal Level 8 (mg/L)	Cal Level 9 (mg/L)	ICV (mg/L)
Fluoride	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Chloride	0.0	0.5	0.75	1.0	5.0	10.0	20.0	30.0	40.0	15.0
Bromide	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrite	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Nitrate	0.0	0.1	0.30	0.5	1.0	2.0	5.0	7.0		3.5
O-Phoshorous	0.0	0.1	0.30	0.5	1.0	2.0	5.0			3.5
Sulfate	0.0	0.5	0.75	1.0	5.0	10.0	30.0	50.0	70.0	25.0

RJ 05/29/2020

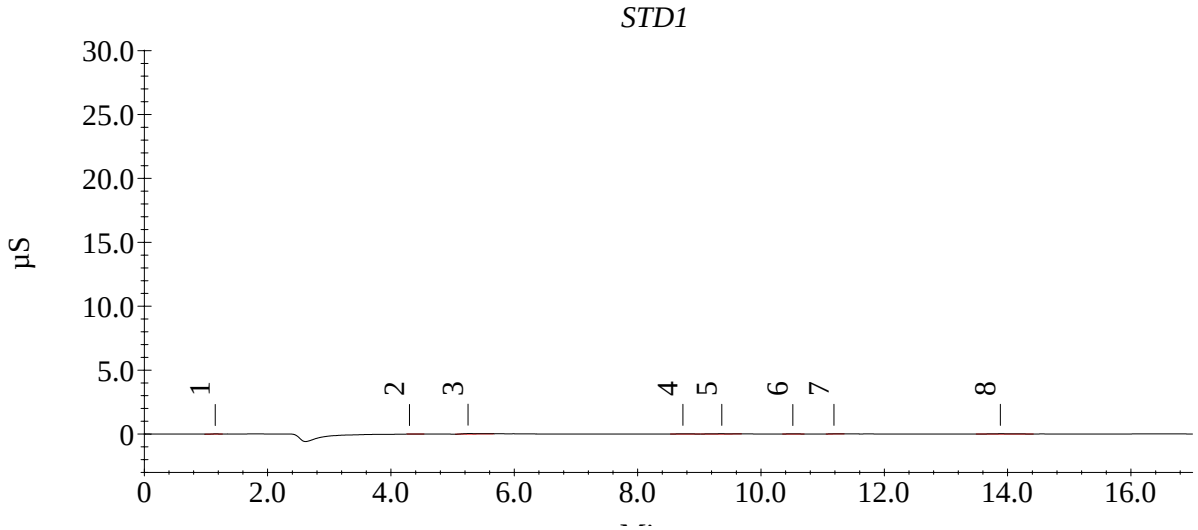
Calibration Update Report

Sample Name : STD1
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD1_002.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 15:12
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Chloride	5.25	6065	6065	6065
5	Nitrate	9.37	2020	3204	3204
8	Sulfate	13.88	4995	4995	4995



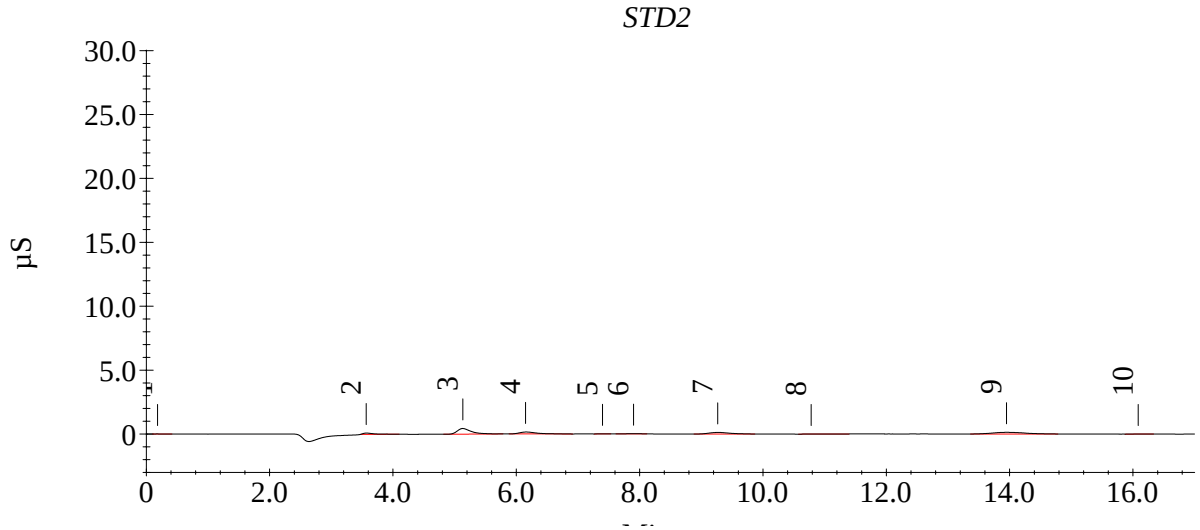
Calibration Update Report

Sample Name : STD2
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD2_003.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 15:32
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.57	12132	12132	12132
3	Chloride	5.13	70502	70502	70502
4	Nitrite	6.15	29105	29105	29105
6	Bromide	7.90	2966	2966	2966
7	Nitrate	9.27	29747	29747	29747
8	O.Phos	10.78	0	1152	1152
9	Sulfate	13.95	47633	47633	47633



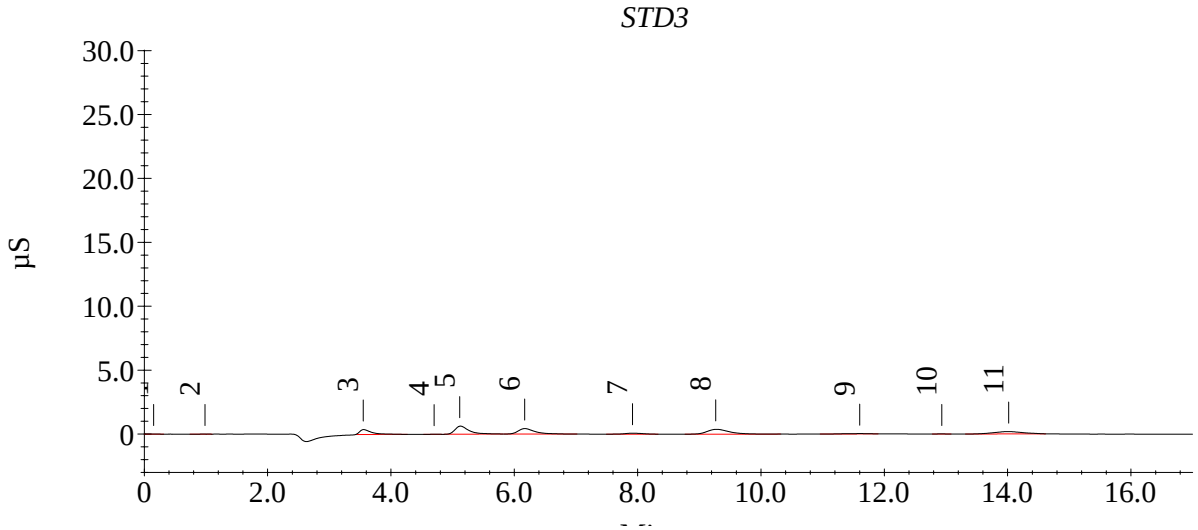
Calibration Update Report

Sample Name : STD3
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD3_004.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 15:51
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.55	52366	52366	52366
5	Chloride	5.12	99856	99856	99856
6	Nitrite	6.17	81293	81293	81293
7	Bromide	7.92	15398	15398	15398
8	Nitrate	9.27	96206	96206	96206
9	O.Phos	11.60	7879	7879	7879
11	Sulfate	14.02	60658	60658	60658



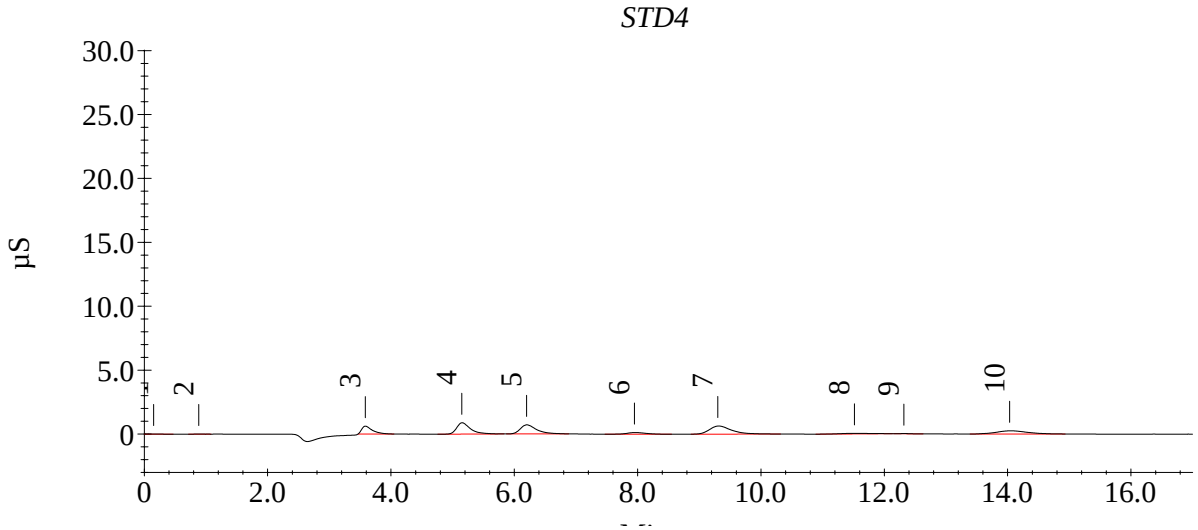
Calibration Update Report

Sample Name : STD4
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD4_005.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 16:10
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.58	74093	74093	74093
4	Chloride	5.15	138401	138401	138401
5	Nitrite	6.20	129953	129953	129953
6	Bromide	7.95	28060	28060	28060
7	Nitrate	9.30	158735	158735	158735
8	O.Phos	11.52	16858	16858	16858
10	Sulfate	14.03	87889	87889	87889



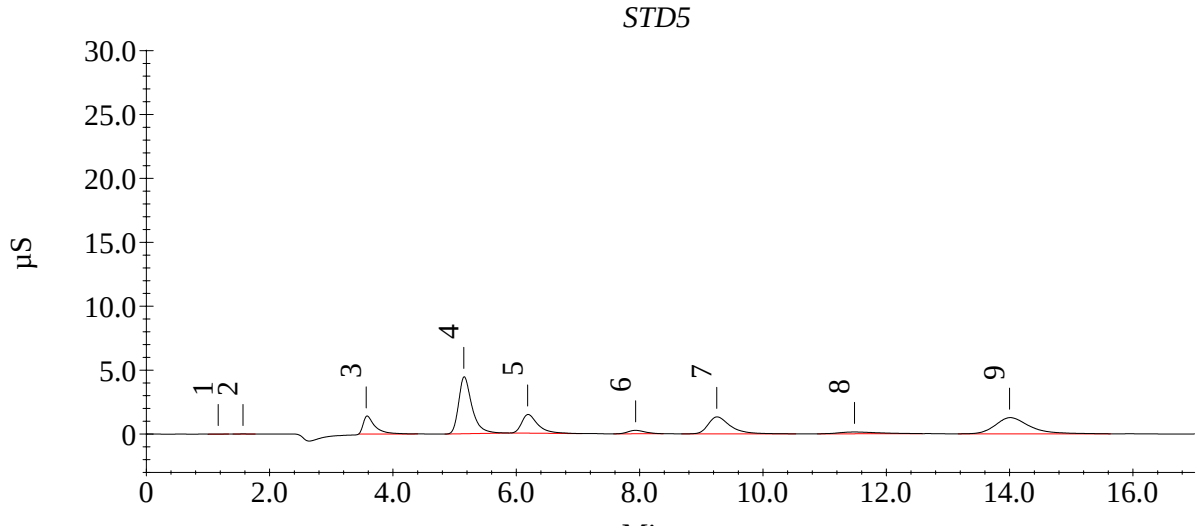
Calibration Update Report

Sample Name : STD5
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD5_006.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 16:29
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.57	185774	185774	185774
4	Chloride	5.15	667018	667018	667018
5	Nitrite	6.18	266609	266609	266609
6	Bromide	7.93	51690	51690	51690
7	Nitrate	9.25	334252	334252	334252
8	O.Phos	11.48	64208	64208	64208
9	Sulfate	14.00	486729	486729	486729



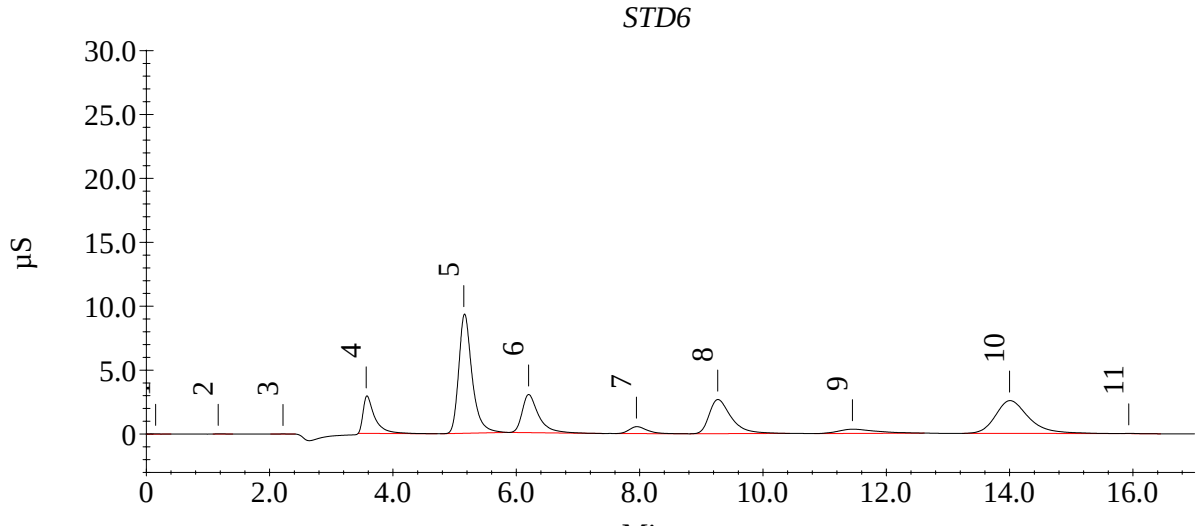
Calibration Update Report

Sample Name : STD6
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD6_007.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 16:48
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
4	Fluoride	3.57	629660	383801	383801
5	Chloride	5.15	1401392	1401392	1401392
6	Nitrite	6.20	550800	550800	550800
7	Bromide	7.95	109578	109578	109578
8	Nitrate	9.27	661125	661125	661125
9	O.Phos	11.45	141949	141949	141949
10	Sulfate	14.00	960405	960405	960405



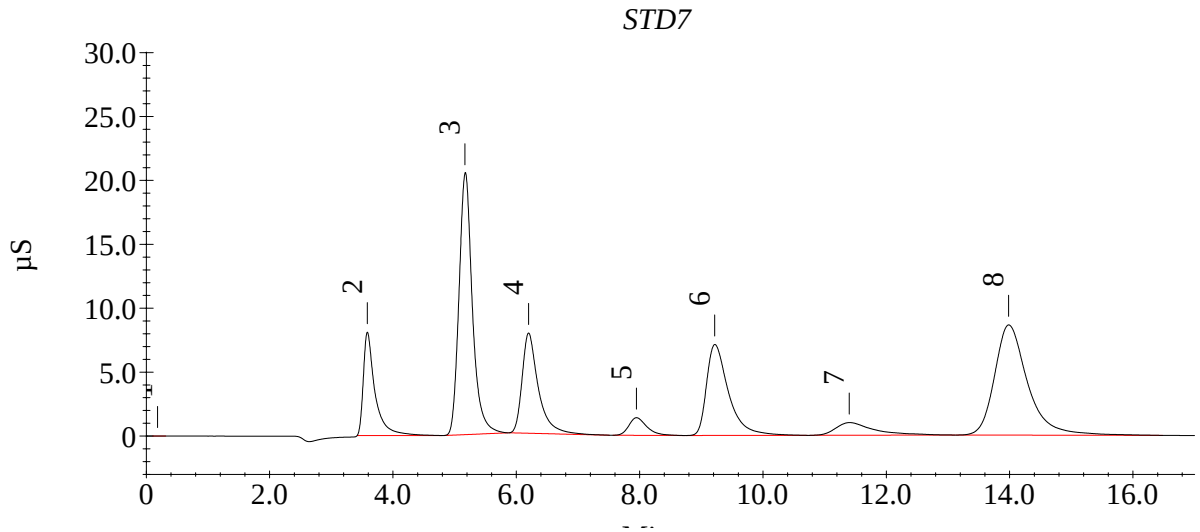
Calibration Update Report

Sample Name : STD7
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD7_008.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 17:08
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.58	0	1062353	1062353
3	Chloride	5.17	0	3083198	3083198
4	Nitrite	6.20	0	1433292	1433292
5	Bromide	7.95	0	278593	278593
6	Nitrate	9.22	0	1759093	1759093
7	O.Phos	11.40	0	423517	423517
8	Sulfate	13.98	0	3210629	3210629



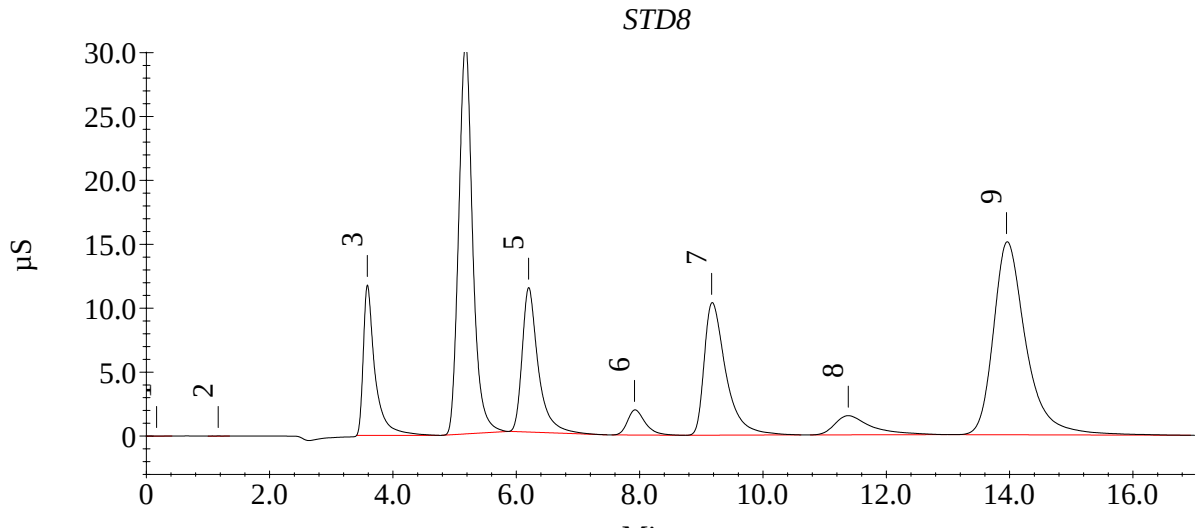
Calibration Update Report

Sample Name : STD8
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD8_009.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 17:27
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
3	Fluoride	3.58		1550901	
4	Chloride	5.17	0	4799044	4799044
5	Nitrite	6.20		2048871	
6	Bromide	7.92		392681	
7	Nitrate	9.17	0	2528600	2528600
8	O.Phos	11.38		611468	
9	Sulfate	13.95	0	5531627	5531627



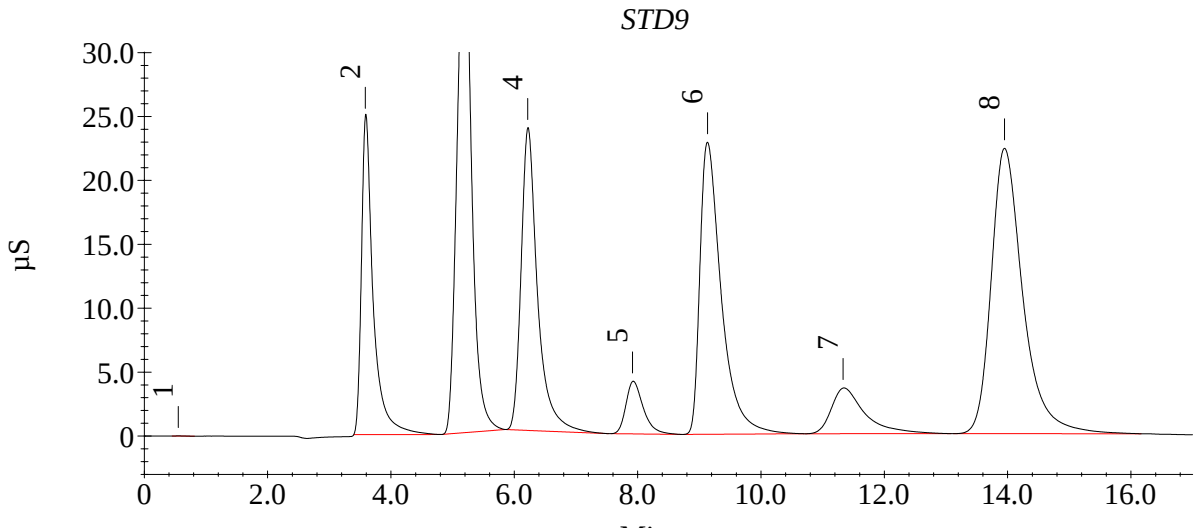
Calibration Update Report

Sample Name : STD9
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\STD9_010.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Schedule File Name : c:\instarch\sequences\system 2\051120 - ic3033.sch
Date Time Collected : 5/11/20 17:46
Calibration Date : 5/12/20 07:10
System Operator : TMG

Peak Information : All Components

Peak #	Component Name	Retention Time	Cal Response (Previous)	Cal Response (Measured)	Cal Response (New)
2	Fluoride	3.58		3304569	
3	Chloride	5.18	0	6601665	6601665
4	Nitrite	6.22		4383613	
5	Bromide	7.92		803457	
6	Nitrate	9.13		5493174	
7	O.Phos	11.33		1350965	
8	Sulfate	13.95	0	7968632	7968632



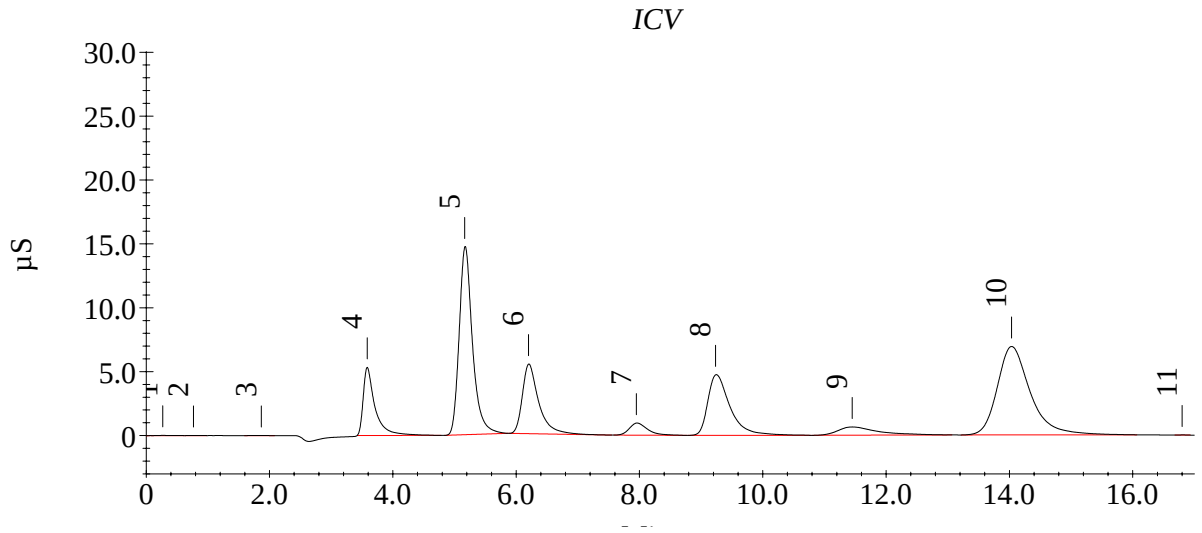
Sample Analysis Report

Sample Name : ICV
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\ICV_012.DXD

Method File Name : C:\INSTARCH\METHODS\System 2\IC3033.met
Date Time Collected : 5/11/20 18:25
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.58	3.3824	704604	53186	
5	Chloride	5.17	13.9068	2200500	146700	
6	Nitrite	6.20	3.5257	1002755	54349	
7	Bromide	7.95	3.4965	193939	9444	
8	Nitrate	9.23	3.3376	1182739	47244	
9	O.Phos	11.45	3.5307	289415	6420	
10	Sulfate	14.03	23.2850	2572235	69148	



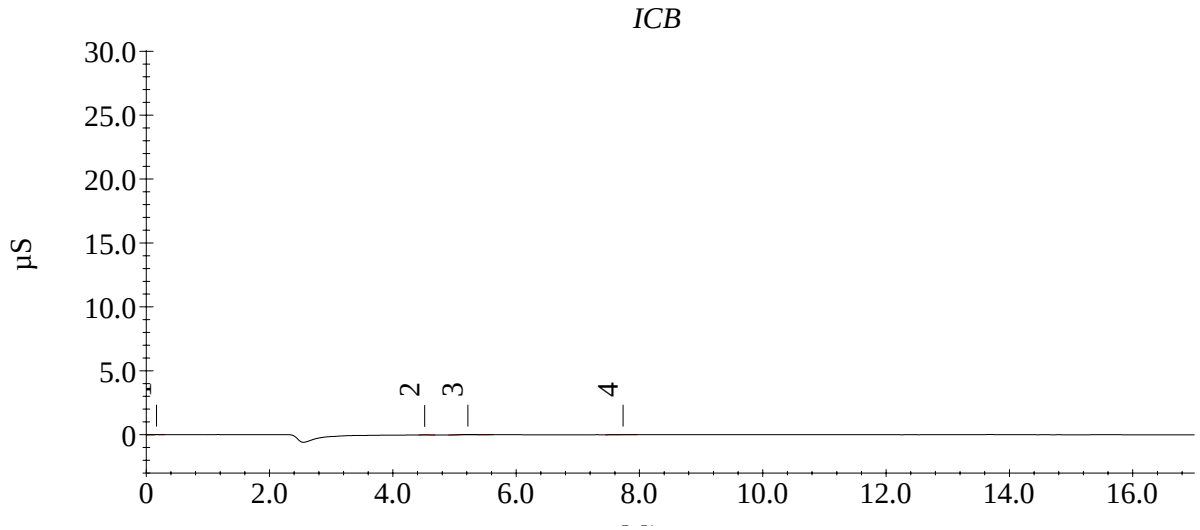
Sample Analysis Report

Sample Name : ICB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\051120 - IC3033\ICB_015.DXD

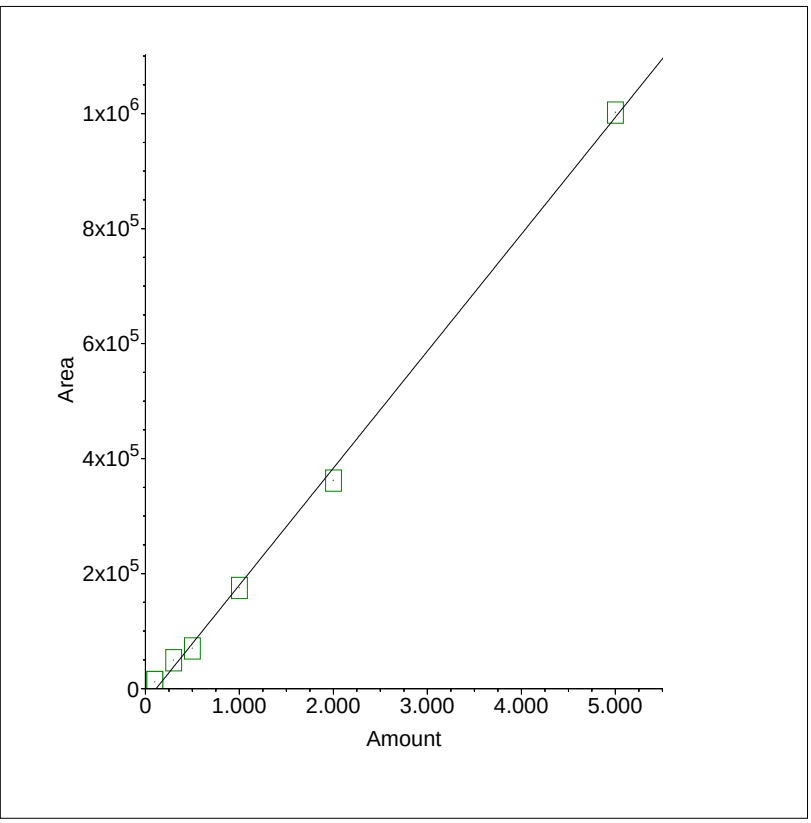
Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 5/12/20 08:00
System Operator : TMG

Peak Information : Found Components

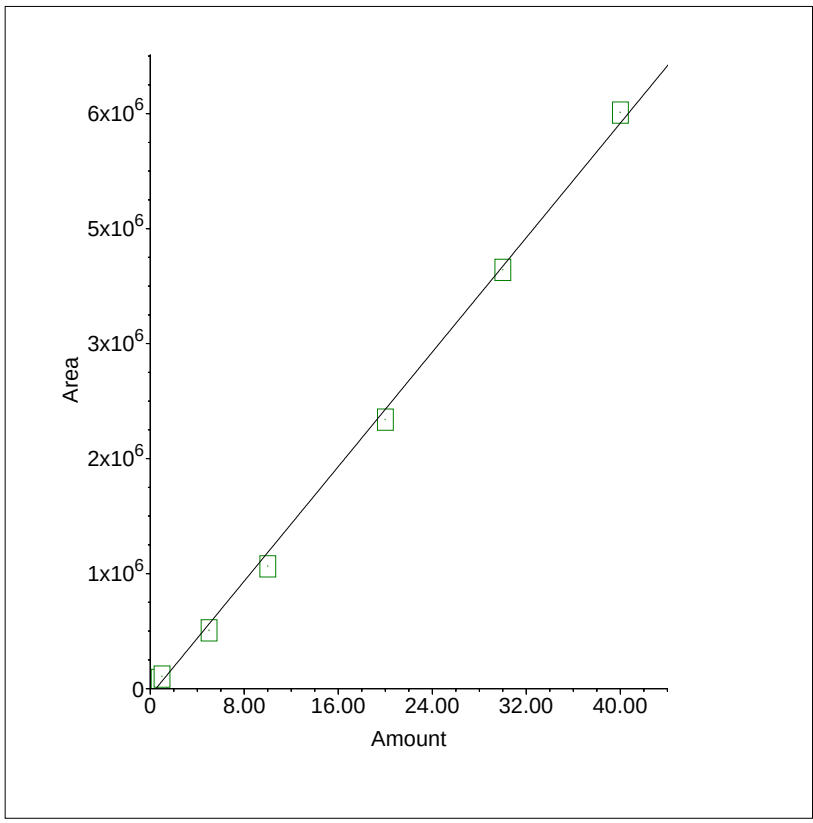
Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Chloride	5.22	0.5245	5907	240	
4	Bromide	7.73	0.0627	1382	88	



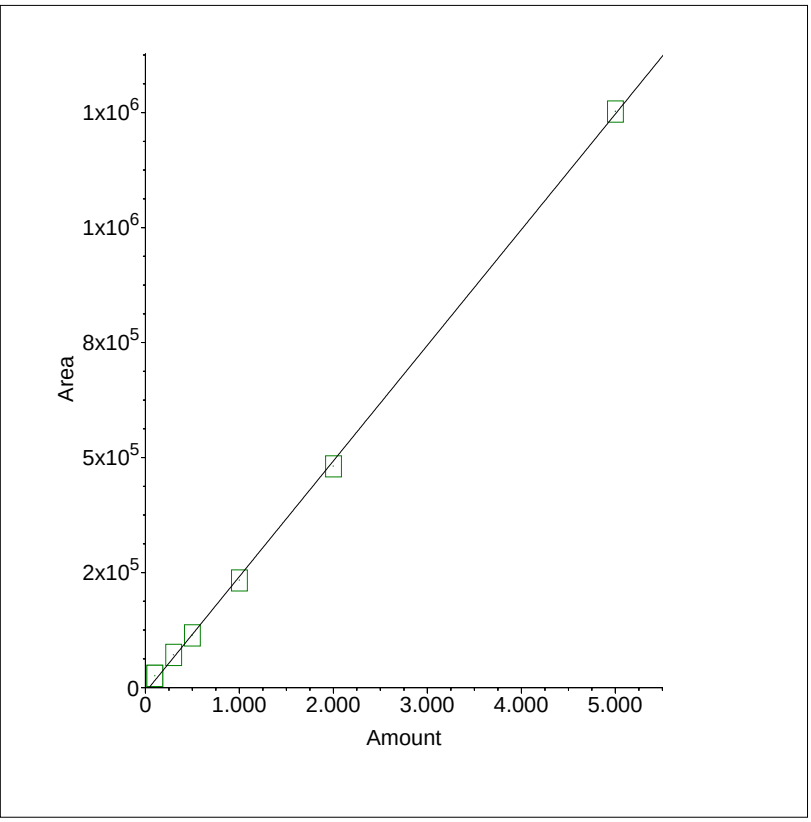
1. Component:Fluoride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998631
Amt=4.637e-006*Resp+0.1149



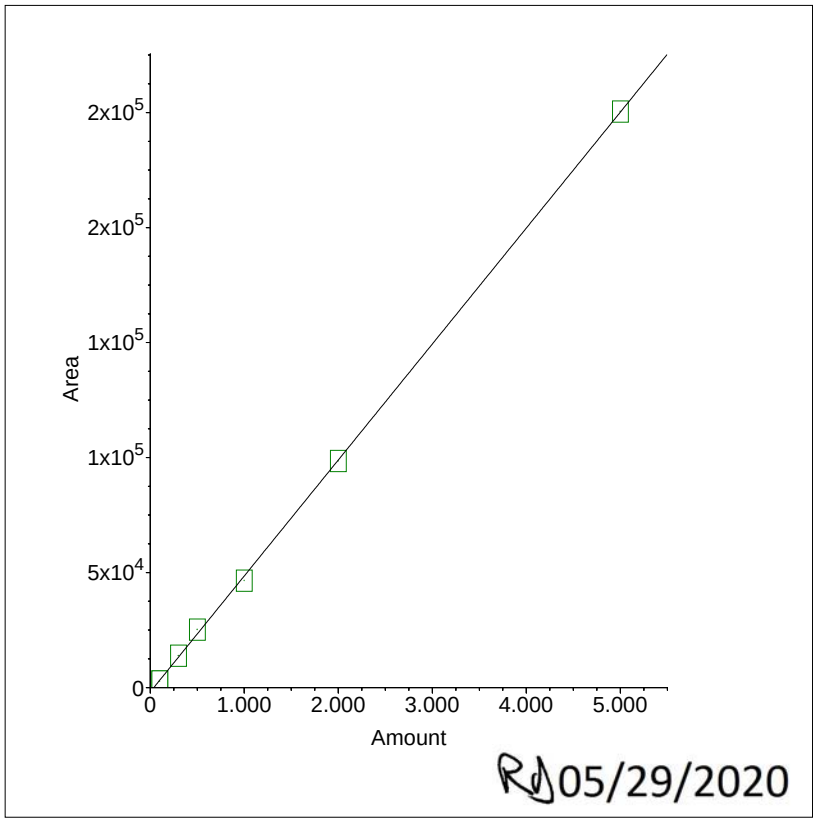
2. Component:Chloride
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.998323
Amt=6.098e-006*Resp+0.4885



3. Component:Nitrite
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999654
Amt=3.476e-006*Resp+0.04025

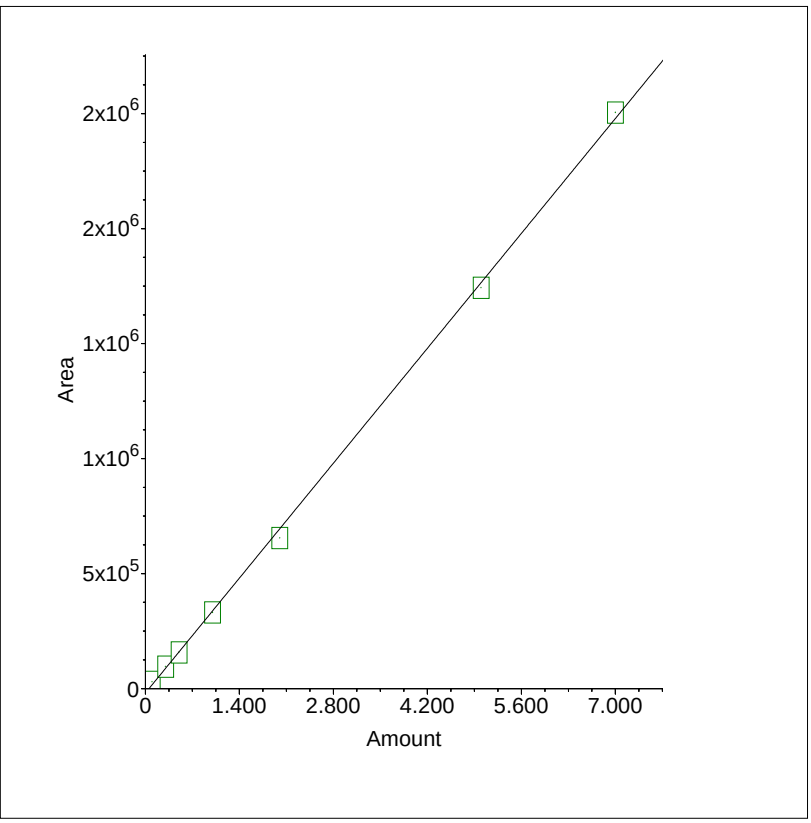


4. Component:Bromide
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999800
Amt=1.783e-005*Resp+0.03804

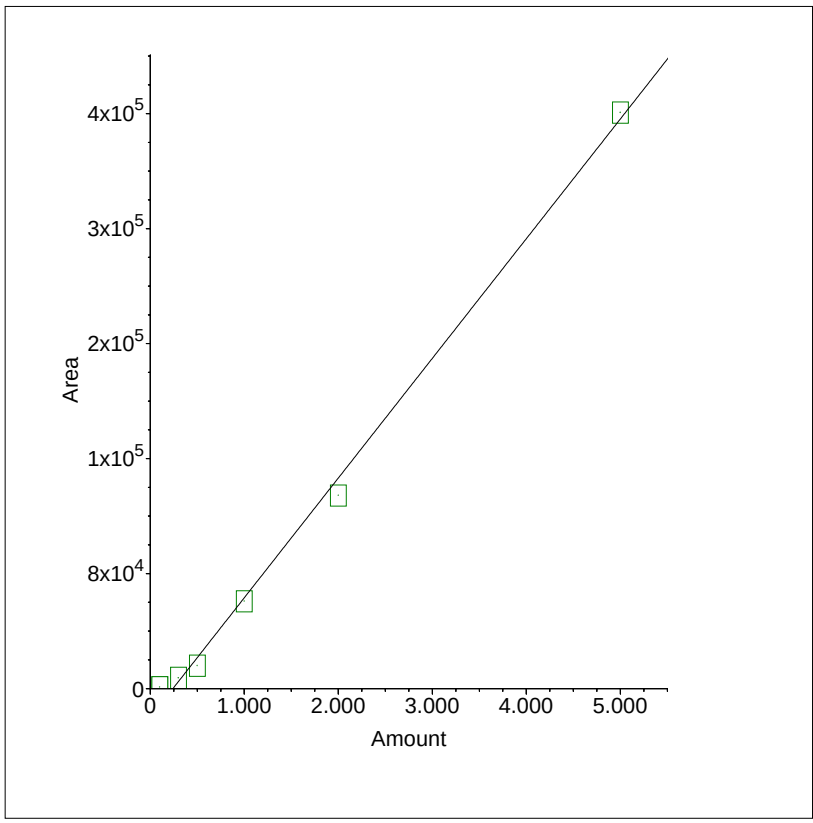


RJ 05/29/2020

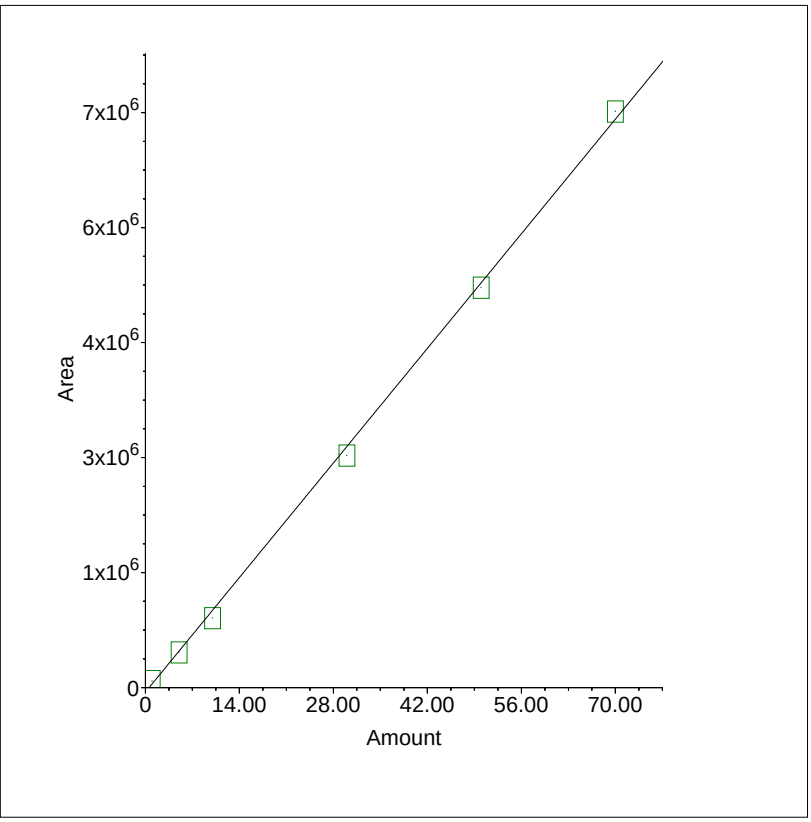
5. Component:Nitrate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999420
Amt=2.776e-006*Resp+0.05443



6. Component:O.Phos
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.996836
Amt=1.136e-005*Resp+0.2417



7. Component:Sulfate
Standard:External Fit Type:Linear
Origin:Ignore Calibration:Area
r^2=0.999217
Amt=8.832e-006*Resp+0.5663



RJ 05/29/2020

Schedule File: C:\INSTARCH\Sequences\System 2\072320 -.SCH

Line	Sample	Sample Type	Level	Method
14	CCV	Sample		ic3033.met
15	LCSW	Sample		ic3033.met
16	MBW-CCB	Sample		ic3033.met
19	449329	Sample		ic3033.met
20	449330	Sample		ic3033.met
21	449331	Sample		ic3033.met
22	449332	Sample		ic3033.met
23	449333	Sample		ic3033.met
24	449334	Sample		ic3033.met
25	DUP449334	Sample		ic3033.met
26	MSW449334	Sample		ic3033.met
27	CCV	Sample		ic3033.met
28	CCB	Sample		ic3033.met
29	MSDW449334	Sample		ic3033.met
30	CCV	Sample		ic3033.met
31	CCB	Sample		ic3033.met

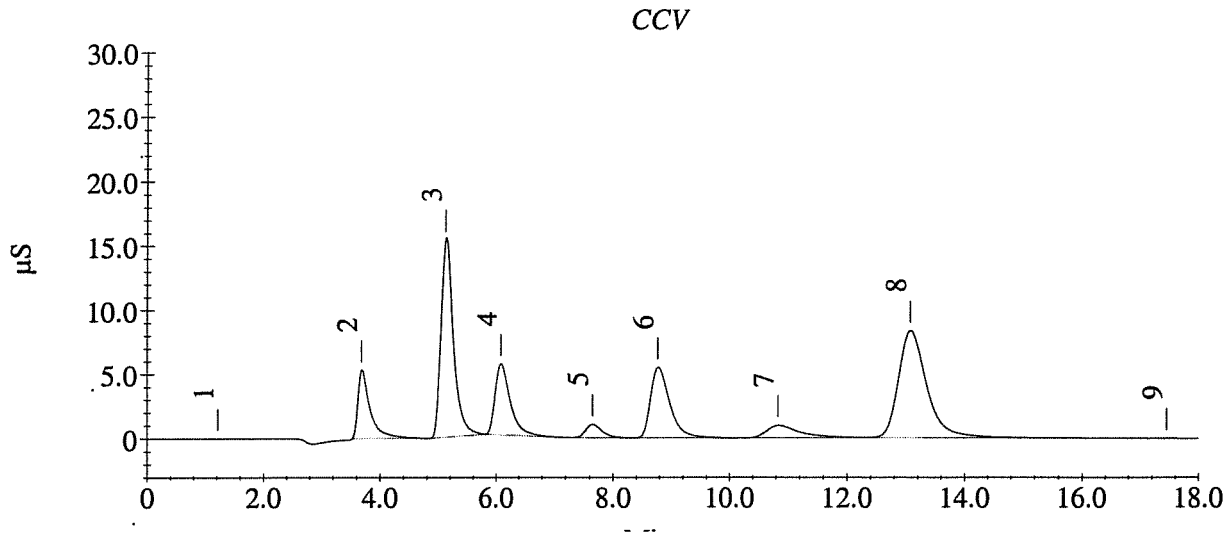
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\072320 -\CCV_014.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 16:55
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.68	3.7111	775480	53027	
3	Chloride	5.12	14.5359	2303655	153263	
4	Nitrite	6.08	3.5947	1022629	55104	
5	Bromide	7.65	3.5973	199590	10327	
6	Nitrate	8.77	3.5149	1246612	54766	
7	O.Phos	10.83	4.5574	379758	9703	
8	Sulfate	13.07	25.2634	2796233	83166	



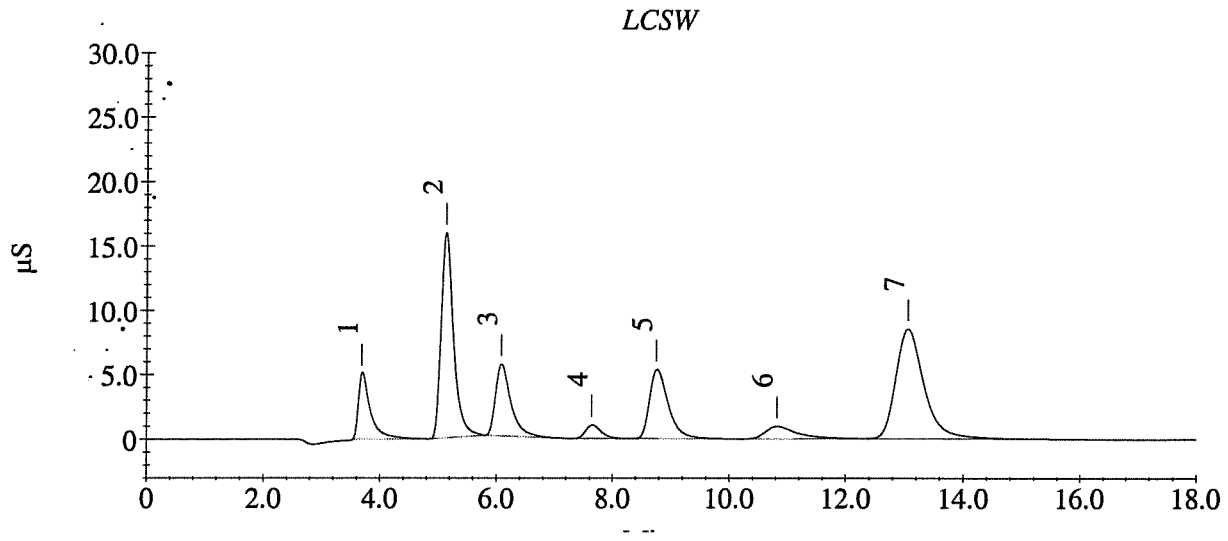
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\072320 -\LCSW_015.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 17:15
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.68	3.5711	745302	50511	
2	Chloride	5.13	14.8255	2351158	159075	
3	Nitrite	6.08	3.5928	1022079	55406	
4	Bromide	7.63	3.5934	199374	10369	
5	Nitrate	8.75	3.4066	1207584	53243	
6	O.Phos	10.82	4.5627	380229	9732	
7	Sulfate	13.05	25.6573	2840830	85054	



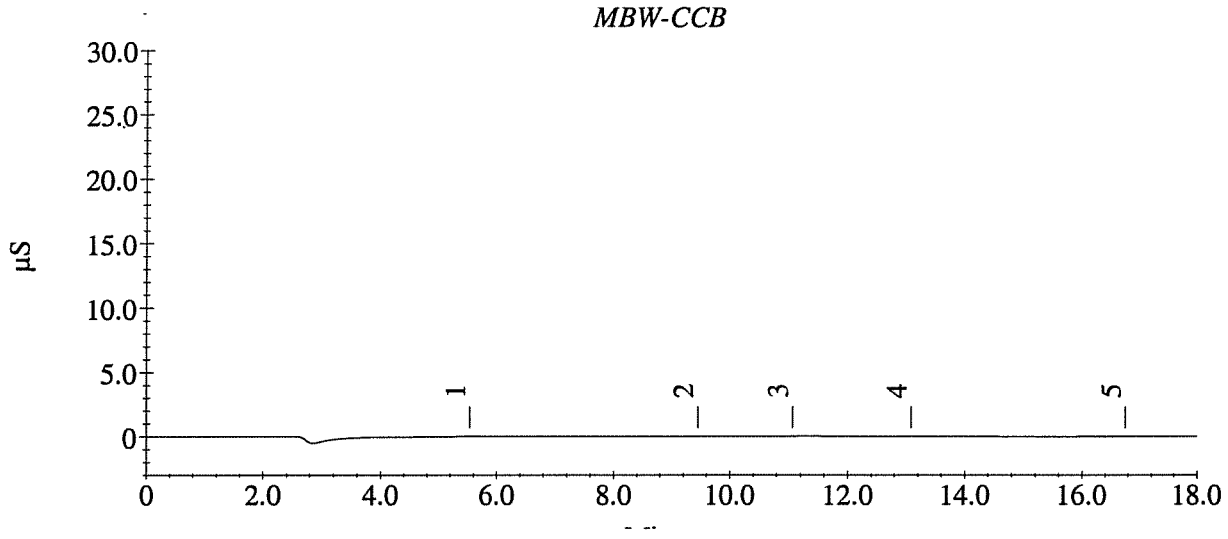
Sample Analysis Report

Sample Name : MBW-CCB
Data File Name : c:\instarch\data\system 2\072320 -\MBW-CCB_016.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 17:36
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	O.Phos	11.07	0.2614	1741	93	
4	Sulfate	13.08	0.5767	1179	60	



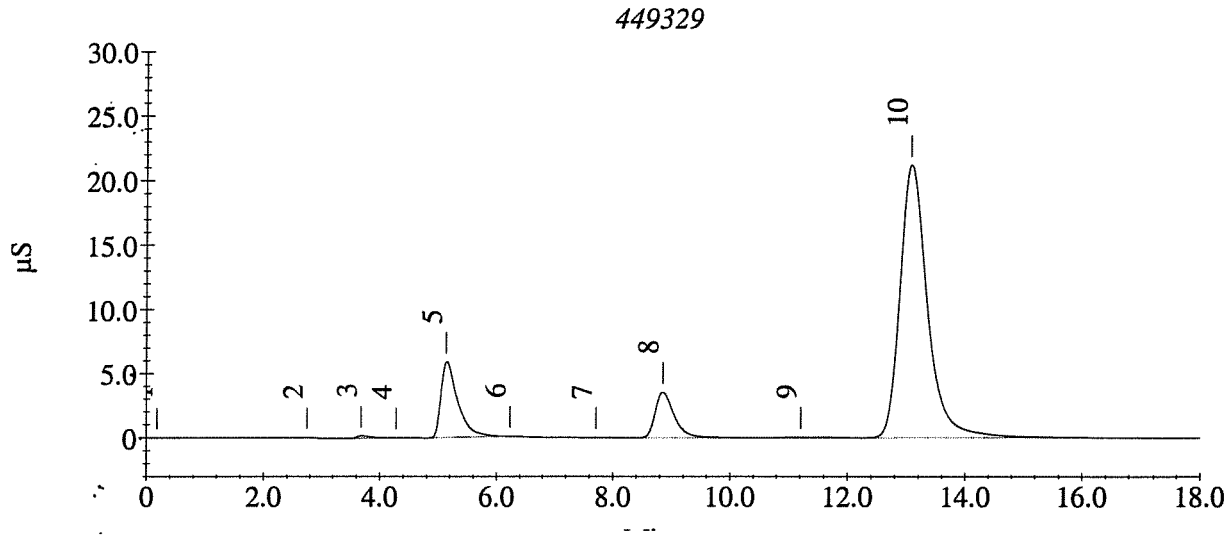
Sample Analysis Report

Sample Name : 449329
Data File Name : c:\instarch\data\system 2\072320 -\449329_019.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 18:36
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.68	0.2456	28175	1818	
5	Chloride	5.13	7.5777	1162572	58646	
6	Nitrite	6.23	0.0560	4519	299	
7	Bromide	7.72	0.0923	3045	152	
8	Nitrate	8.85	2.2354	785688	35290	
9	O.Phos	11.22	0.5841	30133	555	
10	Sulfate	13.07	61.6734	6918625	211598	



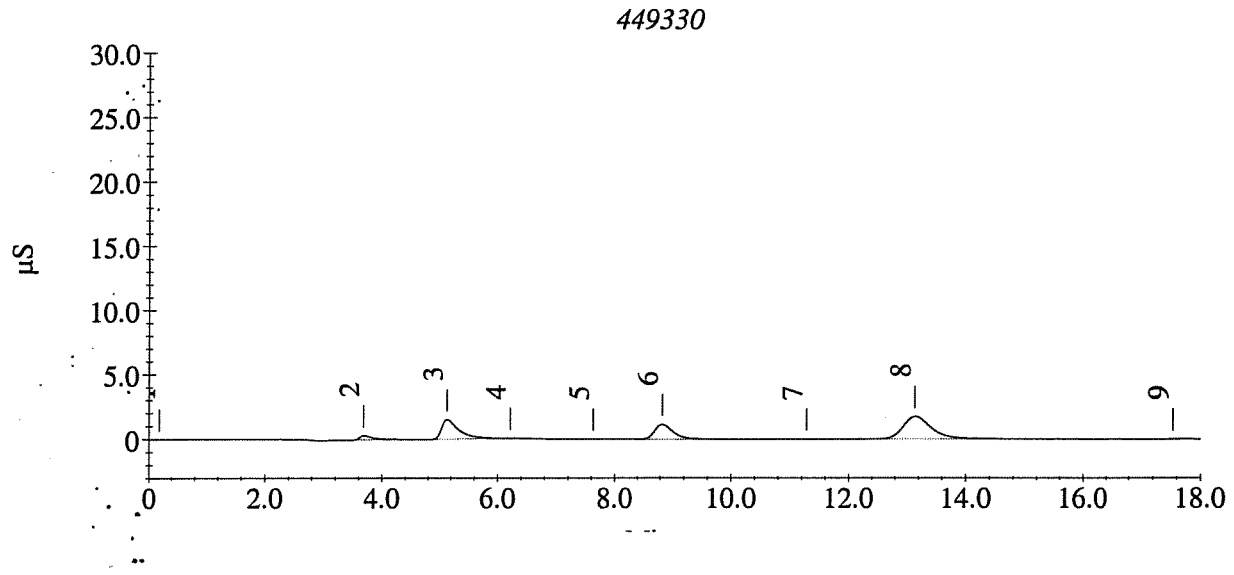
Sample Analysis Report

Sample Name : 449330
Data File Name : c:\instarch\data\system 2\072320 -\449330_020.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 18:57
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.68	0.3383	48163	3089	
3	Chloride	5.13	2.3751	309390	15001	
4	Nitrite	6.22	0.0576	4994	276	
5	Bromide	7.63	0.0766	2161	98	
6	Nitrate	8.83	0.7335	244640	11216	
7	O.Phos	11.28	0.4361	17114	272	
8	Sulfate	13.13	5.8145	594208	17285	



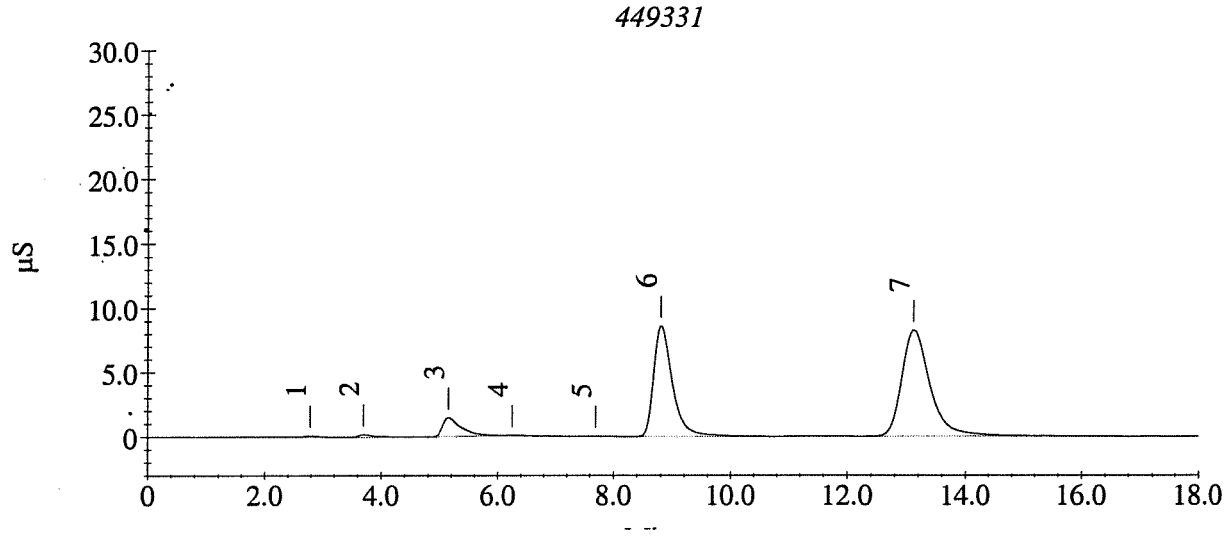
Sample Analysis Report

Sample Name : 449331
Data File Name : c:\instarch\data\system 2\072320 -\449331_021.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 19:17
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.70	0.2685	33122	1965	
3	Chloride	5.15	2.4752	325800	14660	
4	Nitrite	6.25	0.0513	3191	404	
5	Bromide	7.70	0.0748	2060	101	
6	Nitrate	8.80	5.3444	1905652	85700	
7	Sulfate	13.12	25.0561	2772768	82346	



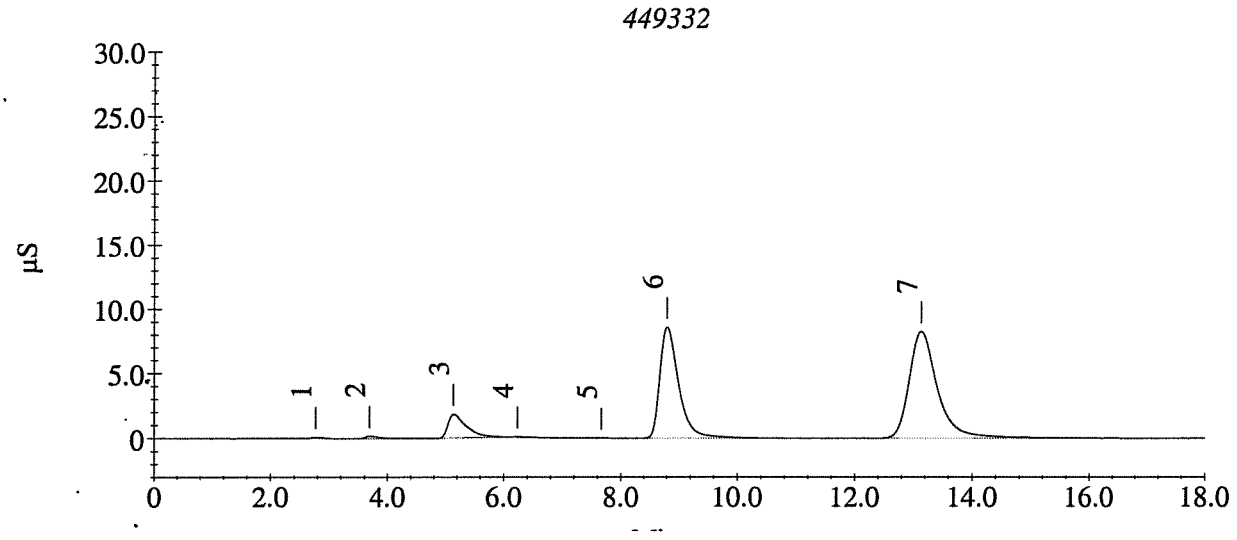
Sample Analysis Report

Sample Name : 449332
Data File Name : c:\instarch\data\system 2\072320 -\449332_022.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 19:37
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.68	0.2574	30717	1897	
3	Chloride	5.13	2.9614	405535	18350	
4	Nitrite	6.23	0.0528	3601	342	
5	Bromide	7.67	0.0616	1324	93	
6	Nitrate	8.80	5.3743	1916441	85820	
7	Sulfate	13.13	25.1360	2781810	82477	



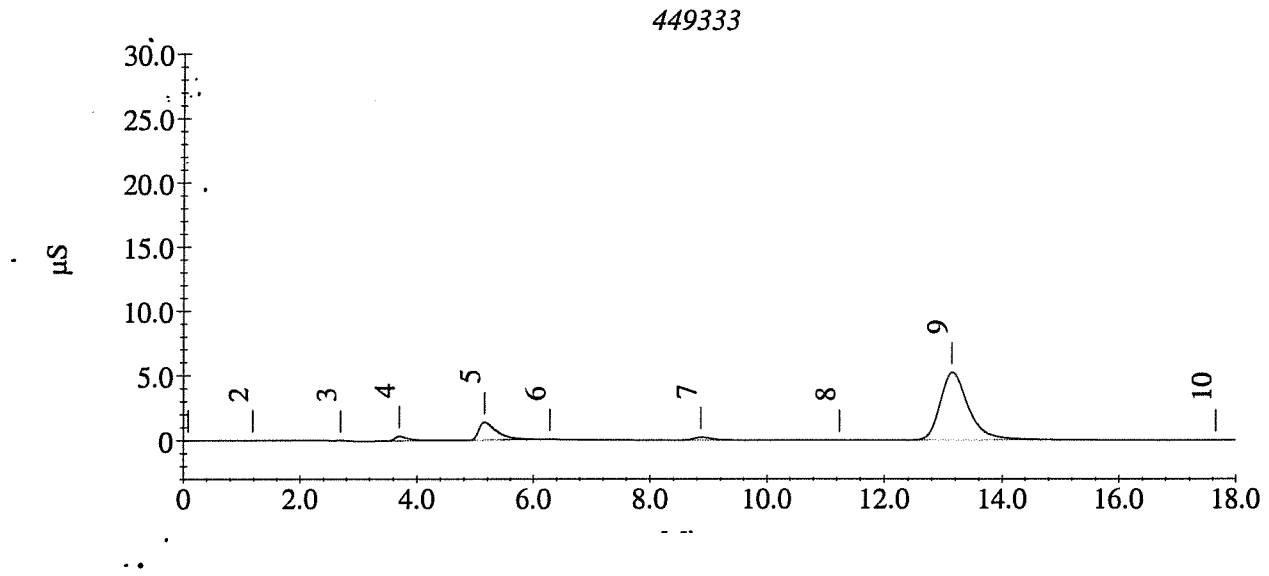
Sample Analysis Report

Sample Name : 449333
Data File Name : c:\instarch\data\system 2\072320 -\449333_023.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 19:58
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.70	0.3906	59457	3539	
5	Chloride	5.15	2.3294	301887	13794	
6	Nitrite	6.28	0.0443	1155	129	
7	Nitrate	8.87	0.1845	46848	2215	
8	O.Phos	11.25	0.2536	1050	53	
9	Sulfate	13.13	16.0612	1754354	52042	



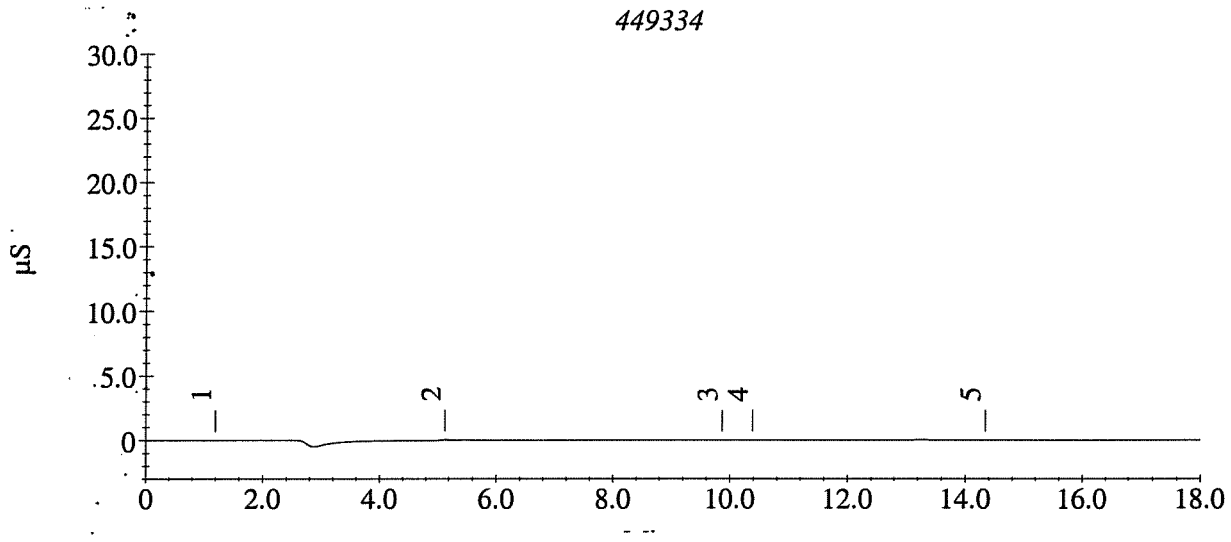
Sample Analysis Report

Sample Name : 449334
Data File Name : c:\instarch\data\system 2\072320 -\449334_024.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 20:18
System Operator: TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.13	0.5064	2942	326	



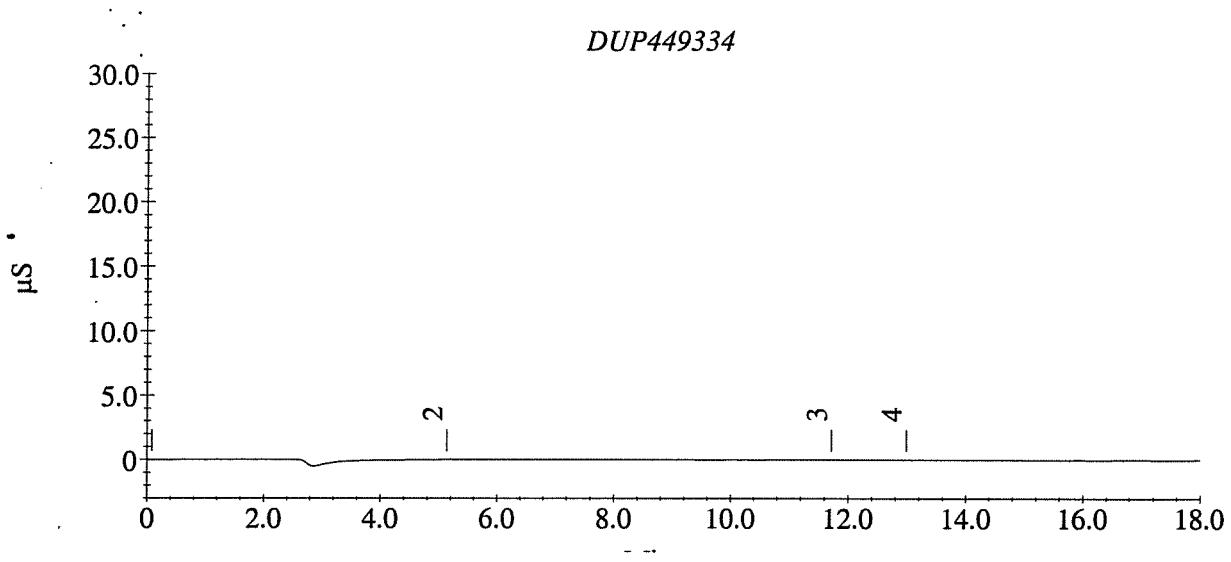
Sample Analysis Report

Sample Name : DUP449334
Data File Name : c:\instarch\data\system 2\072320 -\DUP449334_025.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 20:38
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	5.13	0.5011	2066	238	
4	Sulfate	12.98	0.5839	1998	104	



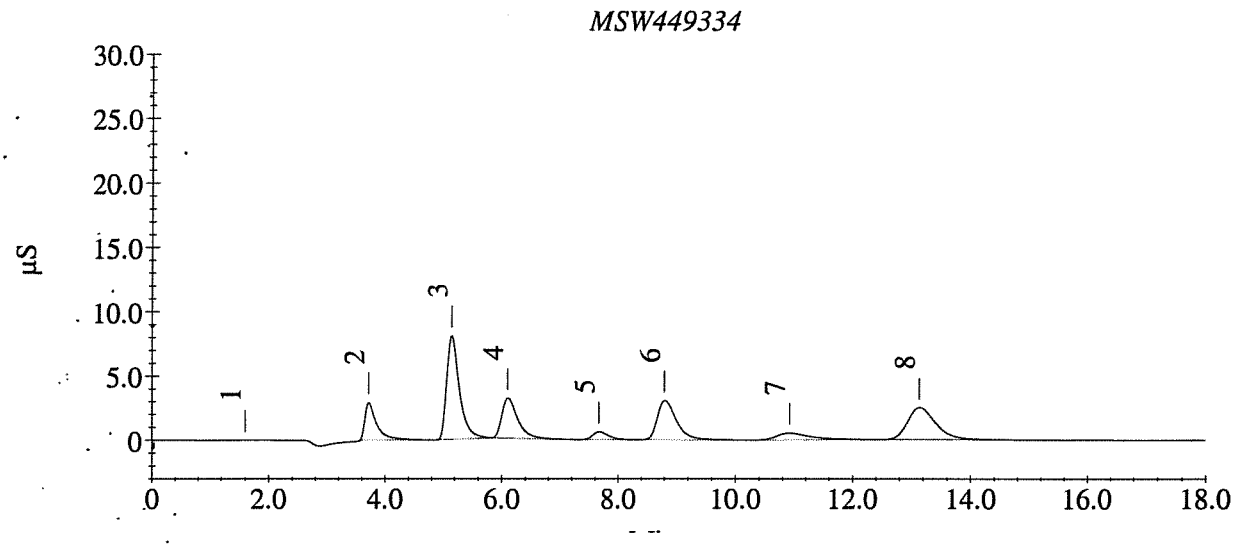
Sample Analysis Report

Sample Name : MSW449334
Data File Name : c:\instarch\data\system 2\072320 -\MSW449334_026.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 20:58
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.72	2.0688	421337	29202	
3	Chloride	5.15	7.7897	1197338	80542	
4	Nitrite	6.10	2.0676	583269	31181	
5	Bromide	7.67	2.1817	120208	6169	
6	Nitrate	8.80	1.9832	694806	30508	
7	O.Phos	10.92	2.7384	219698	5398	
8	Sulfate	13.13	7.9166	832208	24929	



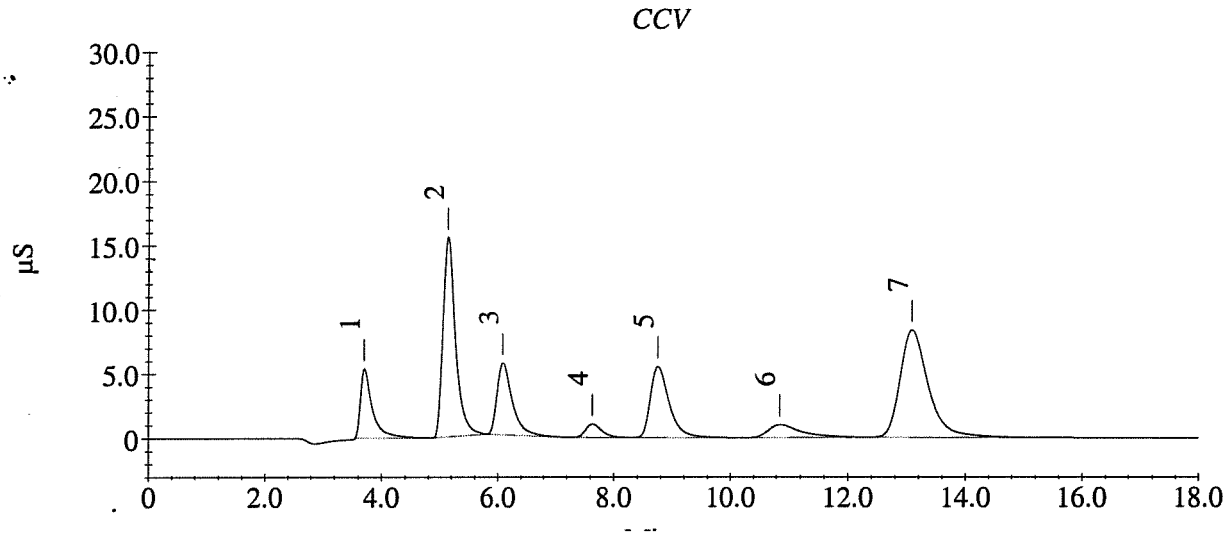
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\072320 -\CCV_027.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 21:19
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.70	3.7061	774413	53711	
2	Chloride	5.13	14.5109	2299552	154507	
3	Nitrite	6.08	3.5955	1022843	55785	
4	Bromide	7.63	3.6144	200549	10425	
5	Nitrate	8.75	3.4969	1240125	55215	
6	O.Phos	10.85	4.7134	393491	9985	
7	Sulfate	13.08	25.2159	2790861	83432	



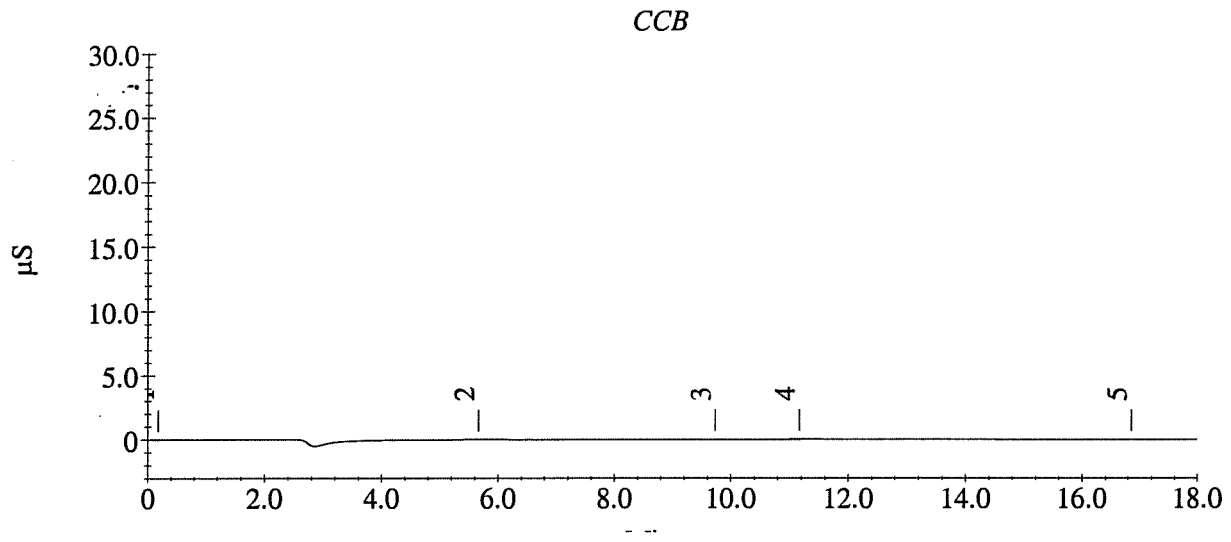
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\072320 -\CCB_028.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 21:39
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Nitrite	5.67	0.0462	1701	92	
4	O.Phos	11.17	0.4239	16040	311	



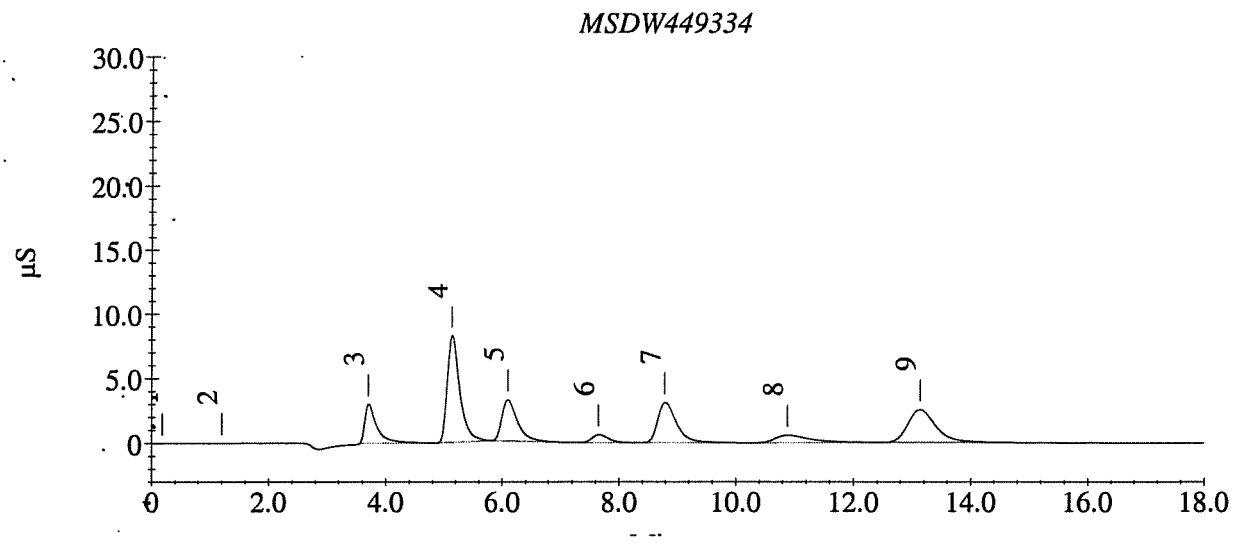
Sample Analysis Report

Sample Name : MSDW449334
Data File Name : c:\instarch\data\system 2\072320 -\MSDW449334_029.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 21:59
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.70	2.1267	433825	29954	
4	Chloride	5.13	8.0050	1232651	82128	
5	Nitrite	6.10	2.0962	591484	31850	
6	Bromide	7.65	2.1885	120591	6265	
7	Nitrate	8.78	2.0150	706260	31084	
8	O.Phos	10.88	2.9772	240716	5919	
9	Sulfate	13.13	8.1834	862420	25398	



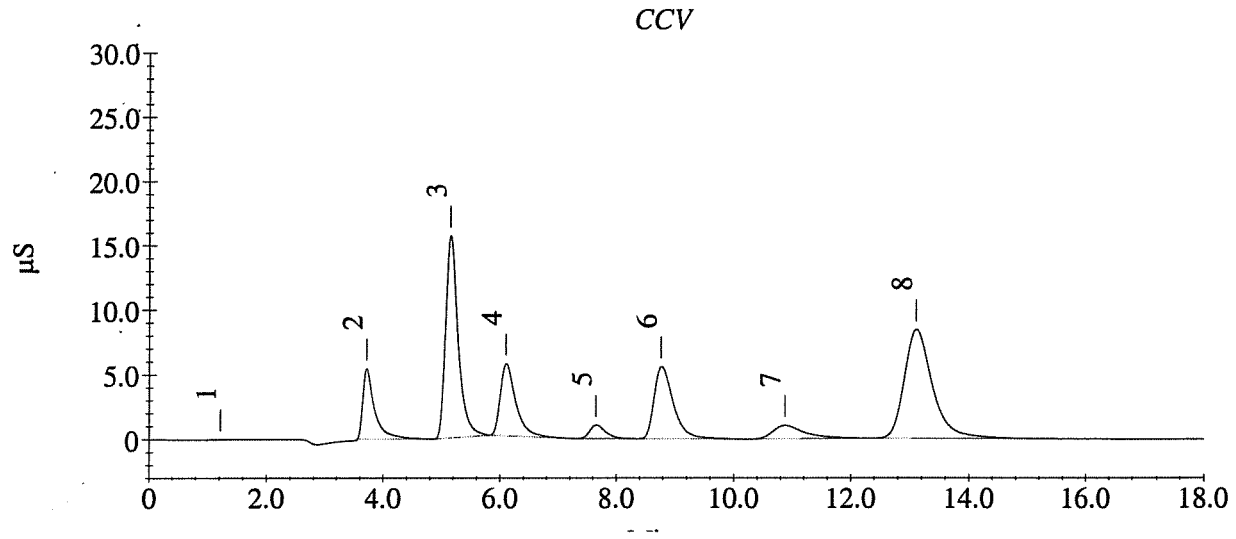
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\072320 -\CCV_030.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 22:19
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Fluoride	3.72	3.7315	779896	54320	
3	Chloride	5.15	14.6230	2317943	156270	
4	Nitrite	6.10	3.5876	1020574	55389	
5	Bromide	7.65	3.6334	201616	10455	
6	Nitrate	8.77	3.5294	1251813	55449	
7	O.Phos	10.87	4.7602	397606	10409	
8	Sulfate	13.10	25.3982	2811503	83919	



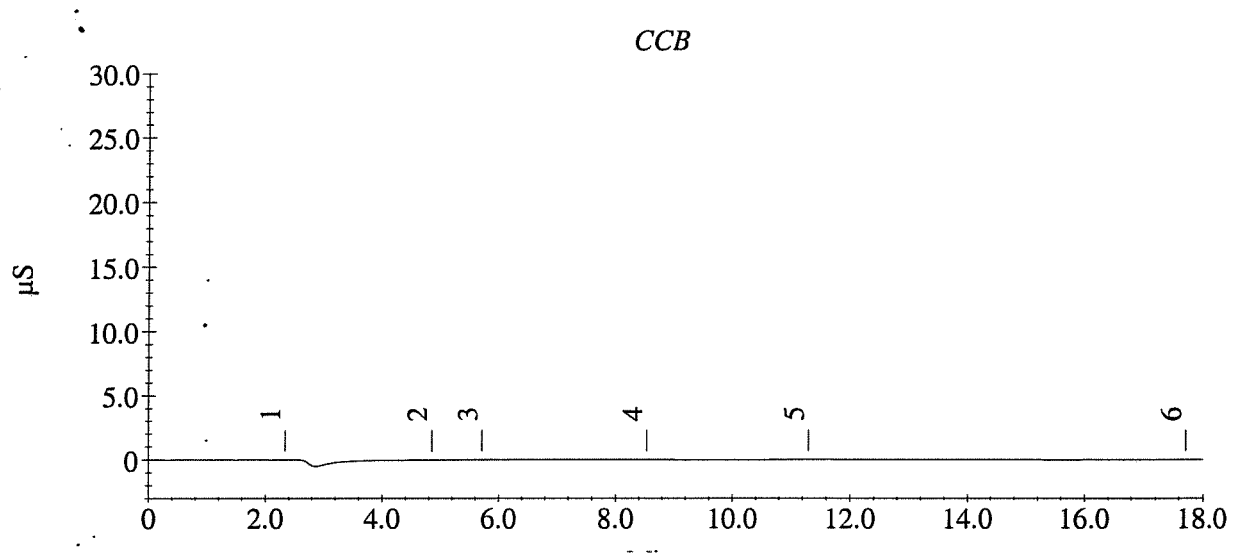
Sample Analysis Report

Sample Name : CCB
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\072320 -\CCB_031.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/23/20 22:39
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
2	Chloride	4.85	0.5109	3678	76	
3	Nitrite	5.72	0.0854	12982	289	
4	Nitrate	8.53	0.0629	3046	145	
5	O.Phos	11.30	0.3154	6493	160	



Schedule File: C:\INSTARCH\Sequences\System 2\072420 -.sch

Line	Sample	Sample Type	Level	Method	Data File
1	CCV	Sample		ic3033.met	ccv_001.dxd
2	LCSW	Sample		ic3033.met	lcsw_002.dxd
3	MBW	Sample		ic3033.met	mbw_003.dxd
4	450340	Sample		ic3033.met	450340_004.dxd
5	450341	Sample		ic3033.met	450341_005.dxd
6	450342	Sample		ic3033.met	450342_006.dxd
14	CCV	Sample		ic3033.met	ccv_014.dxd
15	CCB	Sample		ic3033.met	ccb_015.dxd
16	DUP450340	Sample		ic3033.met	dup450340_016.dxd
17	MSW450340	Sample		ic3033.met	msw450340_017.dxd
18	MSDW450340	Sample		ic3033.met	msdw450340_018.dxd
22	CCV	Sample		ic3033.met	ccv_022.dxd
23	CCB	Sample		ic3033.met	ccb_023.dxd
29	CCV	Sample		ic3033.met	ccv_029.dxd
30	CCB	Sample		ic3033.met	ccb_030.dxd
31	450340X5	Sample		ic3033.met	450340x5_031.dxd
32	DUP450340X5	Sample		ic3033.met	dup450340x5_032.dxd
33	MSW450340X5	Sample		ic3033.met	msw450340x5_033.dxd
34	MSDW450340X5	Sample		ic3033.met	msdw450340x5_034.dxd
38	CCV	Sample		ic3033.met	ccv_038.dxd
39	CCB	Sample		ic3033.met	ccb_039.dxd

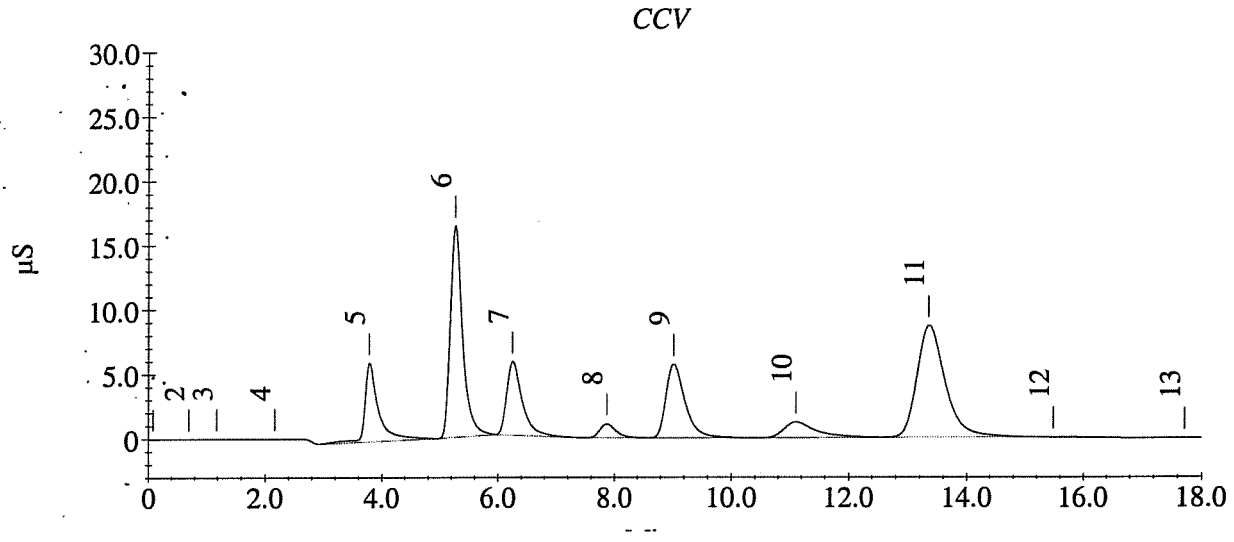
Sample Analysis Report

Sample Name : CCV
Data File Name : C:\INSTARCH\DATA\SYSTEM 2\072420 -\CCV_001.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 13:01
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
5	Fluoride	3.78	4.7428	997957	60759	
6	Chloride	5.27	15.0886	2394291	163969	
7	Nitrite	6.25	3.7320	1062113	56935	
8	Bromide	7.87	3.7306	207066	10747	
9	Nitrate	9.02	3.6375	1290779	56942	
10	O.Phos	11.10	5.5358	465859	12217	+
11	Sulfate	13.35	25.9404	2872887	86445	



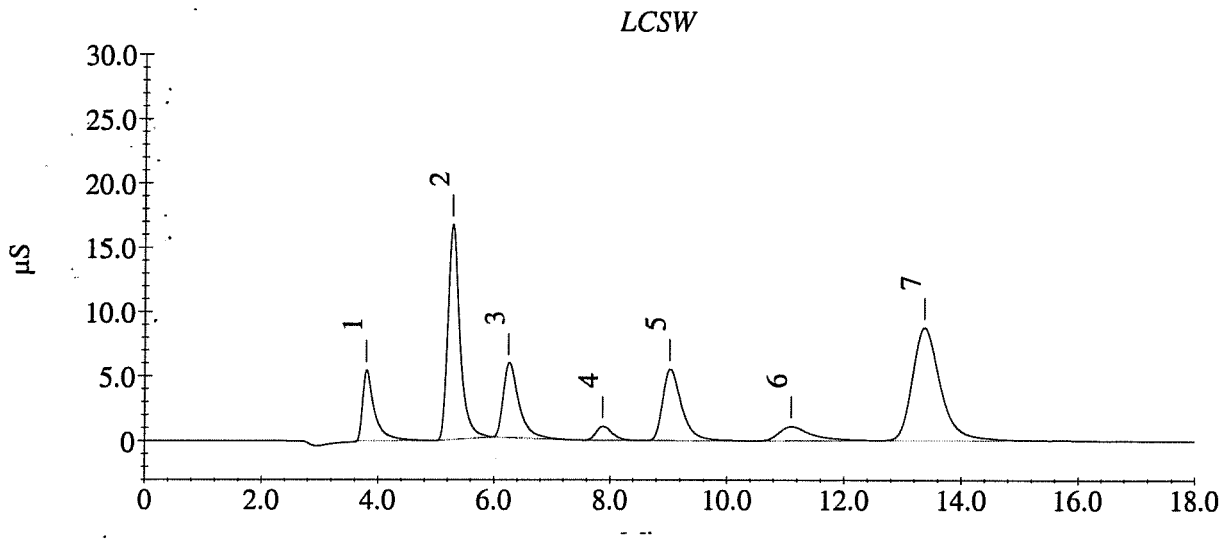
Sample Analysis Report

Sample Name : LCSW
Data File Name : c:\instarch\data\system 2\072420 -\LCSW_002.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 13:22
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
1	Fluoride	3.80	3.6585	764154	54391	
2	Chloride	5.28	15.2598	2422374	166643	
3	Nitrite	6.25	3.7699	1073028	57319	
5	Nitrate	9.02	3.4962	1239853	54942	
6	O.Phos	11.10	5.0292	421275	10937	+
7	Sulfate	13.37	26.0873	2889516	87304	



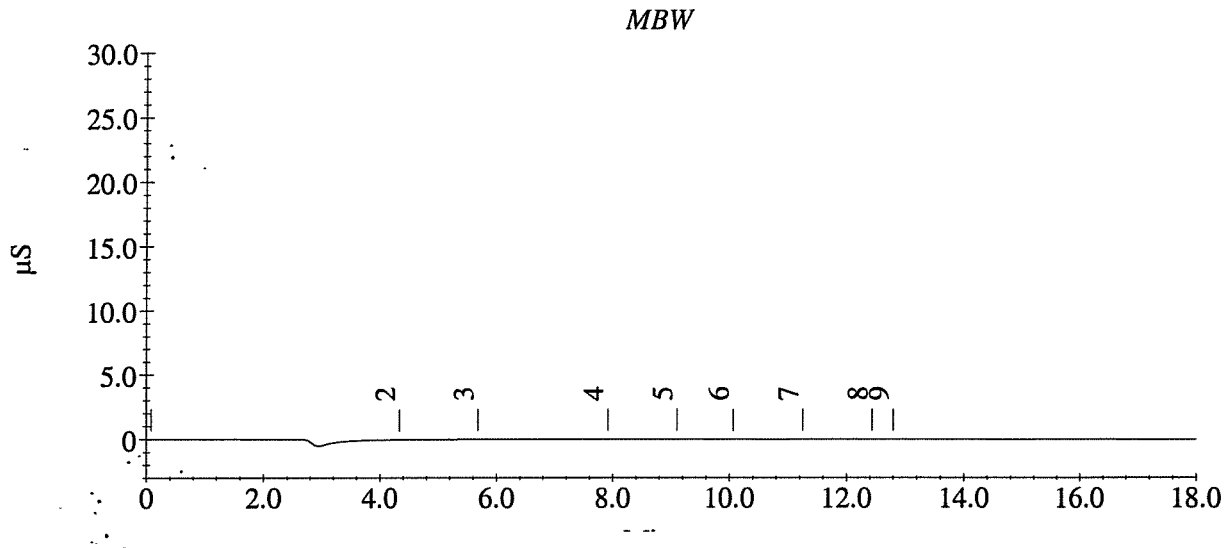
Sample Analysis Report

Sample Name : MBW
Data File Name : c:\instarch\data\system 2\072420 -\MBW_003.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 13:42
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Chloride	5.68	0.5254	6061	175	
4	Bromide	7.92	0.0890	2857	109	
5	Nitrate	9.10	0.0603	2127	96	
7	O.Phos	11.25	0.2596	1578	106	
8	Sulfate	12.43	0.5806	1623	83	



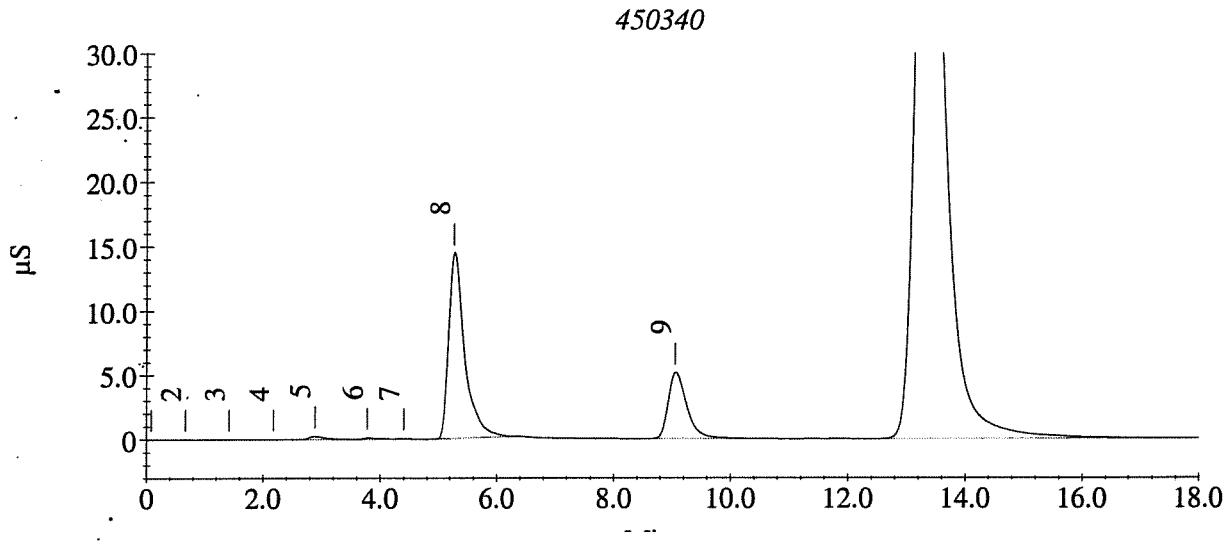
Sample Analysis Report

Sample Name : 450340
Data File Name : c:\instarch\data\system 2\072420 -\450340_004.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 14:02
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
6	Fluoride	3.78	0.1919	16604	1109	
8	Chloride	5.27	17.2174	2743395	143433	
9	Nitrate	9.05	3.2403	1147685	51271	
10	Sulfate	13.32	172.6011	19477992	582559	+



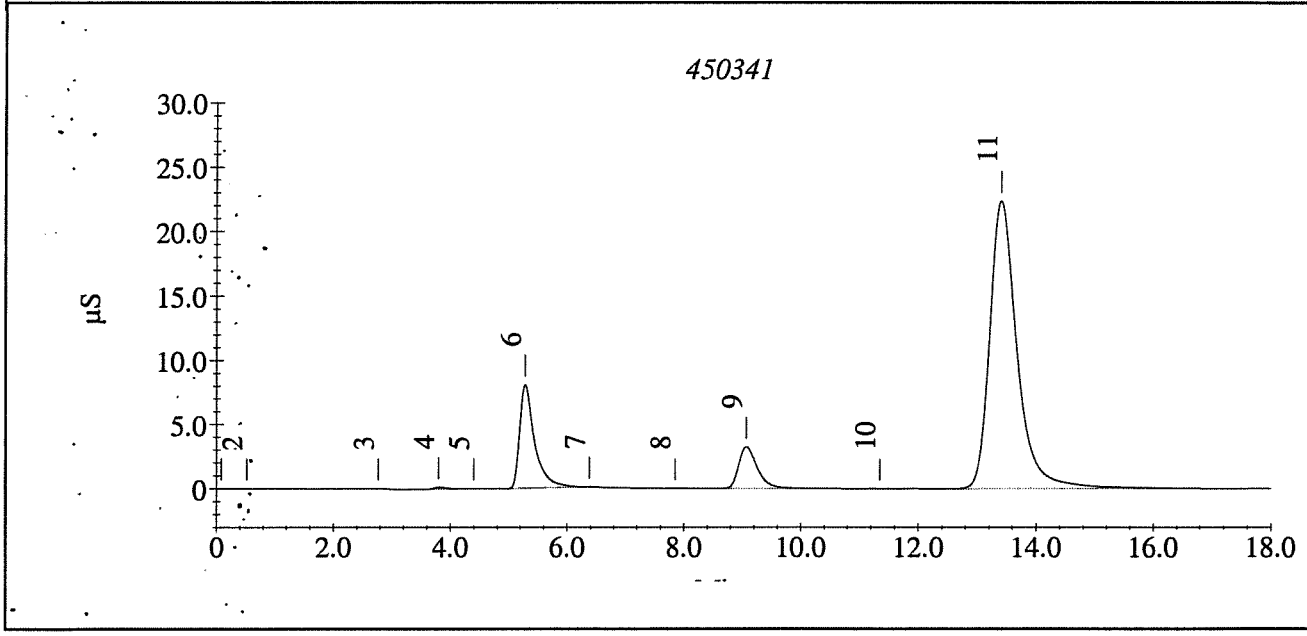
Sample Analysis Report

Sample Name : 450341
Data File Name : c:\instarch\data\system 2\072420 -\450341_005.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 14:22
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.80	0.2080	20073	1455	
6	Chloride	5.28	9.3123	1447026	80542	
8	Bromide	7.85	0.1057	3794	177	
9	Nitrate	9.07	2.0576	721621	32373	
10	O.Phos	11.35	0.2767	3081	117	
11	Sulfate	13.40	65.1454	7311722	223388	



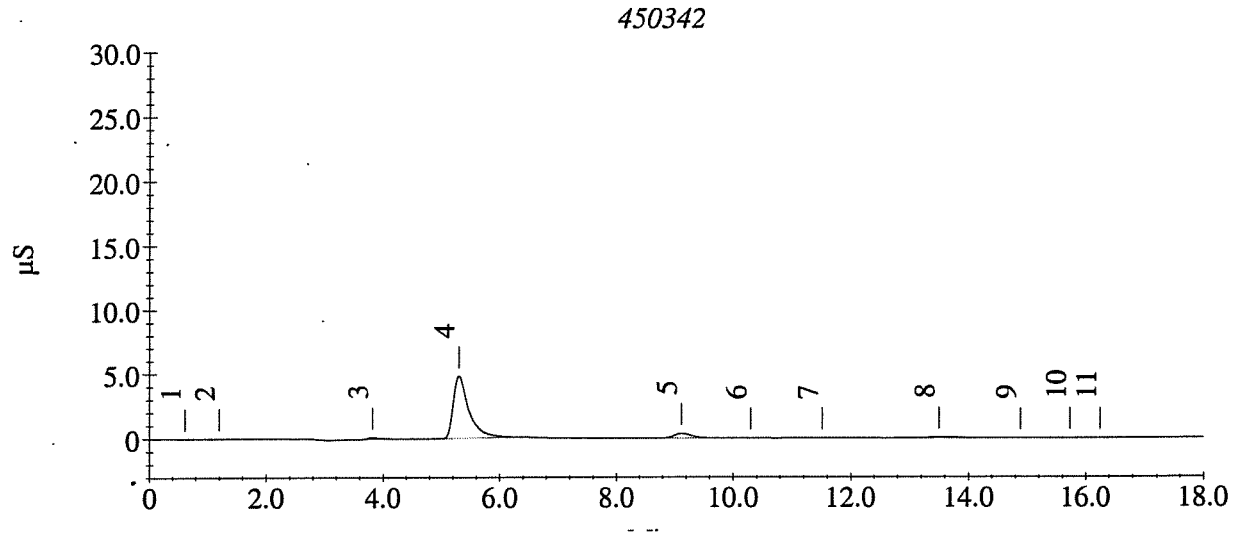
Sample Analysis Report

Sample Name : 450342
Data File Name : c:\instarch\data\system 2\072420 -\450342_006.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 14:43
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.82	0.1809	14237	1095	
4	Chloride	5.30	5.9188	890523	48044	
5	Nitrate	9.12	0.2609	74396	3619	
7	O.Phos	11.52	0.2692	2421	94	
8	Sulfate	13.50	0.7905	25383	785	



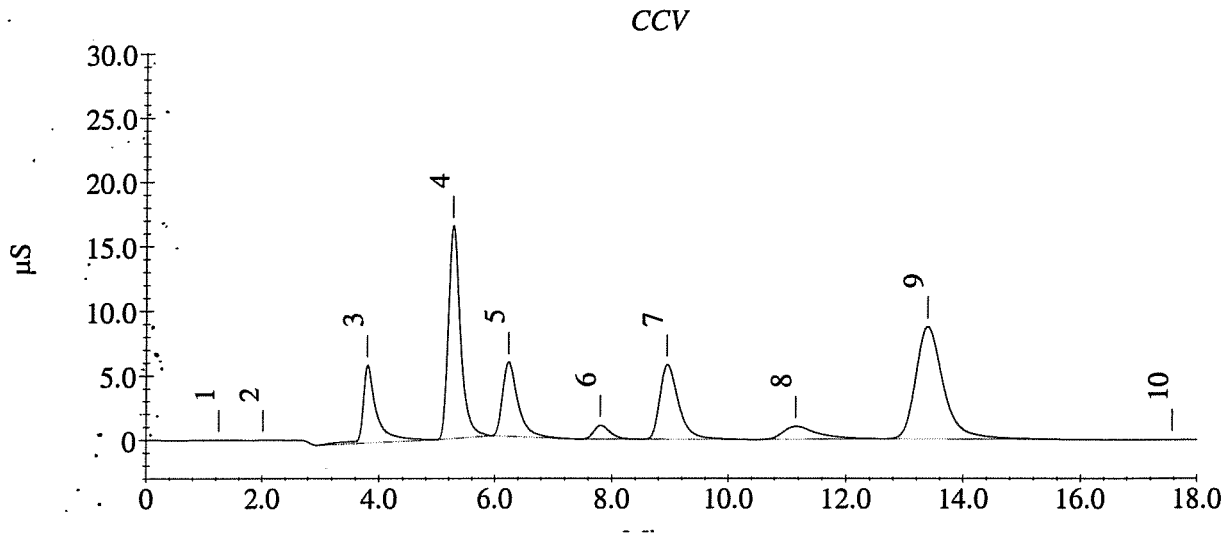
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\072420 -\CCV_014.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 17:25
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.80	4.6406	975925	60120	
4	Chloride	5.27	15.1248	2400234	164426	
5	Nitrite	6.23	3.7240	1059831	57601	
6	Bromide	7.80	3.7534	208347	10822	
7	Nitrate	8.93	3.6545	1296889	57748	
8	O.Phos	11.15	4.8805	408196	10132	
9	Sulfate	13.38	26.2137	2903825	87100	



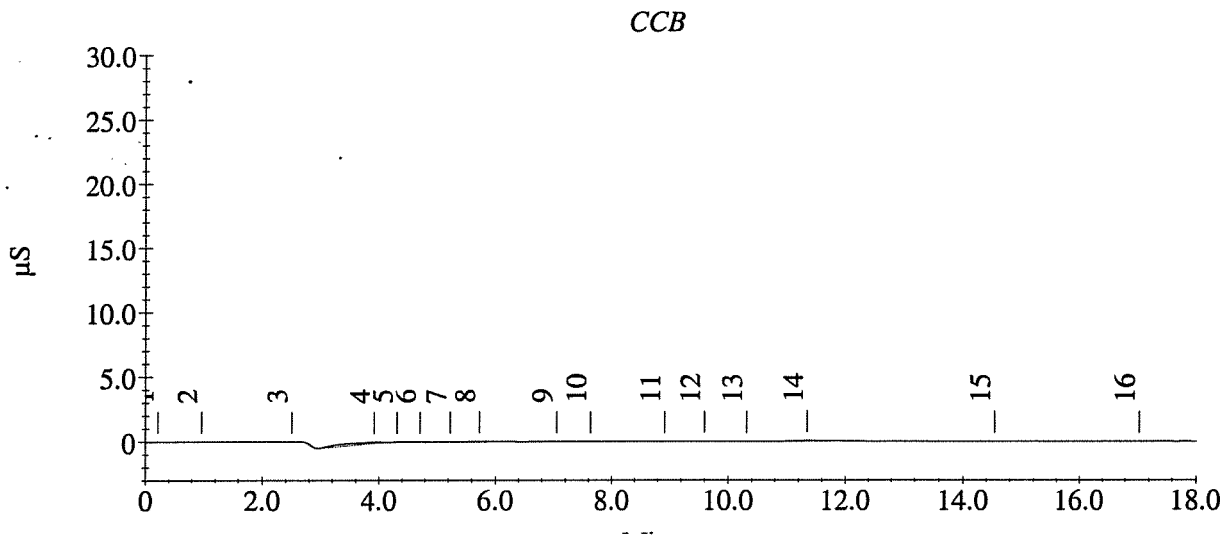
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\072420 -\CCB_015.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 17:45
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.92	0.4557	73483	952	
8	Chloride	5.73	0.5147	4295	199	
11	Nitrate	8.92	0.0581	1304	74	
14	O.Phos	11.35	0.4187	15579	501	
15	Sulfate	14.53	0.5867	2309	144	



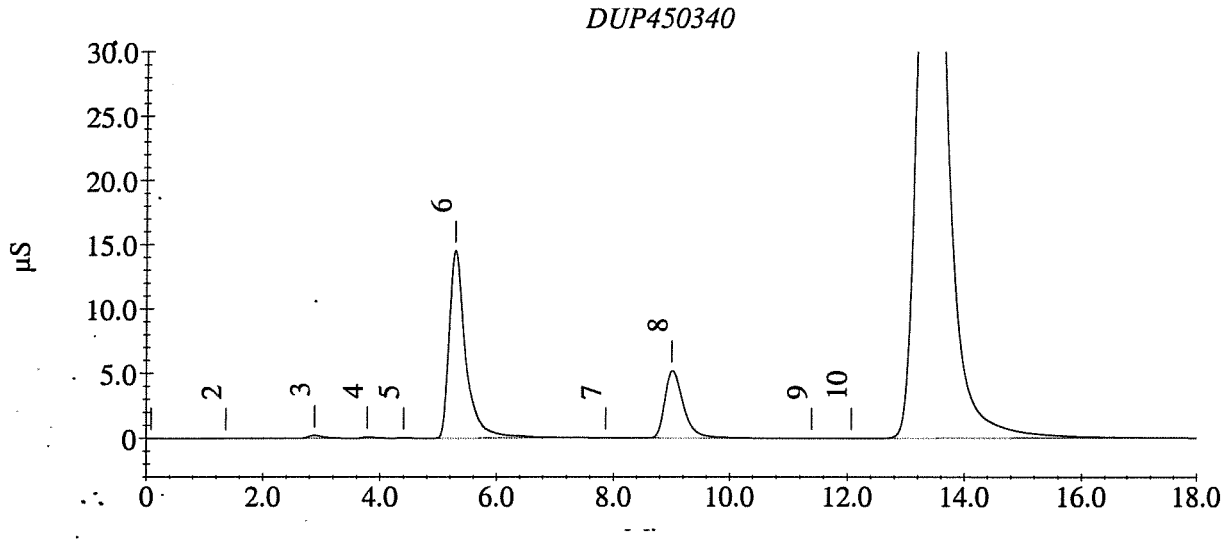
Sample Analysis Report

Sample Name : DUP450340
Data File Name : c:\instarch\data\system 2\072420 -\DUP450340_016.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 18:05
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.78	0.1924	16699	1152	
6	Chloride	5.28	17.9406	2862008	145068	
7	Bromide	7.87	0.0748	2063	144	
8	Nitrate	9.00	3.2618	1155409	51630	
10	O.Phos	12.07	0.2759	3016	151	
11	Sulfate	13.37	171.5681	19361040	582578	+



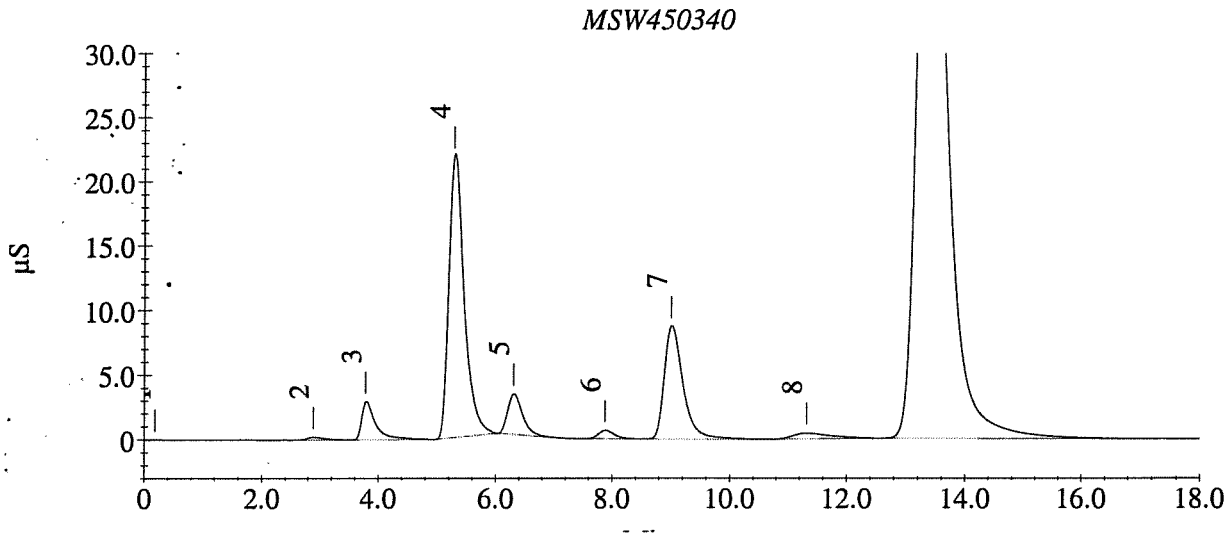
Sample Analysis Report

Sample Name : MSW450340
Data File Name : c:\instarch\data\system 2\072420 -\MSW450340_017.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 18:26
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.78	2.4208	497239	29323	
4	Chloride	5.28	24.9007	4003398	217772	
5	Nitrite	6.30	1.9898	560875	31069	
6	Bromide	7.88	2.2821	125837	6587	
7	Nitrate	9.00	5.4409	1940414	87187	
8	O.Phos	11.32	2.5825	205981	4548	
9	Sulfate	13.37	171.8624	19394363	581476	+



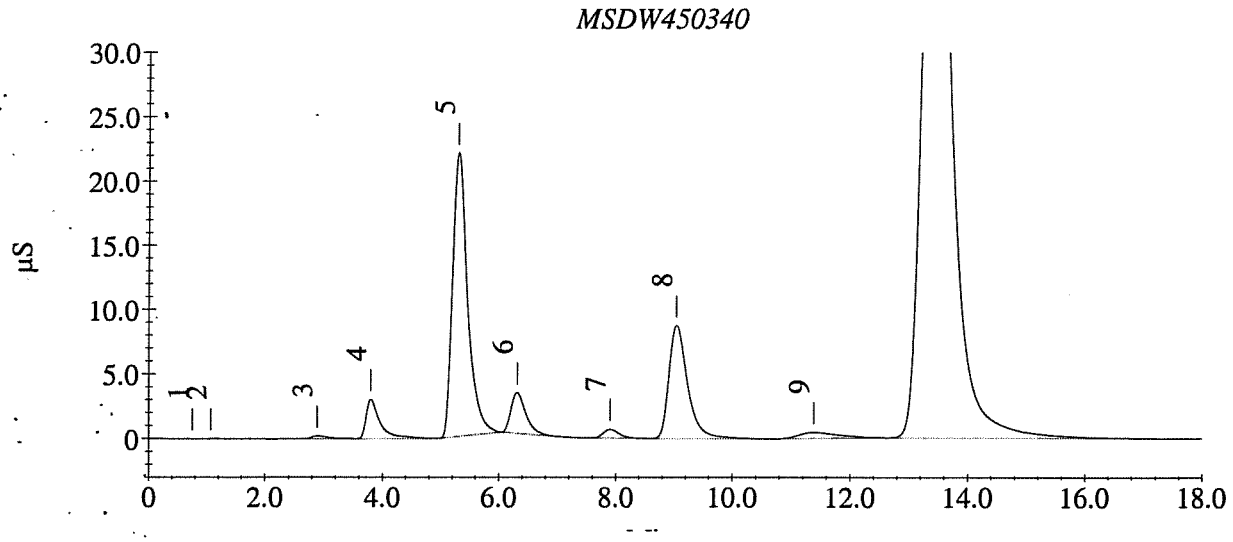
Sample Analysis Report

Sample Name : MSDW450340
Data File Name : c:\instarch\data\system 2\072420 -\MSDW450340_018.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 18:46
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.80	2.4288	498965	30248	
5	Chloride	5.30	24.6949	3969644	220042	
6	Nitrite	6.32	1.9945	562228	31474	
7	Bromide	7.90	2.3157	127726	6755	
8	Nitrate	9.03	5.4762	1953146	87443	
9	O.Phos	11.38	2.7592	221530	4650	
10	Sulfate	13.38	170.4068	19229558	581016	+



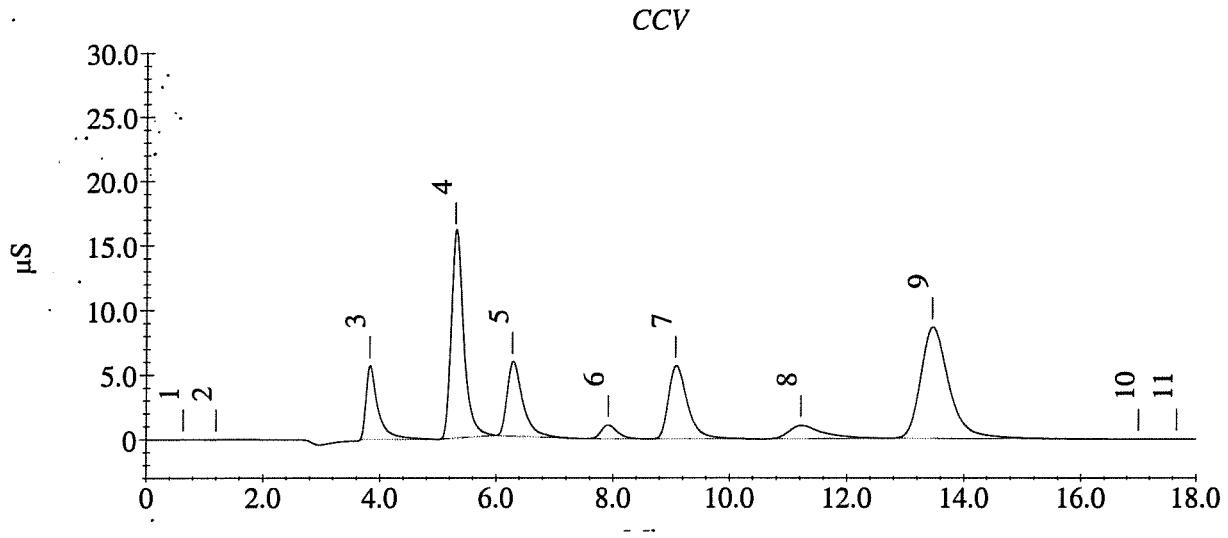
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\072420 -\CCV_022.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 20:07
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.82	3.9272	822083	56497	
4	Chloride	5.30	15.1087	2397586	158915	
5	Nitrite	6.28	3.7913	1079167	57189	
6	Bromide	7.92	3.7720	209388	10683	
7	Nitrate	9.07	3.6530	1296335	56282	
8	O.Phos	11.22	4.9802	416968	10247	
9	Sulfate	13.45	26.1860	2900690	85949	



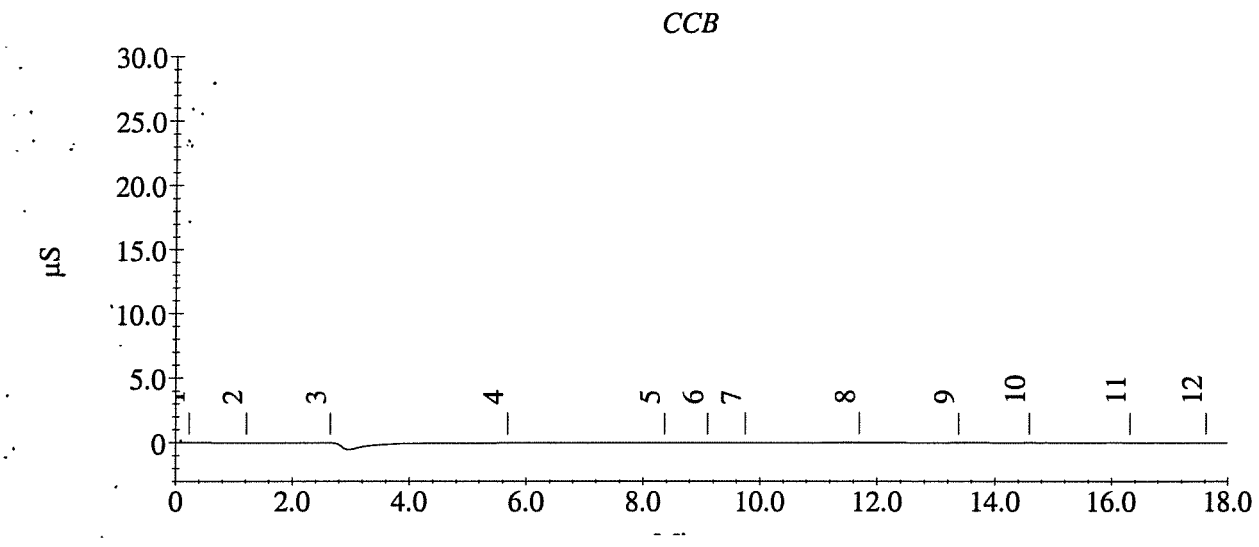
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\072420 -\CCB_023.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/24/20 20:27
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Chloride	5.68	0.5026	2321	140	
5	Nitrate	8.37	0.0576	1125	83	
8	O.Phos	11.70	0.5267	25080	446	
9	Sulfate	13.38	0.5769	1198	78	



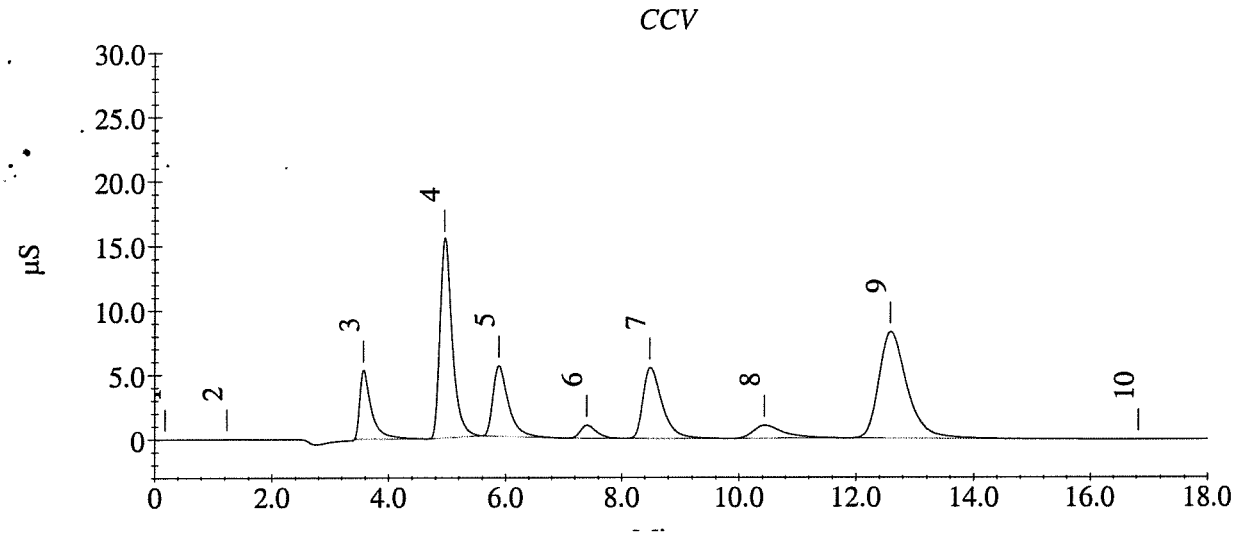
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\072420 -\CCV_029.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 08:07
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.57	3.5954	750526	53281	
4	Chloride	4.95	14.1537	2240979	153339	
5	Nitrite	5.88	3.5823	1019063	54601	
7	Nitrate	8.48	3.5075	1243954	54729	
8	O.Phos	10.43	4.5625	380209	10259	
9	Sulfate	12.58	24.7652	2739834	82496	



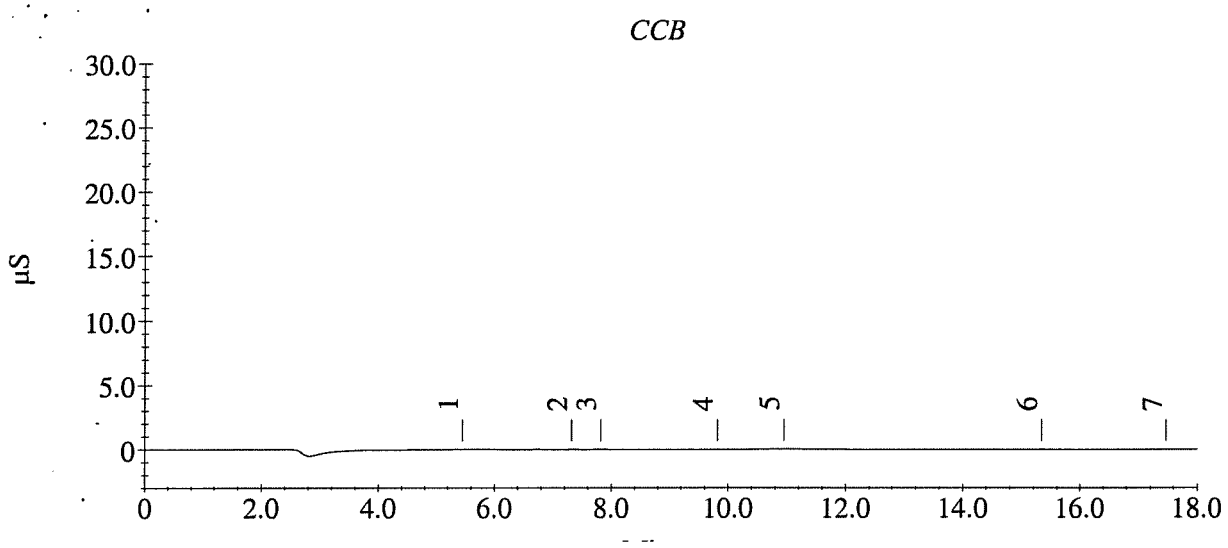
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\072420 -\CCB_030.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 08:27
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
5	O.Phos	10.95	0.3307	7837	209	



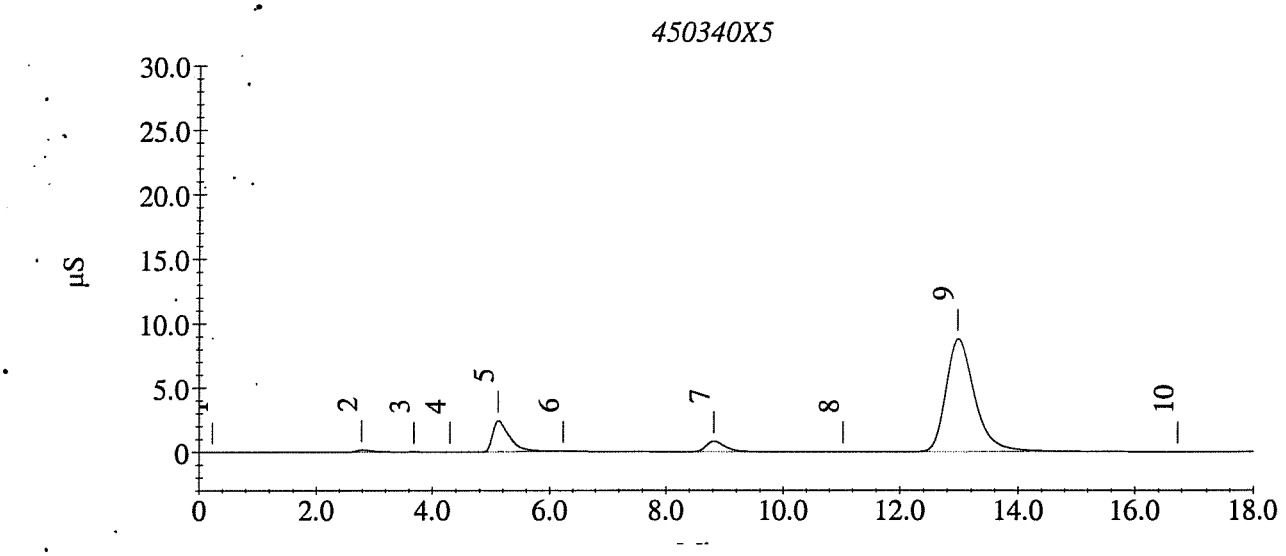
Sample Analysis Report

Sample Name : 450340X5
Data File Name : c:\instarch\data\system 2\072420 -\450340X5_031.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 08:47
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.68	0.1302	3296	204	
5	Chloride	5.12	3.4051	478297	24107	
6	Nitrite	6.23	0.0588	5330	349	
7	Nitrate	8.82	0.5583	181515	8142	
8	O.Phos	11.03	0.2647	2032	129	
9	Sulfate	12.97	26.4354	2928936	87421	



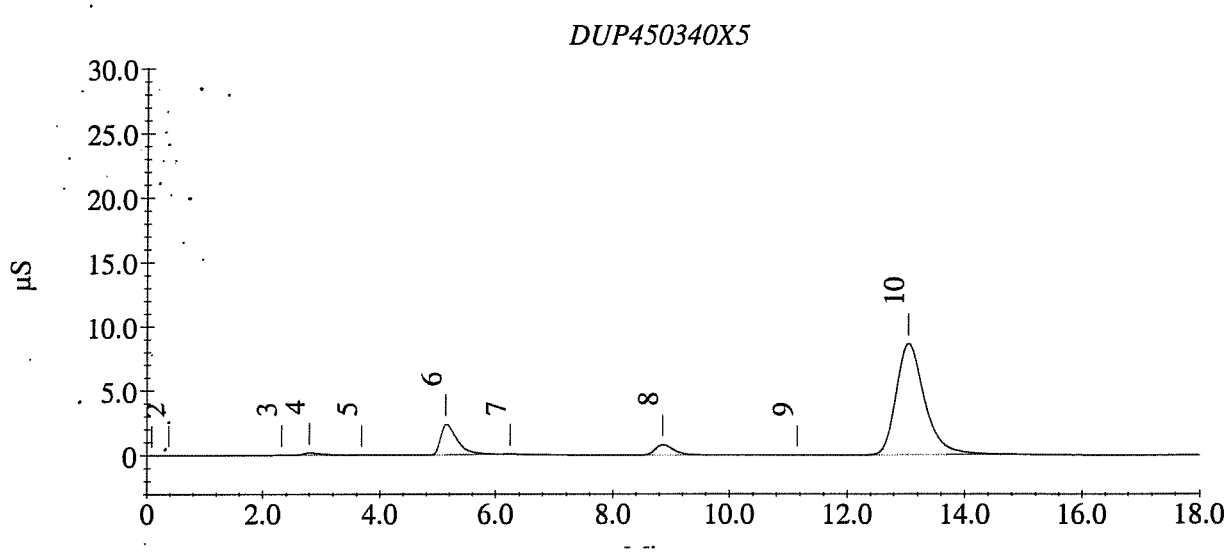
Sample Analysis Report

Sample Name : DUP450340X5
Data File Name : c:\instarch\data\system 2\072420 -\DUP450340X5_032.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 09:08
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
5	Fluoride	3.68	0.1302	3303	205	
6	Chloride	5.13	3.3692	472407	23489	
7	Nitrite	6.25	0.0573	4916	298	
8	Nitrate	8.85	0.5354	173281	7942	
9	O.Phos	11.15	0.2596	1578	71	
10	Sulfate	13.03	26.1872	2900826	86188	



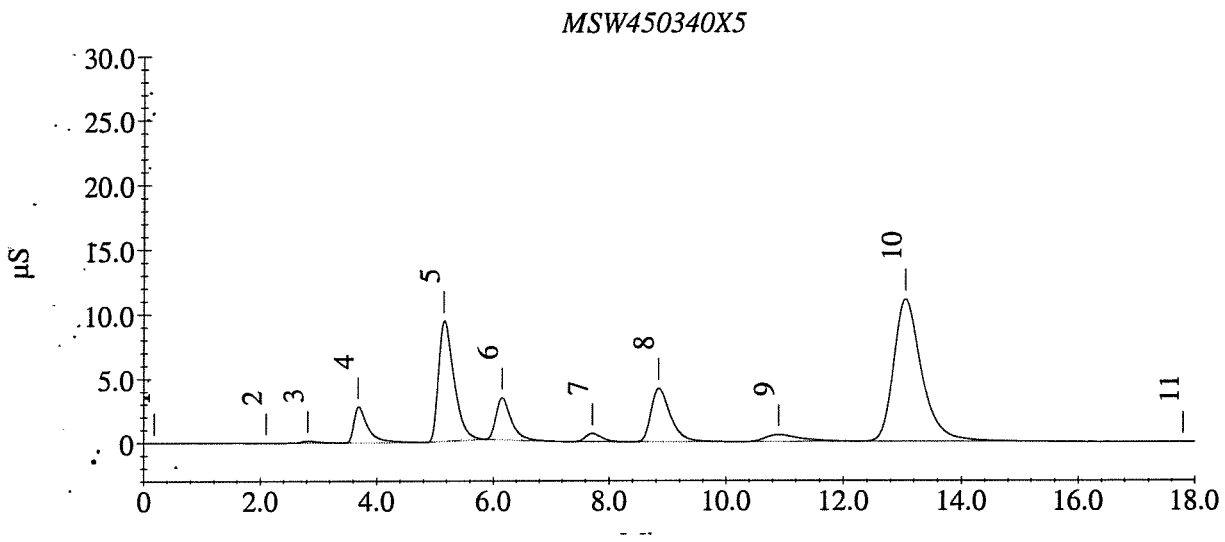
Sample Analysis Report

Sample Name : MSW450340X5
Data File Name : c:\instarch\data\system 2\072420 -\MSW450340X5_033.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 09:28
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.68	2.2593	462423	27840	
5	Chloride	5.15	10.9755	1719775	93279	
6	Nitrite	6.15	2.1625	610573	32681	
7	Bromide	7.72	2.2779	125603	6544	
8	Nitrate	8.83	2.7115	957172	41634	
9	O.Phos	10.90	2.9150	235236	5612	
10	Sulfate	13.05	33.2284	3698047	110375	



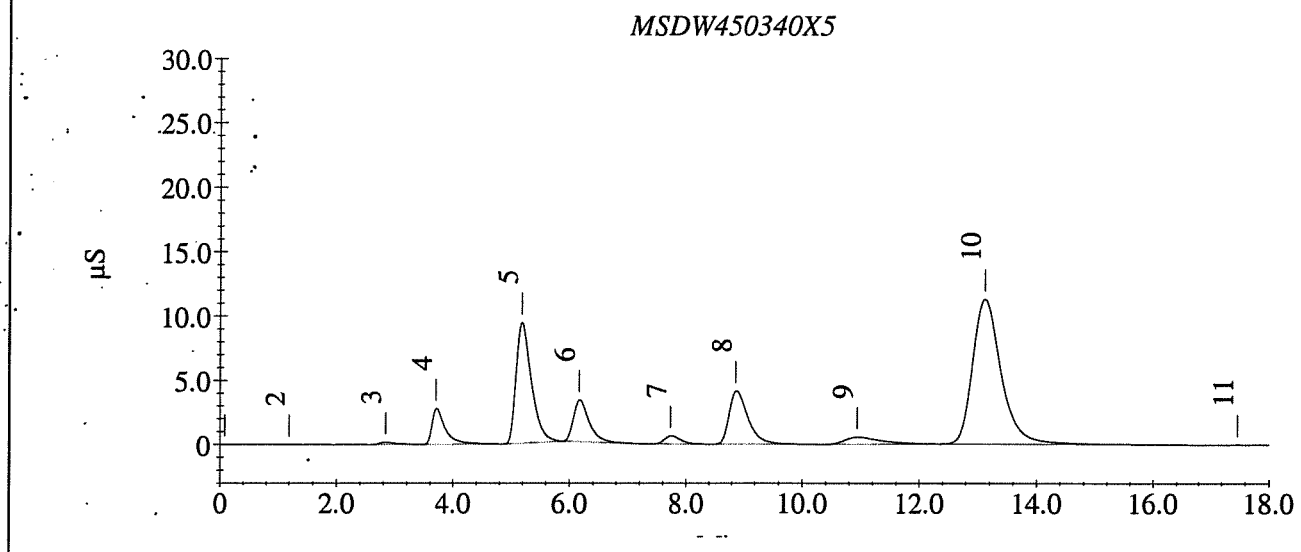
Sample Analysis Report

Sample Name : MSDW450340X5
Data File Name : c:\instarch\data\system 2\072420 -\MSDW450340X5_034.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 09:48
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Fluoride	3.70	2.2509	460613	27658	
5	Chloride	5.18	11.0498	1731971	93766	
6	Nitrite	6.17	2.1518	607492	32351	
7	Bromide	7.73	2.2886	126207	6398	
8	Nitrate	8.87	2.7003	953138	41335	
9	O.Phos	10.93	3.0575	247774	5665	
10	Sulfate	13.12	34.0034	3785792	112514	



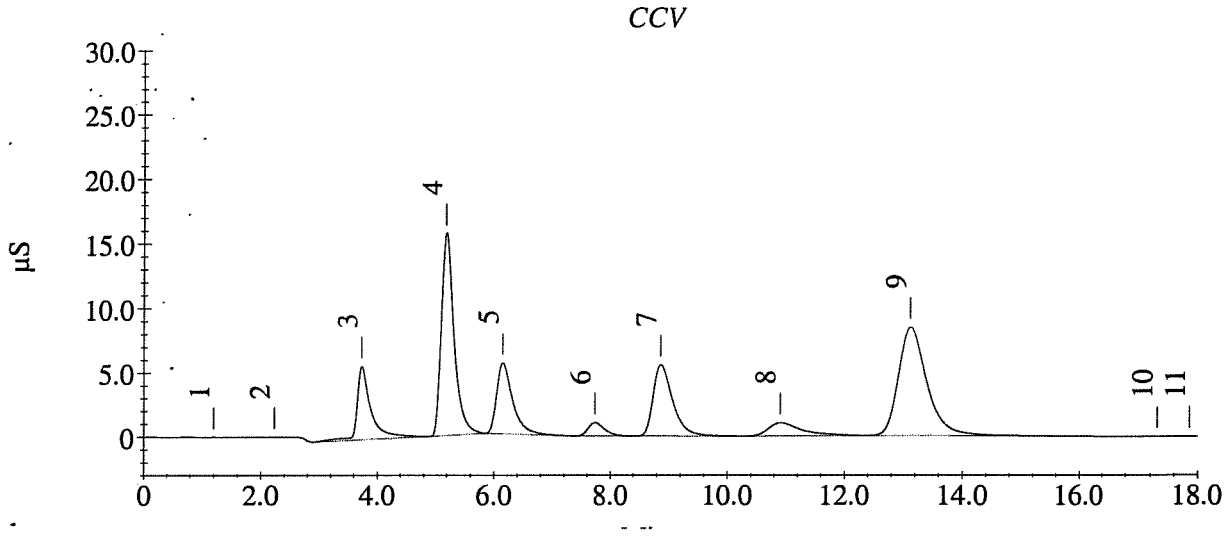
Sample Analysis Report

Sample Name : CCV
Data File Name : c:\instarch\data\system 2\072420 -\CCV_038.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 11:09
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
3	Fluoride	3.73	4.5122	948229	57071	
4	Chloride	5.18	14.9284	2368029	156627	
5	Nitrite	6.15	3.7078	1055142	55236	
6	Bromide	7.73	3.7104	205936	10404	
7	Nitrate	8.87	3.6248	1286206	55556	
8	O.Phos	10.90	4.9830	417210	10422	
9	Sulfate	13.12	25.6187	2836461	84286	



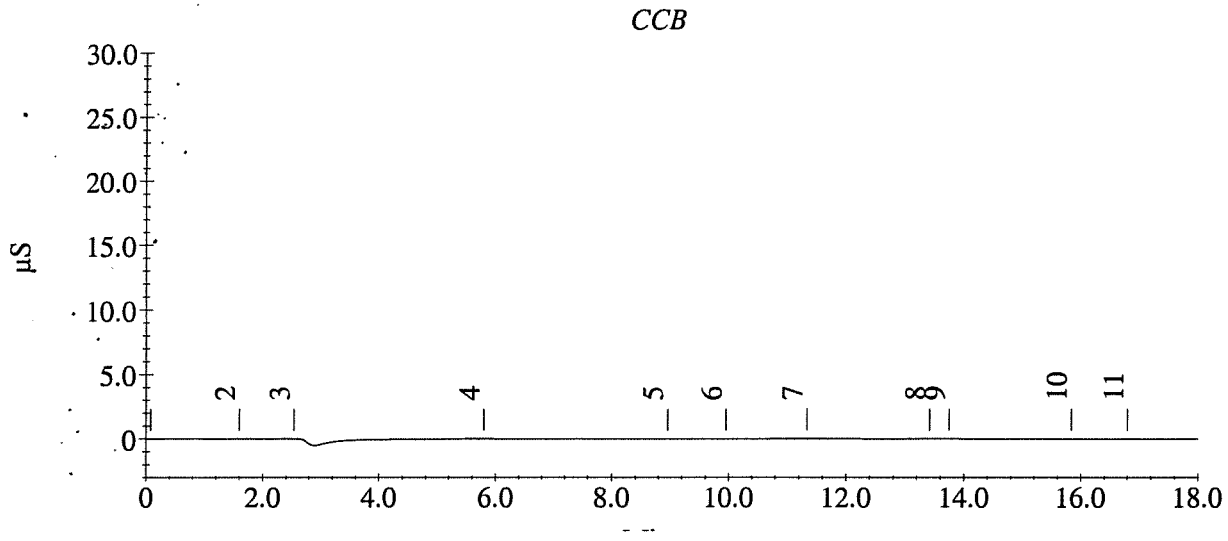
Sample Analysis Report

Sample Name : CCB
Data File Name : c:\instarch\data\system 2\072420 -\CCB_039.DXD

Method File Name : c:\instarch\methods\system 2\ic3033.met
Date Time Collected : 7/27/20 11:29
System Operator : TMG

Peak Information : Found Components

Peak #	Component Name	Retention Time	Amount	Peak Area	Peak Height	Limit Exceeded
4	Nitrite	5.80	0.0728	9374	197	
7	O.Phos	11.33	0.4494	18283	345	
8	Sulfate	13.42	0.5837	1972	80	



pH - Mettler Toledo Seven Easy

	Date:	07/24/2020		Analyst:	HLB	Lims #:	173461	Slope (%)	97%

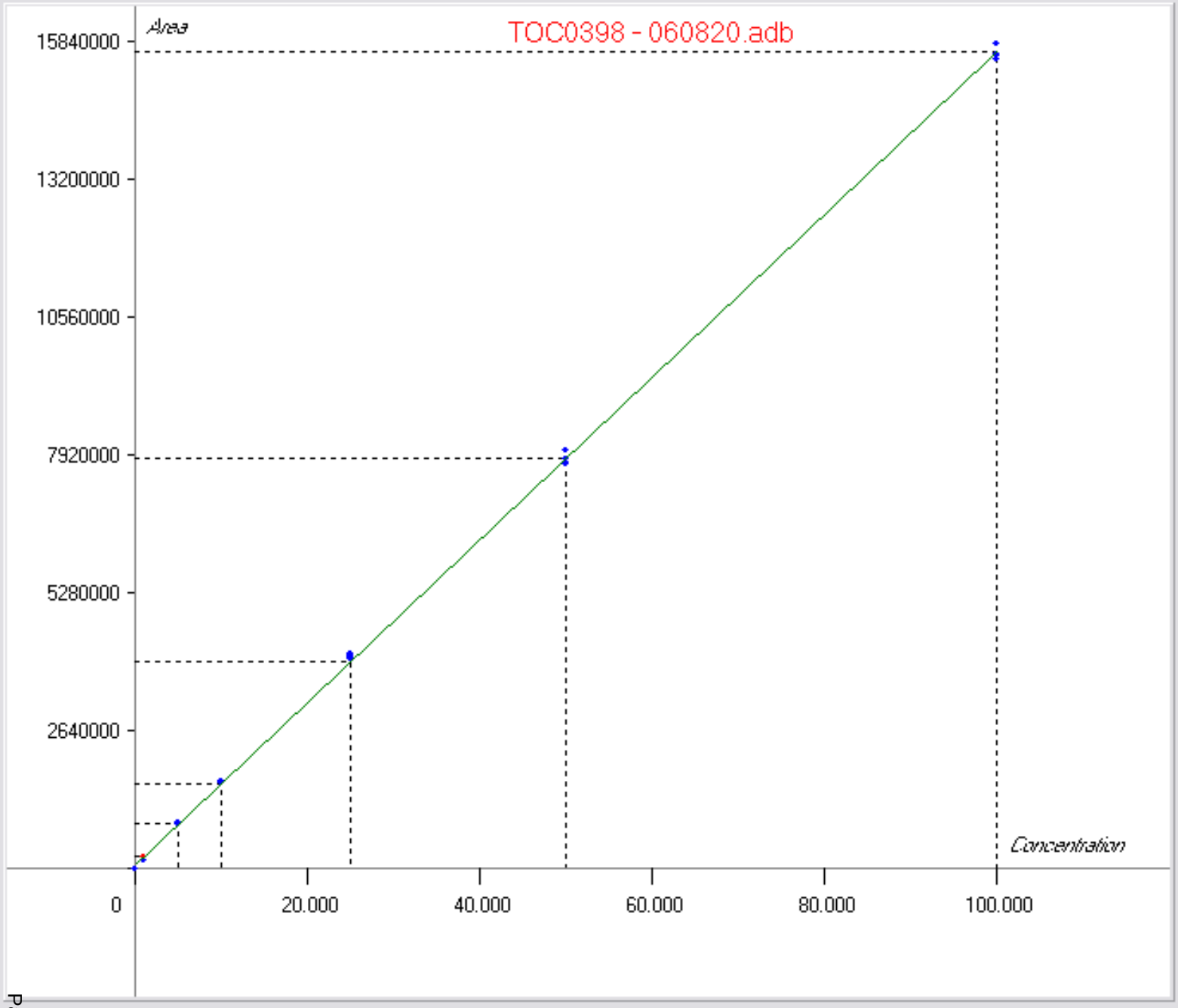
GRP	Sample ID#	Matrix					Temp (°C)*	Result	
1	BUFFER 7	QC					20.0	7.03	
2									
3									
4									
5									
6									
7	450456	WW					15.7	9.56	
8	450458	WW					15.2	9.30	
9	450459	WW					15.1	7.43	
10	450460	WW					14.7	7.94	
11	450461	WW					14.7	8.08	
dup 11	450461	WW					14.5	8.07	
12	BUFFER 7	QC					19.7	7.04	
13									
14									
15									
16									
17									
18									
19									
20									
21									
23	450344	GW					16.3	7.99	
dup 23	450344	GW					16.4	8.01	
24	BUFFER 7								
25									
dup 25									
26									
dup 26									

To datacapture: Save CSV file under the TSS datacapture folder.

*Temperature of samples should be room temperature around 25°C

Buffer Standard IDs:

pH 4: WC38 pH 7: WC70 pH 10: WC105



Cursor Position

Concentration	Area
119.400 mg/l	-2046000

A2	0
A1	155770
A0	89095
Correlation	0.99987
Order	1
Volume	100 µl
Conc.	100.00
Area	15814248

☐ Confidence Intervals 95%

☐ Detection/Determination 95%

Conc.	Area	Sel.
0	0	☑
0	0	☑
0	0	☑
0	0	☑
1	236737	☐
1	188301	☑
1	172704	☑
1	183870	☑

• Used Value
• Ignored Value

CurveNo:1 CurveType:TC

<-- --> Print... Exit

06/10/2020

Analysis Name TOC0398 - 060820.adb

Template Name CURVE TEMP.tdb
Method Name N / A
Operator KMT

Date Monday, June 8, 2020
Time 16:30

Start Oven Temp. 765 °C
Start Cooler Temp. 2 °C

Version 2.55 Release
Info INST: TOCW
ICAL TOC0376 ICV TOC0359

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	This Analysis	Jun 8 2020, 16:30	15814248	100	1	0.99987	100 µl	Yes
	A2: 0		*A1: 155769.996641552*		*A0: 89094.5916376438*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 16:41:38	0.34	142490	1	763	2	-	-
2	6 8 2020 16:44:44	0.00	0	0	762	2	-	Yes
3	6 8 2020 16:48:45	0.00	0	0	761	2	-	Yes
4	6 8 2020 16:52:46	0.00	0	0	760	2	-	Yes
5	6 8 2020 16:56:48	0.00	0	0	760	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
2	2	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 17:01:38	0.00	0	0	760	2	-	Yes
2	6 8 2020 17:06:16	0.00	0	0	760	2	-	Yes
3	6 8 2020 17:10:17	0.00	0	0	760	2	-	Yes
4	6 8 2020 17:14:19	0.00	0	0	760	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
3	3	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 17:19:10	0.00	0	0	759	2	-	Yes
2	6 8 2020 17:23:48	0.00	0	0	758	2	-	Yes
3	6 8 2020 17:27:50	0.00	0	0	758	2	-	Yes
4	6 8 2020 17:31:51	0.00	0	0	757	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
4	4	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 17:36:43	0.00	0	0	756	2	-	Yes
2	6 8 2020 17:41:21	0.00	0	0	756	2	-	Yes
3	6 8 2020 17:45:22	0.00	0	0	755	2	-	Yes
4	6 8 2020 17:49:24	0.00	0	0	755	2	-	Yes

Inj. Order	Position	Type	Identification	Dilution Factor
5	5	Unknown	BLANK	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 17:54:16	0.00	0	0	755	2	-	Yes
2	6 8 2020 17:58:54	0.00	0	0	755	2	-	Yes
3	6 8 2020 18:02:57	0.00	0	0	755	2	-	Yes
4	6 8 2020 18:06:58	0.00	0	0	754	2	-	Yes

---

6 S1 Standard TC Std 0.00 mg/l 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 18:11:49	0.00	0	1	754	2	-	Yes
2	6 8 2020 18:16:26	0.00	0	1	754	2	-	Yes
3	6 8 2020 18:20:28	0.00	0	1	753	2	-	Yes
4	6 8 2020 18:24:28	0.00	0	1	753	2	-	Yes

---

7 S2 Standard TC Std 1.00 mg/l 1 x

TC **0.62** **185570** **5.53** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 18:29:22	0.95	236737	1	753	2	-	-
2	6 8 2020 18:32:33	0.64	188301	1	753	2	-	Yes
3	6 8 2020 18:34:56	0.54	172704	1	752	2	-	Yes
4	6 8 2020 18:37:16	0.61	183870	1	752	2	-	Yes
5	6 8 2020 18:39:42	0.70	197405	1	752	2	-	Yes

---

8 S3 Standard TC Std. 5.00 mg/l 1 x

TC **5.20** **899352** **1.87** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 18:42:59	5.22	902554	1	753	2	-	Yes
2	6 8 2020 18:46:17	5.05	874998	1	753	2	-	Yes
3	6 8 2020 18:48:51	5.25	906925	1	752	2	-	Yes
4	6 8 2020 18:51:33	5.29	912934	1	752	2	-	Yes

---

9 S4 Standard TC Std. 10.00 mg/l 1 x

TC **10.30** **1693392** **1.05** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 18:55:12	10.42	1712111	1	753	2	-	Yes
2	6 8 2020 18:58:39	10.37	1704242	1	752	2	-	Yes
3	6 8 2020 19:01:26	10.24	1683437	1	753	2	-	Yes
4	6 8 2020 19:04:09	10.17	1673781	1	752	2	-	Yes

---

10 S5 Standard TC Std. 25.00 mg/l 1 x

TC **25.73** **4096491** **0.87** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 19:07:45	25.85	4116283	1	753	2	-	Yes
2	6 8 2020 19:11:22	25.46	4054952	1	752	2	-	Yes
3	6 8 2020 19:14:15	25.97	4134675	1	752	2	-	Yes
4	6 8 2020 19:17:18	25.62	4080057	1	752	2	-	Yes

---

11 S6 Standard TC Std. 50.00 mg/l 1 x

TC **49.89** **7859913** **1.45** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 19:21:05	50.92	8021301	1	752	2	-	Yes
2	6 8 2020 19:24:50	49.86	7856205	1	752	2	-	Yes
3	6 8 2020 19:28:05	49.49	7798294	1	752	2	-	Yes
4	6 8 2020 19:31:16	49.27	7763855	1	752	2	-	Yes

---

12 S7 Standard TC Std. 100.00 mg/l 1 x

TC **99.84** **15641010** **0.78** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	6 8 2020 19:35:15	99.47	15583764	1	752	2	-	Yes
2	6 8 2020 19:39:11	99.76	15628181	1	752	2	-	Yes
3	6 8 2020 19:42:38	99.18	15537849	1	752	2	-	Yes
4	6 8 2020 19:45:52	100.95	15814248	1	752	2	-	Yes

---

13 S8 Unknown ICV - 50.00 mg/L 1 x

		TC	**48.76**	**7684474**	**0.06**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	6 8 2020 19:50:10	48.75	7682462	1	752	2	-	Yes
	2	6 8 2020 19:53:58	48.72	7678407	1	752	2	-	Yes
	3	6 8 2020 19:57:03	48.79	7688578	1	752	2	-	Yes
	4	6 8 2020 20:00:01	48.79	7688451	1	752	2	-	Yes

14	S9	Unknown	ICB				1 x		
		TC	**0.00**	**0**	**0.00**		**100 µl**		
	Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
	1	6 8 2020 20:04:04	0	0	0	752	2	-	Yes
	2	6 8 2020 20:08:40	0	0	0	752	2	-	Yes
	3	6 8 2020 20:12:42	0	0	0	752	2	-	Yes
	4	6 8 2020 20:16:44	0	0	0	752	2	-	Yes

Analysis Name 073020 - 173665 173666 173667 173668.adb

Template Name	073020 - 173665 173666 173667 173668.tdb
Method Name	N / A
Operator	KMT
Date	Friday, July 31, 2020
Time	11:18
Start Oven Temp.	787 °C
Start Cooler Temp.	2 °C
Version	2.55 Release
Info	ICAL 0398 INST: TOCW CCV 0411 LCS 0407 SPIKE 0359

Element	Integration Time	Samples	Extra Samples	Max. CV
Carbon	60 s	4	1	10 %
SampleTime	240 s			

No	Type	FileName	Date/Time	Max. Area	Max Conc.	Order	Correlation	Volume	Sel.
1	TC	TOC0398 - 060820	Jun 8 2020, 16:30	15814248	100	1	0.99987	100 µl	Yes
	A2: 0		*A1: 155769.996641552*		*A0: 89094.5916376438*				

Inj. Order	Position	Type	Identification	Dilution Factor
1	1	Unknown	IB	1 x

Injection Type	Conc.	Area	CV	Inj. Volume
TC	**0.00**	**0**	**0.00**	**100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 11:29:09	6.51	1103917	1	783	2	-	-
2	7 31 2020 11:33:02	0	0	0	780	2	-	Yes
3	7 31 2020 11:37:04	0	0	0	778	2	-	Yes
4	7 31 2020 11:41:05	0	0	0	776	2	-	Yes
5	7 31 2020 11:45:06	0	0	0	775	2	-	Yes

2	S1	Unknown	CCV	1 x

TC		**53.66**	**8448186**	**1.01**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 11:49:58	54.43	8568231	1	773	2	-	Yes
2	7 31 2020 11:53:46	53.67	8449057	1	771	2	-	Yes
3	7 31 2020 11:56:52	53.22	8379290	1	769	2	-	Yes
4	7 31 2020 11:59:59	53.33	8396169	1	768	2	-	Yes

3	S5	Unknown	LCSW	1 x

TC		**53.44**	**8414135**	**1.05**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 12:03:56	53.14	8367040	1	767	2	-	Yes
2	7 31 2020 12:07:50	54.28	8544795	1	766	2	-	Yes
3	7 31 2020 12:11:11	53.08	8357905	1	765	2	-	Yes
4	7 31 2020 12:14:23	53.27	8386801	1	764	2	-	Yes

4	2	Unknown	MBW	1 x

TC		**0.07**	**55698**	**116.54**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 12:18:29	0.21	122139	1	763	2	-	Yes
2	7 31 2020 12:21:38	0	0	0	763	2	-	Yes
3	7 31 2020 12:25:39	0.07	100656	1	762	2	-	Yes
4	7 31 2020 12:28:04	0	0	0	761	2	-	Yes
5	7 31 2020 12:32:05	0	0	0	761	2	-	-

---

5 3 Unknown IB 1 x

TC **ZERO !** **49026** **128.27** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 12:36:57	0.27	131597	1	761	2	-	Yes
2	7 31 2020 12:40:07	ZERO !	64507	1	760	2	-	Yes
3	7 31 2020 12:42:32	0	0	0	760	2	-	Yes
4	7 31 2020 12:46:34	0	0	0	760	2	-	Yes
5	7 31 2020 12:50:35	0	0	0	759	2	-	-

---

6 4 Unknown 447446 1 x

TC **1.01** **246020** **11.25** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 12:55:28	1.66	348051	1	758	2	-	-
2	7 31 2020 12:58:45	1.27	286666	1	757	2	-	Yes
3	7 31 2020 13:01:19	0.93	233585	1	757	2	-	Yes
4	7 31 2020 13:04:01	0.96	238707	1	756	2	-	Yes
5	7 31 2020 13:06:28	0.87	225123	1	756	2	-	Yes

---

7 5 Unknown 447448 1 x

TC **0.33** **140201** **6.70** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 13:09:43	0.82	217326	1	756	2	-	-
2	7 31 2020 13:12:56	0.33	140251	1	755	2	-	Yes
3	7 31 2020 13:15:17	0.36	145476	1	755	2	-	Yes
4	7 31 2020 13:17:41	0.24	126993	1	754	2	-	Yes
5	7 31 2020 13:20:07	0.38	148084	1	754	2	-	Yes

---

8 6 Unknown 449251 1 x

TC **4.14** **734006** **3.94** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 13:23:26	5.55	953012	1	754	2	-	-
2	7 31 2020 13:27:08	3.92	700211	1	754	2	-	Yes
3	7 31 2020 13:29:55	4.05	720629	1	753	2	-	Yes
4	7 31 2020 13:32:35	4.33	763918	1	753	2	-	Yes
5	7 31 2020 13:35:34	4.25	751268	1	753	2	-	Yes

---

9 7 Unknown 449273 1 x

TC **1.61** **339411** **5.71** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 13:39:17	1.78	365690	1	753	2	-	Yes
2	7 31 2020 13:42:21	1.62	341375	1	752	2	-	Yes
3	7 31 2020 13:44:46	1.54	329310	1	752	2	-	Yes
4	7 31 2020 13:47:08	1.49	321270	1	752	2	-	Yes

---

10 8 Unknown 449275 1 x

TC **10.79** **1770372** **2.55** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 13:50:24	11.22	1836975	1	752	2	-	Yes
2	7 31 2020 13:53:42	10.58	1736685	1	752	2	-	Yes
3	7 31 2020 13:56:13	10.69	1754456	1	752	2	-	Yes
4	7 31 2020 13:58:48	10.68	1753373	1	752	2	-	Yes

---

11 9 Unknown 449277 1 x

TC **1.18** **273653** **8.18** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 14:02:11	1.38	304718	1	752	2	-	Yes
2	7 31 2020 14:05:06	1.04	251396	1	752	2	-	Yes
3	7 31 2020 14:07:16	1.15	268032	1	752	2	-	Yes
4	7 31 2020 14:09:26	1.16	270467	1	752	2	-	Yes

---

12 10 Unknown 449280 1 x

TC **ZERO !** **-94682** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 14:13:20	0.59	180904	1	753	2	-	-
2	7 31 2020 14:16:08	ZERO !	-164190	1	752	2	-	Yes

3	7 31 2020 14:20:09	ZERO !	-163450	1	753	2	-	Yes
4	7 31 2020 14:24:10	0.36	145423	1	753	2	-	Yes
5	7 31 2020 14:26:16	ZERO !	-196511	1	752	2	-	Yes

13 11 Unknown 449282 1 x

TC **ZERO !** **-84322** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 14:30:54	ZERO !	-13711	1	753	2	-	Yes
2	7 31 2020 14:35:32	ZERO !	-142060	1	753	2	-	Yes
3	7 31 2020 14:39:34	0.83	218094	1	754	2	-	-
4	7 31 2020 14:41:41	ZERO !	-114870	1	753	2	-	Yes
5	7 31 2020 14:45:43	ZERO !	-66650	1	754	2	-	Yes

14 12 Unknown 449284 1 x

TC **0.80** **213051** **9.76** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 14:49:58	0.94	236094	1	754	2	-	Yes
2	7 31 2020 14:52:45	0.69	196561	1	753	2	-	Yes
3	7 31 2020 14:54:50	0.68	194404	1	752	2	-	Yes
4	7 31 2020 14:56:55	0.87	225146	1	752	2	-	Yes

15 S1 Unknown CCV 1 x

TC **50.82** **8005551** **0.44** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 15:01:05	50.58	7967436	1	753	2	-	Yes
2	7 31 2020 15:04:44	51.08	8045964	1	753	2	-	Yes
3	7 31 2020 15:07:44	50.92	8021309	1	753	2	-	Yes
4	7 31 2020 15:10:45	50.71	7987498	1	753	2	-	Yes

16 13 Unknown CCB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 15:14:30	0	0	0	753	2	-	Yes
2	7 31 2020 15:19:08	0	0	0	753	2	-	Yes
3	7 31 2020 15:23:09	0	0	0	753	2	-	Yes
4	7 31 2020 15:27:11	0	0	0	753	2	-	Yes

17 14 Unknown 449286 1 x

TC **1.84** **375978** **4.72** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 15:32:05	2.70	509534	1	753	2	-	-
2	7 31 2020 15:35:14	1.68	350667	1	752	2	-	Yes
3	7 31 2020 15:37:33	1.85	376688	1	752	2	-	Yes
4	7 31 2020 15:39:51	1.92	388776	1	752	2	-	Yes
5	7 31 2020 15:42:12	1.92	387783	1	752	2	-	Yes

18 15 Unknown 449288 1 x

TC **1.30** **291091** **2.68** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 15:45:21	1.77	364150	1	753	2	-	-
2	7 31 2020 15:48:21	1.36	300373	1	752	2	-	Yes
3	7 31 2020 15:50:36	1.31	292681	1	752	2	-	Yes
4	7 31 2020 15:52:49	1.24	281502	1	752	2	-	Yes
5	7 31 2020 15:55:00	1.29	289808	1	752	2	-	Yes

19 16 Unknown 450263 1 x

TC **ZERO !** **-105332** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 15:58:03	ZERO !	-63894	1	752	2	-	Yes
2	7 31 2020 16:02:31	0.31	137664	1	753	2	-	-
3	7 31 2020 16:04:39	0.22	123805	1	752	2	-	Yes
4	7 31 2020 16:06:45	ZERO !	-194004	1	752	2	-	Yes
5	7 31 2020 16:10:48	ZERO !	-287237	1	753	2	-	Yes

20 17 Unknown 450267 1 x

		TC	**ZERO !**	**-6582**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 16:15:40	1.13	265206	1	753	2	-	-
2		7 31 2020 16:18:28	ZERO !	-149595	1	752	2	-	Yes
3		7 31 2020 16:22:30	ZERO !	13542	1	753	2	-	Yes
4		7 31 2020 16:25:46	0.78	210386	1	752	2	-	Yes
5		7 31 2020 16:27:52	ZERO !	-100663	1	751	2	-	Yes

21	18	Unknown	450269	1 x

		TC	**ZERO !**	**132765**		**124.93**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 16:32:46	0.93	233709	1	753	2	-	Yes
2		7 31 2020 16:35:34	ZERO !	-115158	1	752	2	-	Yes
3		7 31 2020 16:39:22	0.79	212216	1	752	2	-	Yes
4		7 31 2020 16:41:28	ZERO !	-164541	1	752	2	-	-
5		7 31 2020 16:45:29	0.71	200295	1	752	2	-	Yes

22	19	Unknown	450271	1 x

		TC	**ZERO !**	**-261182**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 16:48:26	ZERO !	-180332	1	752	2	-	-
2		7 31 2020 16:53:03	ZERO !	-272643	1	752	2	-	Yes
3		7 31 2020 16:56:54	ZERO !	-291090	1	752	2	-	Yes
4		7 31 2020 17:00:56	ZERO !	-237549	1	752	2	-	Yes
5		7 31 2020 17:04:58	ZERO !	-243449	1	752	2	-	Yes

23	20	Unknown	DUP450271	1 x

		TC	**ZERO !**	**-250879**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 17:09:52	0.40	151585	1	752	2	-	-
2		7 31 2020 17:12:38	ZERO !	-278001	1	751	2	-	Yes
3		7 31 2020 17:16:39	ZERO !	-262382	1	751	2	-	Yes
4		7 31 2020 17:20:40	ZERO !	-199779	1	752	2	-	Yes
5		7 31 2020 17:24:12	ZERO !	-263357	1	752	2	-	Yes

24	21	Unknown	MSW450271	1 x

		TC	**51.09**	**8047679**		**0.68**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 17:28:58	50.67	7981351	1	752	2	-	Yes
2		7 31 2020 17:32:27	51.43	8099630	1	752	2	-	Yes
3		7 31 2020 17:35:17	50.94	8024698	1	752	2	-	Yes
4		7 31 2020 17:38:05	51.33	8085038	1	752	2	-	Yes

25	22	Unknown	MSDW450271	1 x

		TC	**50.54**	**7961062**		**0.60**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 17:41:44	50.83	8006133	1	752	2	-	Yes
2		7 31 2020 17:45:20	50.73	7990900	1	752	2	-	Yes
3		7 31 2020 17:48:12	50.14	7899424	1	752	2	-	Yes
4		7 31 2020 17:50:58	50.45	7947793	1	752	2	-	Yes

26	S1	Unknown	CCV	1 x

		TC	**51.16**	**8058838**		**0.45**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 17:54:36	51.05	8040795	1	752	2	-	Yes
2		7 31 2020 17:58:22	51.13	8054246	1	752	2	-	Yes
3		7 31 2020 18:01:20	51.50	8111560	1	752	2	-	Yes
4		7 31 2020 18:04:17	50.97	8028752	1	752	2	-	Yes

27	S5	Unknown	LCSW	1 x

		TC	**51.04**	**8039457**		**1.16**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 18:08:08	51.13	8053190	1	752	2	-	Yes
2		7 31 2020 18:11:50	50.43	7944404	1	752	2	-	Yes
3		7 31 2020 18:14:48	50.77	7997343	1	752	2	-	Yes

4	7 31 2020 18:17:46	51.83	8162892	1	752	2	-	Yes

28 23 Unknown MBW-CCB 1 x

	TC	**0.00**	**0**	**0.00**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 18:21:39	0.07	99695	1	752	2	-	-
2	7 31 2020 18:24:35	0	0	0	752	2	-	Yes
3	7 31 2020 18:28:36	0	0	0	752	2	-	Yes
4	7 31 2020 18:32:37	0	0	0	752	2	-	Yes
5	7 31 2020 18:36:40	0	0	0	752	2	-	Yes

29 24 Unknown 447280 1 x

	TC	**ZERO !**	**105057**	**33.97**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 18:41:33	0.44	158093	1	753	2	-	Yes
2	7 31 2020 18:44:34	0	0	0	752	2	-	-
3	7 31 2020 18:48:34	0.00	89233	1	752	2	-	Yes
4	7 31 2020 18:50:53	ZERO !	80780	1	752	2	-	Yes
5	7 31 2020 18:53:06	0.02	92122	1	752	2	-	Yes

30 25 Unknown DUP447280 1 x

	TC	**ZERO !**	**50074**	**118.23**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 18:56:11	0.17	115719	1	752	2	-	Yes
2	7 31 2020 18:59:03	ZERO !	84579	1	752	2	-	Yes
3	7 31 2020 19:01:14	0	0	0	752	2	-	Yes
4	7 31 2020 19:05:15	0	0	0	752	2	-	Yes
5	7 31 2020 19:09:16	0	0	0	752	2	-	-

31 26 Unknown MSW447280 1 x

	TC	**51.02**	**8036156**	**1.95**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 19:14:09	52.19	8219451	1	753	2	-	Yes
2	7 31 2020 19:17:39	51.46	8105525	1	752	2	-	Yes
3	7 31 2020 19:20:30	50.47	7951550	1	752	2	-	Yes
4	7 31 2020 19:23:19	49.94	7868098	1	752	2	-	Yes

32 27 Unknown MSDW447280 1 x

	TC	**50.72**	**7989980**	**1.62**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 19:27:00	51.79	8156310	1	752	2	-	Yes
2	7 31 2020 19:30:34	49.96	7870882	1	752	2	-	Yes
3	7 31 2020 19:33:24	50.96	8026962	1	752	2	-	Yes
4	7 31 2020 19:36:14	50.18	7905767	1	751	2	-	Yes

33 28 Unknown 447991 1 x

	TC	**ZERO !**	**102597**	**100.94**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 19:39:52	ZERO !	-51282	1	752	2	-	Yes
2	7 31 2020 19:44:29	0.36	145636	1	752	2	-	Yes
3	7 31 2020 19:46:37	0.34	142219	1	751	2	-	Yes
4	7 31 2020 19:48:43	0.54	173817	1	751	2	-	Yes
5	7 31 2020 19:50:49	ZERO !	-81656	1	751	2	-	-

34 29 Unknown 447992 1 x

	TC	**ZERO !**	**-267031**	**0.00**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 19:55:44	0.39	149974	1	752	2	-	-
2	7 31 2020 19:58:30	ZERO !	-282372	1	752	2	-	Yes
3	7 31 2020 20:02:31	ZERO !	-183227	1	752	2	-	Yes
4	7 31 2020 20:06:22	ZERO !	-330792	1	752	2	-	Yes
5	7 31 2020 20:10:23	ZERO !	-271734	1	751	2	-	Yes

35 30 Unknown 447993 1 x

		TC	**ZERO !**	**-263219**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 20:15:00	ZERO !	-199121	1	752	2	-	-
2		7 31 2020 20:19:30	ZERO !	-243884	1	751	2	-	Yes
3		7 31 2020 20:23:03	ZERO !	-293010	1	751	2	-	Yes
4		7 31 2020 20:27:04	ZERO !	-254732	1	752	2	-	Yes
5		7 31 2020 20:30:36	ZERO !	-261253	1	751	2	-	Yes

36	31	Unknown	447994		1 x

		TC	**ZERO !**	**-154600**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 20:35:31	ZERO !	-91058	1	752	2	-	Yes
2		7 31 2020 20:39:46	ZERO !	-218757	1	751	2	-	Yes
3		7 31 2020 20:43:47	ZERO !	-172316	1	752	2	-	Yes
4		7 31 2020 20:47:31	0.50	167284	1	752	2	-	-
5		7 31 2020 20:49:35	ZERO !	-136269	1	751	2	-	Yes

37	32	Unknown	447995		1 x

		TC	**0.91**	**230922**		**8.57**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 20:54:21	1.08	258006	1	752	2	-	Yes
2		7 31 2020 20:57:09	0.87	224568	1	751	2	-	Yes
3		7 31 2020 20:59:15	ZERO !	-39033	1	751	2	-	-
4		7 31 2020 21:03:16	0.91	230215	1	752	2	-	Yes
5		7 31 2020 21:05:23	0.78	210899	1	751	2	-	Yes

38	33	Unknown	DUP447995		1 x

		TC	**ZERO !**	**148821**		**100.66**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 21:08:21	0.91	231140	1	751	2	-	Yes
2		7 31 2020 21:11:08	0.90	228686	1	751	2	-	Yes
3		7 31 2020 21:13:15	0.78	210938	1	751	2	-	Yes
4		7 31 2020 21:15:22	ZERO !	-169249	1	751	2	-	-
5		7 31 2020 21:19:23	ZERO !	-75480	1	752	2	-	Yes

39	S2	Unknown	CCV		1 x

		TC	**51.16**	**8057605**		**1.14**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 21:23:53	50.79	8000255	1	752	2	-	Yes
2		7 31 2020 21:27:41	50.53	7960087	1	752	2	-	Yes
3		7 31 2020 21:30:35	51.74	8148949	1	752	2	-	Yes
4		7 31 2020 21:33:33	51.56	8121129	1	751	2	-	Yes

40	34	Unknown	CCB		1 x

		TC	**0.00**	**0**		**0.00**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 21:37:34	0	0	0	752	2	-	Yes
2		7 31 2020 21:42:11	0	0	0	752	2	-	Yes
3		7 31 2020 21:46:12	0	0	0	752	2	-	Yes
4		7 31 2020 21:50:13	0	0	0	752	2	-	Yes

41	35	Unknown	MSW447995		1 x

		TC	**54.01**	**8501672**		**0.87**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 21:55:09	54.68	8606115	1	752	2	-	Yes
2		7 31 2020 21:58:49	53.95	8492763	1	752	2	-	Yes
3		7 31 2020 22:01:46	53.83	8474869	1	751	2	-	Yes
4		7 31 2020 22:04:43	53.57	8432943	1	752	2	-	Yes

42	36	Unknown	MSDW447995		1 x

		TC	**52.68**	**8295713**		**2.14**		**100 µl**	
Sample		Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1		7 31 2020 22:08:32	54.20	8531221	1	752	2	-	Yes
2		7 31 2020 22:12:20	52.89	8328532	1	752	2	-	Yes

3	7 31 2020 22:15:17	52.02	8192927	1	752	2	-	Yes
4	7 31 2020 22:18:10	51.62	8130175	1	752	2	-	Yes

43 37 Unknown 448828 1 x

	TC	**0.33**	**140089**	**15.71**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 22:21:59	0.53	171759	1	752	2	-	Yes
2	7 31 2020 22:24:49	0.21	121720	1	751	2	-	Yes
3	7 31 2020 22:26:55	0.26	129908	1	751	2	-	Yes
4	7 31 2020 22:29:01	0.31	136971	1	751	2	-	Yes
5	7 31 2020 22:31:06	0	0	0	751	2	-	-

44 38 Unknown 448839 1 x

	TC	**ZERO !**	**-255344**	**0.00**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 22:36:01	ZERO !	-172046	1	753	2	-	-
2	7 31 2020 22:40:38	ZERO !	-265311	1	753	2	-	Yes
3	7 31 2020 22:44:40	ZERO !	-208230	1	753	2	-	Yes
4	7 31 2020 22:48:23	ZERO !	-224153	1	753	2	-	Yes
5	7 31 2020 22:51:58	ZERO !	-323684	1	752	2	-	Yes

45 39 Unknown 448840 1 x

	TC	**ZERO !**	**-183742**	**0.00**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 22:56:54	0.67	192771	1	753	2	-	-
2	7 31 2020 22:59:43	ZERO !	-157456	1	752	2	-	Yes
3	7 31 2020 23:03:43	ZERO !	-210273	1	753	2	-	Yes
4	7 31 2020 23:07:45	ZERO !	-165043	1	753	2	-	Yes
5	7 31 2020 23:11:44	ZERO !	-202199	1	753	2	-	Yes

46 40 Unknown DUP448840 1 x

	TC	**ZERO !**	**-83647**	**0.00**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 23:16:40	ZERO !	-84854	1	753	2	-	Yes
2	7 31 2020 23:20:49	ZERO !	-191992	1	753	2	-	Yes
3	7 31 2020 23:24:48	ZERO !	-201724	1	753	2	-	Yes
4	7 31 2020 23:28:50	0.35	143982	1	753	2	-	Yes
5	7 31 2020 23:30:55	0.39	149262	1	752	2	-	-

47 41 Unknown MSW448840 1 x

	TC	**50.96**	**8027072**	**0.49**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 23:33:52	51.21	8065962	1	752	2	-	Yes
2	7 31 2020 23:37:29	50.91	8018685	1	751	2	-	Yes
3	7 31 2020 23:40:19	51.09	8047434	1	751	2	-	Yes
4	7 31 2020 23:43:14	50.63	7976209	1	751	2	-	Yes

48 42 Unknown MSDW448840 1 x

	TC	**50.87**	**8013007**	**1.34**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	7 31 2020 23:47:00	50.78	7999142	1	751	2	-	Yes
2	7 31 2020 23:50:38	49.94	7868921	1	751	2	-	Yes
3	7 31 2020 23:53:28	51.21	8066594	1	751	2	-	Yes
4	7 31 2020 23:56:22	51.54	8117373	1	751	2	-	Yes

49 43 Unknown 448841 1 x

	TC	**ZERO !**	**-267992**	**0.00**		**100 µl**		
Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 0:00:09	0.22	123788	1	752	2	-	-
2	8 1 2020 0:02:55	ZERO !	-240129	1	751	2	-	Yes
3	8 1 2020 0:06:56	ZERO !	-229138	1	751	2	-	Yes
4	8 1 2020 0:10:39	ZERO !	-322233	1	752	2	-	Yes
5	8 1 2020 0:14:40	ZERO !	-280468	1	752	2	-	Yes

50 44 Unknown 448842 1 x

TC **ZERO !** **-47279** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 0:19:35	ZERO !	-189116	1	753	2	-	Yes
2	8 1 2020 0:24:13	0	0	0	753	2	-	-
3	8 1 2020 0:28:15	0	0	0	753	2	-	Yes
4	8 1 2020 0:32:16	0	0	0	753	2	-	Yes
5	8 1 2020 0:36:17	0	0	0	753	2	-	Yes

51 S2 Unknown CCV 1 x

TC **52.15** **8213067** **0.93** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 0:41:12	51.86	8168050	1	754	2	-	Yes
2	8 1 2020 0:44:54	52.86	8323074	1	753	2	-	Yes
3	8 1 2020 0:47:58	52.10	8204805	1	752	2	-	Yes
4	8 1 2020 0:51:03	51.79	8156341	1	752	2	-	Yes

52 45 Unknown CCB 1 x

TC **0.00** **0** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 0:55:07	0.09	103283	1	753	2	-	-
2	8 1 2020 0:57:58	0	0	0	752	2	-	Yes
3	8 1 2020 1:01:59	0	0	0	752	2	-	Yes
4	8 1 2020 1:06:01	0	0	0	753	2	-	Yes
5	8 1 2020 1:10:02	0	0	0	753	2	-	Yes

53 46 Unknown 449329 1 x

TC **0.41** **152563** **5.29** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 1:14:59	0.77	209463	1	753	2	-	-
2	8 1 2020 1:17:58	0.38	148820	1	752	2	-	Yes
3	8 1 2020 1:20:12	0.42	155201	1	751	2	-	Yes
4	8 1 2020 1:22:24	0.35	143795	1	751	2	-	Yes
5	8 1 2020 1:24:35	0.47	162438	1	751	2	-	Yes

54 47 Unknown 449330 1 x

TC **0.29** **134019** **7.64** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 1:27:46	0.61	183622	1	751	2	-	-
2	8 1 2020 1:30:40	0.19	118691	1	751	2	-	Yes
3	8 1 2020 1:32:49	0.32	139320	1	751	2	-	Yes
4	8 1 2020 1:34:58	0.33	139871	1	750	2	-	Yes
5	8 1 2020 1:37:05	0.32	138194	1	750	2	-	Yes

55 48 Unknown 449331 1 x

TC **0.39** **149590** **15.45** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 1:40:09	0.61	183870	1	750	2	-	Yes
2	8 1 2020 1:42:59	0.33	139935	1	750	2	-	Yes
3	8 1 2020 1:45:05	0.28	133307	1	750	2	-	Yes
4	8 1 2020 1:47:08	0.33	141249	1	750	2	-	Yes
5	8 1 2020 1:49:13	ZERO !	-171269	1	750	2	-	-

56 49 Unknown 449332 1 x

TC **0.45** **159154** **13.80** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 1:54:08	0.63	187482	1	752	2	-	Yes
2	8 1 2020 1:56:58	0.31	137474	1	751	2	-	Yes
3	8 1 2020 1:59:02	0.37	147069	1	750	2	-	Yes
4	8 1 2020 2:01:07	0.48	164593	1	750	2	-	Yes
5	8 1 2020 2:03:12	ZERO !	-136764	1	750	2	-	-

57 50 Unknown 449333 1 x

TC **ZERO !** **-95512** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 2:08:08	0.43	156266	1	752	2	-	-
2	8 1 2020 2:10:53	ZERO !	-226506	1	751	2	-	Yes
3	8 1 2020 2:14:39	0.26	130320	1	751	2	-	Yes
4	8 1 2020 2:16:44	ZERO !	-285862	1	750	2	-	Yes
5	8 1 2020 2:20:46	0	0	0	751	2	-	Yes

58 51 Unknown 449334 1 x

TC **ZERO !** **-67652** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 2:25:40	ZERO !	-270609	1	753	2	-	Yes
2	8 1 2020 2:30:02	0	0	0	752	2	-	-
3	8 1 2020 2:34:04	0	0	0	752	2	-	Yes
4	8 1 2020 2:38:04	0	0	0	752	2	-	Yes
5	8 1 2020 2:42:07	0	0	0	752	2	-	Yes

59 52 Unknown 450340 1 x

TC **ZERO !** **248074** **62.04** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 2:47:03	0.44	156938	1	752	2	-	Yes
2	8 1 2020 2:51:36	1.80	369027	1	752	2	-	Yes
3	8 1 2020 2:53:47	ZERO !	53168	1	751	2	-	-
4	8 1 2020 2:57:47	ZERO !	78747	1	752	2	-	Yes
5	8 1 2020 3:01:46	1.92	387586	1	752	2	-	Yes

60 53 Unknown 450341 1 x

TC **ZERO !** **-2186** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 3:04:56	0.63	186743	1	751	2	-	-
2	8 1 2020 3:07:44	0.48	164094	1	751	2	-	Yes
3	8 1 2020 3:09:49	ZERO !	-102518	1	750	2	-	Yes
4	8 1 2020 3:13:45	ZERO !	-230576	1	751	2	-	Yes
5	8 1 2020 3:17:28	0.46	160253	1	752	2	-	Yes

61 54 Unknown 450342 1 x

TC **ZERO !** **-260235** **0.00** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 3:20:30	0.22	123586	1	751	2	-	-
2	8 1 2020 3:23:14	ZERO !	-226092	1	751	2	-	Yes
3	8 1 2020 3:27:01	ZERO !	-223429	1	752	2	-	Yes
4	8 1 2020 3:30:43	ZERO !	-287712	1	752	2	-	Yes
5	8 1 2020 3:34:44	ZERO !	-303707	1	752	2	-	Yes

62 S2 Unknown CCV 1 x

TC **52.77** **8308221** **1.10** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 3:39:39	52.52	8269482	1	752	2	-	Yes
2	8 1 2020 3:43:28	52.29	8234543	1	752	2	-	Yes
3	8 1 2020 3:46:30	52.63	8287302	1	751	2	-	Yes
4	8 1 2020 3:49:36	53.62	8441560	1	752	2	-	Yes

63 55 Unknown CCB 1 x

TC **ZERO !** **110692** **13.30** **100 µl**

Sample	Inj. Time	Conc.	Area	Curve	Oven	Cooler	Edited	Sel.
1	8 1 2020 3:53:39	0.16	114738	1	752	2	-	Yes
2	8 1 2020 3:56:34	ZERO !	88943	1	751	2	-	Yes
3	8 1 2020 3:58:42	ZERO !	88217	1	751	2	-	-
4	8 1 2020 4:00:53	0.21	121045	1	751	2	-	Yes
5	8 1 2020 4:03:07	0.19	118043	1	751	2	-	Yes

INORGANICS
LOGBOOK
DOCUMENTS

WCOD QSM Analytical Run
173688 on 08/12/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	460411							WCOD QSM				
				ICV								
	460412							WCOD QSM				
				ICB								
	448843		07/21/2020 1410					COD QSM		GW	4	
		IDW-54							77490			
	449324		07/21/2020 1100					COD QSM		S	1	
		TURKEY #1 - FRESH							77490			
	449325		07/21/2020 1100					COD QSM		S	1	
		TURKEY #2 - MIDDLE							77490			
	449326		07/21/2020 1100					COD QSM		S	1	
		TURKEY #3 - OLD							77490			
	449327		07/21/2020 1200					COD QSM		S	1	
		SWINE #1 - FINISTTERS							77490			
	449328		07/21/2020 1200					COD QSM		S	1	
		SWINE #2 - SOW/NURSERY							77490			
155089	450344		07/23/2020 1500			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	COD QSM		GW	4	
		IDW-48/49							77490			
	454511							COD QSM				
				MBW					77490			
	454513							COD QSM				
				LCSW					77490			
	454521		07/21/2020 1410					COD QSM				
		IDW-54		MSW	448843				77490			
	454522		07/21/2020 1410					COD QSM				
		IDW-54		MSDW	454521				77490			
	454523		07/21/2020 1100					COD QSM				
		TURKEY #1 - FRESH		MSS	449324				77490			
	454524		07/21/2020 1100					COD QSM				
		TURKEY #1 - FRESH		MSDS	454523				77490			
	455222							WCOD QSM				
				CCV								
	455223							WCOD QSM				
				CCB								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WCOD QSM Analytical Run
173688 on 08/12/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	455225						WCOD QSM				
				CCV							
	455226						WCOD QSM				
				CCB							
	455227						WCOD QSM				
				CCV							
	455228						WCOD QSM				
				CCB							

21 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

PREP WORKSHEET
on 08/12/2020

Prep Batch **77,490** Date Prepped: 07/31/2020 Prepped By ATJ

Folder #	Order	QC Type	Link	Test	Matrix	Volume	Weight	Initial Volume	SDG Level	Notes
	454511	MBW		COD QSM	LIQUID					
	454513	LCSW		COD QSM	LIQUID					
	448843			COD QSM	GROUND WATER				4	
	449324			COD QSM	SOIL	2.5	2.5		1	
	449325			COD QSM	SOIL				1	
	449326			COD QSM	SOIL				1	
	449327			COD QSM	SOIL				1	
	449328			COD QSM	SOIL				1	
155089	450344			COD QSM	GROUND WATER				4	
	454521	MSW	448843	COD QSM	GROUND WATER					
	454522	MSDW	454521	COD QSM	GROUND WATER					
	454523	MSS	449324	COD QSM	SOIL					
	454524	MSDS	454523	COD QSM	SOIL					

Notes:_____

COD Data Validation Checklist

		Method: Chemical Oxygen Demand EPA 410.4			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
173687 688	07/31/2020	ATJ	HLB	08/03/2020	Yes

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Does a digestion sheet accompany the data package?	---	Yes		Yes		
2. Does the digestion sheet include all reagent and standard prep log numbers?	---	Yes		Yes		
3. Was a passing calibration test applied to sample analysis?	≥0.995	Yes		Yes		
4. Was a passing ICV analyzed immediately after the calibration?	90-110%	Yes		Yes		
5. Was a passing ICB analyzed immediately after the ICV?	< |LOD|or client/project specific	Yes		Yes		
6. Were CCVs and CCB analyzed at the required frequency?	1 per 10 samples	Yes		Yes		
7. Did analyzed CCVs meet the required acceptance criteria?	90-110%	Yes		Yes		
8. Did analyzed CCBs meet the acceptance criteria?	< |LOD|or client/project specific	Yes		Yes		
9. Was a Method Blank prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	Yes		Yes		
10. Was the method blank within acceptance criteria?	< |LOD|or client/project specific	Yes		Yes		
11. Was an LCS prepared at the required frequency?	1per 20 samples or at contract/program specific frequencies	Yes		Yes		
12. Did the LCS meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits	Yes		Yes		
13. Was an MS and MSD prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	Yes		Yes		
14. Did the MS/ MSD's meet the acceptance criteria?	90-110% or Within in-house or contract/program specific limits		No		No	Parent samples M flagged

15. Did the MS/MSD's meet the RPD criteria?	Within in-house or contract/program specific limits	Yes		Yes		
16. Was a Duplicate prepared at the required frequency?	1per 10 per batch or at contract/program specific frequencies	Yes		Yes		
17. Did the Duplicate meet the RPD criteria?	Within in-house or contract/program specific limits	Yes		Yes		
18. Were the samples digested within hold time?	28 days	Yes		Yes		
19. Was the max temperature(s) for reactor(s) documented?	---	Yes		Yes		
20. Was the method specifed temperature reached?		Yes		Yes		
21. Were reagents/standards used before expiration date?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		

CHEMICAL OXYGEN DEMAND REAGENT LOG

Prep Batch(es): 77489 77490

Date/Time/Analyst: 07-31-2020 09:45 ATJ

Run(s): 073687 688

Date/Time/Analyst: 07-31-2020 13:17:00 ATJ

Reagents:	W #	Exp Date
ICAL Preparation	48999	09/29/2020
CCV Preparation	49001	09/29/2020
LCS/ICV Preparation	49000	09/29/2020
Silver Sulfate Acid	48975	06/25/2021
Potassium Dichromate Dig Solution	W47821	11/19/2020

Spiked Samples:	W #	Exp Date
Spiking Solution	49002	09/29/2020
Concentration 2000 mg/L		
Volume of Spike Used 0.2 mL		
Final Sample Volume 2.5 mL		
Final Spike Concentration 148.2 mg/L		

Date: 07/31/2020

Time: 09:45

COD DIGESTION BLOCK TEMPS

	A	B
Temperature (Max) 150°C ± 2°C:		149.5

	E	D
Temperature (Max) 150°C ± 2°C:	151.3	

GENESYS 30 Instrument Run Logbook

Date	Start Time	End Time	Analyst	Test/Analyte	Calibration Test #	Run #/ Comments	Maintenance	Review
01/27/20	8:30	15:15	ATJ	COD	COD W47962	168418		4-21-2020 HLB
02/04/20	7:45	08:16	ATJ	COD	COD W47962	168575 576		4-21-2020 HLB
02/11/20	10:00	10:30	ATJ	COD	COD W47963	168726 727		4-21-2020 HLB
02/18/20	8:00	08:13	ATJ	COD	COD W47963	168864		4-21-2020 HLB
02/25/20	13:30	13:50	ATJ	COD	COD W47964	169007		4-21-2020 HLB
03/09/20	14:00	14:30	ATJ	COD	COD W47964	169344		4-21-2020 HLB
03/13/20	13:10	14:00	HLB	PERMANGANATE	PERM W48391	169531		4-21-2020 HLB
03/18/20	7:45	09:00	ATJ	COD	COD W47964	169582		4-21-2020 HLB
03/25/20	8:05	08:45	ATJ	COD	COD W48439	169736 738 739		4-21-2020 HLB
03/31/20	14:00	14:10	ATJ	COD	COD W48439	169983		4-21-2020 HLB
04/14/20	8:45	09:20	ATJ	COD	COD W48439	170117		4-21-2020 HLB
04/15/20	10:30	10:50	ATJ	COD	COD W48439	170310		4-21-2020 HLB
04/28/20	8:30	08:55	ATJ	COD	COD W48439	170675 676		
05/05/20	9:50	10:11	ATJ	COD	COD W48439	170861 862		
05/12/20	9:00	09:20	ATJ	COD	COD W48439	171068		
05/19/20	14:45	15:00	ATJ	COD	COD W48439	171286 287		
05/29/20	10:00	10:11	HLB/ATJ	CHLOROPHYLL-A	NA	171659		
06/02/20	7:55	08:20	ATJ	COD	COD W48439	171723		
06/09/20	11:30	11:48	ATJ	COD	COD W48439	171955		
06/16/20	11:25	11:39	ATJ	COD	COD W48439	172234 236		
06/23/20	10:00	10:40	ATJ	COD	COD W48439	172452 454 459		
06/30/20	9:00	09:20	ATJ	COD	COD W49999	CURVE		
07/09/20	12:15	13:00	ATJ	COD	COD W49999	172906 907		
07/14/20	12:42	13:02	ATJ/SRW	COD	COD W49999	173001		
07/20/20	13:20	13:50	ATJ	COD	COD W49999	173207		
07/31/20	12:43	13:18	ATJ	COD	COD W49999	173687 688		
08/01/20	14:57	15:07	ATJ/HLB	CHLOROPHYLL-A	NA	173732		

Standard Log #:	W48999	Standard/Reagent:	COD ICAL
Analyst:	ATJ	Concentration:	N/A
Prep Date:	06-29-2020	Expiration Date (3 Months):	09-29-2020

PREP	Standards/Reagents Used
Into 100mL volumetric flasks, added the following amounts of 1,000 mg/L COD ICal/CCV Stock Std. (1) and brought to volume with DI water: CAL Pt. A - 0 mL (Final Concentration = 0 mg/L) CAL Pt. B - 1.0 mL (Final Concentration = 10 mg/L) CAL Pt. C - 2.5 mL (Final Concentration = 25 mg/L) CAL Pt. D - 5.0 mL (Final Concentration = 50 mg/L) CAL Pt. E - 10 mL (Final Concentration = 100 mg/L) CAL Pt. F - 50 mL (Final Concentration = 500 mg/L) CAL Pt. G - 75 mL (Final Concentration = 750 mg/L)	(1) W46827

Standard Log #:	W49000	Standard/Reagent:	COD LCS
Analyst:	ATJ	Concentration:	400 mg/L
Prep Date:	06-29-2020	Expiration Date (3 Months):	09-29-2020

PREP	Standards/Reagents Used
Into a 250mL volumetric flask, pipetted 50 mL of 2,000 mg/L COD LCS/Spiking Stock Std. (1) and filled to volume with DI water.	(1) W46827

Standard Log #:	W49001	Standard/Reagent:	COD CCV
Analyst:	ATJ	Concentration:	400 mg/L
Prep Date:	06-29-2020	Expiration Date (3 Months):	09-29-2020
PREP		Standards/Reagents Used	
Into a 250mL volumetric flask, volumetrically added 100 mL of 1,000 mg/L COD ICal/CCV Stock Std. (1) and filled to volume with DI water.		(1) W48999	

Standard Log #:	W49002	Standard/Reagent:	COD LCS/Spiking Stock Std.
Analyst:	ATJ	Concentration:	2,000 mg/L
Prep Date:	06-29-2020	Expiration Date (3 Months):	09-29-2020
PREP		Standards/Reagents Used	
Into a 500mL volumetric flask, dissolved 0.85g of second-source Potassium Hydrogen Phthalate (KHP) (1) and filled to volume with DI water.		(1) W49000	

Standard Log #:	W48975	Standard/Reagent:	Sulfuric Acid/Silver Sulfate Solution
Analyst:	ATJ	Concentration:	N/A
Prep Date:	06-25-2020	Expiration Date (1 Year):	06-25-2021
PREP		Standards/Reagents Used	
Into a new 2.5L bottle of Sulfuric acid (H2SO4) (1), dissolved 25g of Silver Sulfate (AG2SO4) (2).		(1) WC128 (2) WC50	

Standard Log #:	W47821	Standard/Reagent:	Dichromate Digestion Solution
Analyst:	GMJ	Concentration:	N/A
Prep Date:	11/19/19	Expiration Date (1 Year):	11/19/20

PREP	Standards/Reagents Used
Into a 2L volumetric flask, dissolved 66.6g of Mercuric sulfate (1) in about 500 mL of DI water. Volumetrically added 334 mL of Sulfuric acid (2) and dissolved 20.42g of Potassium dichromate (3) and then filled to volume with DI water.	(1) W46750 (2) WC13 (3) W46749

Standard Log #:	W46827	Chemical:	Potassiuim hydrogen phthalate
Analyst:	HLB	Vendor:	VWR
Date Received:	4-8-19	Catalog #:	BDH9260-125G
Expiration Date (if any):	NA	Lot #:	18J2356114
Comments:			

Standard Log #:	W46749	Chemical:	Potassium Dichromate
Analyst:	SAW	Vendor:	JT Baker (VWR)
Date Received:	2/22/19	Catalog #:	3090-01
Expiration Date (if any):	3/6/25	Lot #:	0000213858
Comments:	Opened 4/29/19		

Standard Log #:	W46750	Chemical:	mERCURY (II) SULFATE
Analyst:	SAW	Vendor:	BTC
Date Received:	3/11/19	Catalog #:	212940-100G
Expiration Date (if any):	4/29/20	Lot #:	50004425
Comments:	Opened 4/29/19		

Standard Log #:	W46658	Standard/Reagent:	Sulfuric Acid Diluent
Analyst:	LJS	Concentration:	N/A
Prep Date:	4/10/19	Expiration Date (3 Months):	7/10/19
PREP		Standards/Reagents Used	
Into a large carboy, volumetrically added 40mL of Sulfuric acid (H2SO4) (1) and filled to a final volume of 20L with DI water		(1) W35903	

Standard ID#:	W35459	Vendor:	FISHER
Analyst:	MER	Chemical:	SODIUM HYPOCHLORITE
Date Received:	8/23/14	Lot #:	143357
Expiration Date (if any):	03/2015	Catelog #:	SS290-4

Standard Log #:	WC128	Chemical:	Sulfuric Acid
Analyst:	ATJ	Vendor:	EMD
Date Received:	01-29-2020	Catalog #:	7664-93-9
Expiration Date (if any):	01-27-2025	Lot #:	59274
Comments:			

Standard Log #:	WC50	Chemical:	Silver Sulfate ACS 98%
Analyst:	HLB	Vendor:	ThermoFisher
Date Received:	1-16-2020	Catalog #:	11417
Expiration Date (if any):	1-16-2025	Lot #:	W04F005
Comments:			

Standard Log #:	WC13	Chemical:	SULFURIC ACID
Analyst:	GMJ	Vendor:	EMD MILIPORE CORPORATION
Date Received:	8/27/19	Catalog #:	SX1244-5
Expiration Date (if any):	NA	Lot #:	58346
Comments:	OPENED 11/19/19		

WANIONS IC QSM 5.0 Analytical Run
173314 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	452167						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	452168						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	449134						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	449133						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	449132						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173314 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
154947	447991		07/20/2020	1140		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
154947	447992		07/20/2020	1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
154947	447993		07/20/2020	1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
154947	447994		07/20/2020	1325		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
154947	447995		07/20/2020	1415		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride			*							
		Nitrate Nitrogen			*							
		Sulfate			*							

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173314 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	449142		07/20/2020 1415				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		DUP 447995				0			
		Chloride		DUP 447995				0			
		Sulfate		DUP 447995				0			
	449141		07/20/2020 1415				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSW 447995				0			
		Chloride		MSW 447995				0			
		Sulfate		MSW 447995				0			
	452092		07/20/2020 1415				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 449141							
		Chloride		MSDW 449141							
		Sulfate		MSDW 449141							
	449140						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	449139						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173314 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	449138						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	449137						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			
154947	447992		07/20/2020 1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
154947	447993		07/20/2020 1230		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***								
		Nitrate Nitrogen	***RERUN***								
		Sulfate	***RERUN***								
	449136						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173314 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	449135						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB				0			
		Chloride		CCB				0			
		Sulfate		CCB				0			

63

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist	Instrument: Aquion - System 4

LIMS Run #(s)	Analysis Date	Analyst/Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes/No)
173314 173315	07/21/2020	TMG	RLD	07/28/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	Affected sample results were "M" flagged
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were manual integrations performed correctly and the documentation and rationale for the manual integrations verified?	Manual integratons must be dated, initialed, and reason given, along with "Before" and "After" chromatograms.	Yes		Yes		
25. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

*Non-Applicable Yes/No Cells Are Left Blank

Comments:

Aquion Run Log - System 4

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	CCV ID's	LCS ID's	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviewed/Date
04/28/20	11:27	04/29/20230	18:30	TMG	170715 170716 170727	IC2990A	042820 -	IC2994 IC3003	IC2995 IC3004	IC2996 IC3005	19.59	868	1		RLD 05/06/2020
04/30/20	14:03	05/01/20	10:22	TMG	170809 170810 170822	IC2990A	043020 -	IC3006 IC3009	IC3007 IC3010	IC3008 IC3011	19.87	872	1		RLD 05/06/2020
05/01/20	12:41	05/01/20	18:23	TMG	170839 170840	IC2990A	050120 -	IC3006 IC3009	IC3007 IC3010	IC3008 IC3011	20.72	858	1		RLD 05/06/2020
05/04/20	11:17	05/04/20	12:55	TMG	170870	IC2990A	050420 -	IC3006 IC3018	IC3007 IC3019	IC3008 IC3020	20.41	869	1		
05/05/20	9:46	05/06/20	10:37	TMG	170869 170921	IC2647A	050520 -	IC3006 IC3018	IC3007 IC3019	IC3008 IC3020	20.57	847	0.97		
05/06/20	15:28	05/06/20	17:35	TMG	170977	IC2647A	050620 -	IC3006 IC3021	IC3007 IC3022	IC3008 IC3023	20.14	854	0.97		
05/08/20	8:31	05/08/20	13:30	TMG	170546 171021	IC2647A	050820 -	IC3024 IC3027	IC3025 IC3028	IC3026 IC3029	19.77	854	0.97		
05/11/20	9:43	05/11/20	12:46	TMG	IC3030 LL	IC3030 LL	051120 -	IC3031	IC3031	IC3032	20.18	868	1		
05/11/20	15:25	05/11/20	17:32	TMG	171064 LL	IC3030 LL	051120 -	IC3031	IC3031	IC3032	20.75	872	1		
05/12/20	9:54	05/13/20	12:16	TMG	171063 171081	IC2647A	051220 -	IC3024 IC3034	IC3025 IC3035	IC3026 IC3036	19.7	844	0.97		
05/13/20	15:42	05/13/20	18:59	TMG	171150	IC2647A	051320 -	IC3024 IC3037	IC3025 IC3038	IC3026 IC3039	20.28	852	0.97		
05/14/20	11:21	05/15/20	11:46	TMG	171180 171202 171203	IC2647A	051420 -	IC3024 IC3037	IC3025 IC3037	IC3026 IC3039	19.81	842	0.97		
05/18/20	14:51	05/19/20	09:03	TMG	171292	IC2647A	051820 -	IC3043 IC3051	IC3044 IC3052	IC3045 IC3053	19.98	863	1		
05/19/20	11:19	05/19/20	14:20	TMG	171323	IC2647A	051920 -	IC3057 IC3060	IC3058 IC3061	IC3059 IC3062	20.34	872	1		
05/21/20	14:21	05/21/20	22:19	TMG	171445 171451	IC2647A	052120 -	IC3057 IC3060	IC3058 IC3061	IC3059 IC3062	20.66	888	1		
05/22/20	8:57	05/22/20	12:00	TMG	IC3063 LL	IC3063 LL	052220 -	NA	IC3064	NA	20.08	875	1		
05/22/20	13:02	05/26/20	09:35	TMG	171475	IC2647A	052220 -	IC3057 IC3060	IC3058 IC3061	IC3059 IC3062	20.72	863	1		
05/26/20	11:23	05/26/20	14:11	TMG	171416LL	IC3063 LL	052620 -	NA		NA	20.67	882	1		
05/27/20	8:36	05/27/20	14:11	TMG	171557 171558	IC2647A	052720 -	IC3057 IC3067	IC3058 IC3068	IC3059 IC3069	20.11	875	1		
05/28/20	16:03	05/28/20	21:12	TMG	171645	IC2647A	052820 -	IC3070 IC3073	IC3071 IC3074	IC3072 IC3075	20.87	901	1.02		
06/08/20	11:05	06/08/20	14:52	TMG	IC3097LL	IC3097LL	060820 -	NA	IC3099	NA	21.6	1112	1	New Column	
06/09/20	7:54	06/10/20	10:40	TMG	171954	IC3097LL	060920 -	IC3099	IC3099	IC3098	21.02	1104	1		
06/10/20	13:54	06/11/20	11:51	TMG	172015	IC2732A	061020 -	IC3089 IC3103	IC3090 IC3104	IC3091 IC3105	21.1	1100	0.97		
06/12/20	13:46	06/15/20	10:06	TMG	172135 172140 172141	IC2732A	061220 -	IC3106 IC3109	IC3107 IC3110	IC3108 IC3111	21.01	1070	0.97		
06/16/20	12:27	06/17/20	09:53	TMG	172275 172276	IC2732A	061620 -	IC3106 IC3113	IC3107 IC3114	IC3108 IC3115	21.06	1074	0.97		
06/17/20	13:45	06/18/20	11:50	TMG	172339 172340	IC2732A	061720 -	IC3106 IC3113	IC3107 IC3114	IC3108 IC3115	21.36	1069	0.97		
06/18/20	16:48	06/19/20	12:19	TMG	172385 172386 172387	IC2732A	061820 -	IC3106 IC3116	IC3107 IC3117	IC3108 IC3118	21.33	892	0.97		
06/19/20	13:38	06/20/20	04:43	KMT	172417 172418	IC2732A	061920B -	IC3119 IC3116	IC3120 IC 3117	IC3121 IC3118	21.64	839	0.97		
06/22/20	16:12	06/22/20	20:27	KMT	172466	IC2732A	062220B -	IC3119 IC3122	IC3120 IC3123	IC3121 IC3124	21.62	819	0.97		
06/23/20	13:02	06/24/20	11:02	KMT	172511	IC2732A	062320 -	IC3119 IC3122	IC3120 IC3123	IC3121 IC3124	21.18	872	0.97		
06/24/20	15:49	06/25/20	06:18	KMT	172556 172558	IC2732A	062420 -	IC3119 IC3125	IC3120 IC3126	IC3121 IC3127	21.5	866	0.97		
06/25/20	15:23	06/26/20	10:15	TMG	172610	IC2732A	062520 -	IC3132 IC3135	IC3133 IC3136	IC3134 IC3137	21.39	1073	0.97		
06/26/20	11:00	06/26/20	14:01	TMG	ML IC3138	ML IC3138	062620 -	IC3139	IC3140	NA	21.87	1100	1		
06/26/20	14:45	06/29/20	10:43	TMG	172503	ML IC3138	062620 -	IC3139	IC3140	IC3134	21.91	1095	1		
06/30/20	9:15	06/30/20	19:50	TMG	172702	IC2732A	063020 -	IC3132 IC3135	IC3133 IC3136	IC3134 IC3137	21.42	1073	0.97		
07/01/20	12:19	07/02/20	07:03	TMG	172729	IC2732A	070120 -	IC3132 IC3135	IC3133 IC3136	IC3134 IC3137	21.44	1080	0.97		
07/02/20	12:55	07/02/20	20:47	TMG	172791 172792	IC2732A	070220 -	IC3150 IC3153	IC3151 IC3154	IC3152 IC3155	21.74	1070	0.97		
07/03/20	9:33	07/03/20	13:12	KMT	172816	IC2732A	070320 -	IC3150 IC3153	IC3151 IC3154	IC3152 IC3155	21.83	1074	0.97		
07/07/20	13:03	07/07/20	20:00	TMG	172879 172885	IC2732A	070720 -	IC3150 IC3156	IC3151 IC3157	IC3152 IC3158	21.64	1071	0.97		
07/08/20	13:04	07/09/20	11:31	TMG	172910 172912	IC2732A	070820 -	IC3150 IC3156	IC3151 IC3157	IC3152 IC3158	21.45	1072	0.97		
07/09/20	12:12	07/10/20	08:54	TMG	172948 172949 172953	IC2732A	070920 -	IC3159 IC3162	IC3160 IC3163	IC3161 IC3164	21.47	1072	0.97		
07/10/20	12:16	07/10/20	17:23	TMG	172989 172990	IC2732A	071020 -	IC3159 IC3162	IC3160 IC3163	IC3161 IC3164	21.18	1076	0.97		
07/14/20	13:11	07/16/20	09:57	TMG	173062 173064 173065 173066	IC2732A	071420 -	IC3159 IC3168	IC3160 IC3169	IC3161 IC3170	21.24	1075	0.97		
07/16/20	13:08	07/16/20	23:40	TMG	173151 173153 173156	IC2732A	071620 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	21.19	1138	1		
07/17/20	13:11	07/20/20	15:47	TMG	173190 173191 173192 173194 173198	IC2732A	071720 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	20.91	1106	1		
07/21/20	15:28	07/22/20	10:52	TMG	173314 173315	IC2732A	072120 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	20.94	1116	1		
07/22/20	14:18	07/23/20	11:08	TMG	173371 173372	IC2732A	072220 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	21.28	1099	1		
07/23/20	12:36	07/24/20	13:29	TMG	173399 173426	IC2732A	072320 -	IC3179 IC3182	IC3180 IC3183	IC3181 IC3184	21.46	1105	1		
07/27/20	12:07	07/28/20	10:06	TMG	ML MIC3185 173527	ML IC3185	072720 -	IC3186	IC3187	IC3181	21.47	1105	1		
07/28/20				TMG	173532 173565	IC2732A	072820 -	IC3179 IC3188	IC3180 IC3189	IC3181 IC3190		1092	1		

WANIONS IC QSM 5.0 Analytical Run
173401 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	453613						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICV							
		Chloride		ICV							
		Sulfate		ICV							
	453614						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		ICB							
		Chloride		ICB							
		Sulfate		ICB							
	453264						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV				0			
		Chloride		CCV				0			
		Sulfate		CCV				0			
	453265						WANIONS IC QSM 5.0				
		Chloride		LCSW				0			
		Nitrate Nitrogen		LCSW				0			
		Sulfate		LCSW				0			
	453266						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		MBW				0			
		Chloride		MBW				0			
		Sulfate		MBW				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173401 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
155037	449329		07/22/2020	1000	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
155037	449330		07/22/2020	1110	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
155037	449331		07/22/2020	1205	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
155037	449332		07/22/2020	1205	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									
155037	449333		07/22/2020	1335	WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride									
		Nitrate Nitrogen									
		Sulfate									

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173401 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
155037	449334		07/22/2020	1500			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride											
		Nitrate Nitrogen											
		Sulfate											
	453615		07/22/2020	1500					ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	449334							
		Chloride			DUP	449334							
		Sulfate			DUP	449334							
	453616		07/22/2020	1500					ANIONS IC QSM 5.0				
		Sulfate			MSW	449334							
		Nitrate Nitrogen			MSW	449334							
		Chloride			MSW	449334							
	453611								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV								
		Chloride			CCV								
		Sulfate			CCV								
	453612								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB								
		Chloride			CCB								
		Sulfate			CCB								

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173401 on 08/03/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	453617		07/22/2020 1500				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 453616							
		Chloride		MSDW 453616							
		Sulfate		MSDW 453616							
	453628						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	453629						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

54

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056		Independent Data Review Checklist		Instrument: Dionex, DX-120 (System-2)
LIMS Run #(s)	**Analysis Date**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes/No)**
173400 173401	07/23/2020	TMG	RLD	07/29/2020	Yes

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments**
		Yes	**No**	**Yes**	**No**	**(Indicate reference to an attachment if necessary)**
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ 995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits	Yes		Yes		
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were manual integrations performed correctly and the documentation and rationale for the manual integrations verified?	Manual integratons must be dated, initialed, and reason given, along with "Before" and "After" chromatograms.	Yes		Yes		
25. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

*Non-Applicable Yes/No Cells Are Left Blank

Comments: _____

WANIONS IC QSM 5.0 Analytical Run
173456 on 08/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	453267							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	453268							WANIONS IC QSM 5.0				
		Chloride			LCSW				0			
		Nitrate Nitrogen			LCSW				0			
		Sulfate			LCSW				0			
	453269							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			MBW				0			
		Chloride			MBW				0			
		Sulfate			MBW				0			
155089	450340		07/23/2020	0920		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
155089	450341		07/23/2020	1015		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173456 on 08/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
155089	450342		07/23/2020	1135		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride										
		Nitrate Nitrogen										
		Sulfate										
	453270							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV				0			
		Chloride			CCV				0			
		Sulfate			CCV				0			
	453271							WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB				0			
		Chloride			CCB				0			
		Sulfate			CCB				0			
	453272		07/23/2020	0920				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			DUP	450340			0			
		Chloride			DUP	450340			0			
		Sulfate			DUP	450340			0			
	453273		07/23/2020	0920				ANIONS IC QSM 5.0				
		Nitrate Nitrogen			MSW	450340			0			
		Chloride			MSW	450340			0			
		Sulfate			MSW	450340			0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173456 on 08/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	453274		07/23/2020 0920				ANIONS IC QSM 5.0				
		Nitrate Nitrogen		MSDW 453273				0			
		Chloride		MSDW 453273				0			
		Sulfate		MSDW 453273				0			
	453687						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	453688						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							
	453685						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	453686						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173456 on 08/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	453689								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCV								
		Chloride			CCV								
		Sulfate			CCV								
	453690								WANIONS IC QSM 5.0				
		Nitrate Nitrogen			CCB								
		Chloride			CCB								
		Sulfate			CCB								
155089	450340		07/23/2020	0920			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ANIONS IC QSM 5.0		GW	**4**	
		Chloride	***RERUN***										
		Nitrate Nitrogen	***RERUN***										
		Sulfate	***RERUN***										
	453272		07/23/2020	0920					ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***		DUP	450340				0			
		Chloride	***RERUN***		DUP	450340				0			
		Sulfate	***RERUN***		DUP	450340				0			
	453273		07/23/2020	0920					ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***		MSW	450340				0			
		Chloride	***RERUN***		MSW	450340				0			
		Sulfate	***RERUN***		MSW	450340				0			

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WANIONS IC QSM 5.0 Analytical Run
173456 on 08/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	ANALYTE	SAMPLE DATE:	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	453274		07/23/2020 0920				ANIONS IC QSM 5.0				
		Nitrate Nitrogen	***RERUN***	MSDW 453273				0			
		Chloride	***RERUN***	MSDW 453273				0			
		Sulfate	***RERUN***	MSDW 453273				0			
	453696						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCV							
		Chloride		CCV							
		Sulfate		CCV							
	453697						WANIONS IC QSM 5.0				
		Nitrate Nitrogen		CCB							
		Chloride		CCB							
		Sulfate		CCB							

69

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

Data Review Checklist

	Method: Anions by Ion Chromatography 300.0/9056	Independent Data Review Checklist		Instrument: Dionex, DX-120 (System-2)
LIMS Run #(s)	**Analysis Date**	**Analyst/Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes/No)**
173455 173456	07/24/2020	TMG	RLD	07/29/2020	Yes

Instructions: Complete one checklist per *analytical sequence*. Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples analyzed within hold time?	28 days for Cl, F, SO_4;14 days for preserved NO_2+NO_3; 48 hours for O.Phos, and unpreserved NO_2 and NO_3	Yes		Yes		
2. Was the calibration performed using the required number of standards?	Minimum three plus a blank	Yes		Yes		
3. Is the standard prep log number noted on the analytical report bench sheet?	---	Yes		Yes		
4. Was the correlation coefficient acceptable?	≥ .995	Yes		Yes		
5. Were the ICV and ICB run immediately after the calibration check standard?	---	Yes		Yes		
6. Was the ICV recovery acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
7. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
8. Were the CCV's and the CCB's analyzed at the required frequency?	1 / 10 samples or contract/program specific	Yes		Yes		
9. Were the CCV recoveries acceptable?	90 – 110 % or contract/program specific	Yes		Yes		
10. Were the CCB results acceptable?	< LOD or program/project specific	Yes		Yes		
11. Was the MB analyzed at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
12. Were the MB results acceptable?	< LOD or contract/program specific	Yes		Yes		

13. Was a LCS run at the required frequency?	1 / 20 samples or contract/program specific	Yes		Yes		
14. Was the LCS recovery acceptable?	Within in-house or contract/program specific limits	Yes		Yes		
15. Was the LCS used before the indicated expiration date?	---	Yes		Yes		
16. Were the MS and MSD (when required) prepared at the required frequency?	1 per 20 samples per matrix or contract/program specific	Yes		Yes		
17. Were the MS and MSD (when required) recoveries acceptable?	Within In-house or contract/program specific limits		No		No	Affected sample results were "M" flagged
18. Was the RPD between the MS and MSD (when required) acceptable?	Within in house or contract/program specific limits	Yes		Yes		
19. Was a sample duplicate prepared at the required frequency?	Contract/program specific or 1 per 20 samples (1 / 10 for SDWA samples)	Yes		Yes		
20. Was the duplicate within precision limits?	Within in-house or contract/program specific limits	Yes		Yes		
21. Were all chromatograms checked to ensure accurate peak identification?	---	Yes		Yes		
22. Are all samples on the job lists accounted for?	---	Yes		Yes		
23. Were all samples having analytes detected in amounts exceeding the calibration range diluted, reanalyzed and DF applied to the final results?	---	Yes		Yes		
24. Were manual integrations performed correctly and the documentation and rationale for the manual integrations verified?	Manual integratons must be dated, initialed, and reason given, along with "Before" and "After" chromatograms.	Yes		Yes		
25. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

*Non-Applicable Yes/No Cells Are Left Blank

Comments: _____

Dionex Run Log - System 2

Start Date	Start Time	End Date	End Time	Analyst	Lims Run #(s)	Calibration ID#	Data File	CCV ID's	LCS ID's	Spike ID's	Total Cond.	Pressure (Mpa)	Flow (mL/min)	Comments	Reviwed by/Date
06/02/20	12:28	06/03/20	11:04	TMG	171751 171752	IC3033	060220 -	IC3070 IC3076	IC3071 IC3077	IC3072 IC3078	18.4	1454	0.91	IC3050	RLD 07/02/2020
06/03/20	14:45	06/04/20	09:11	TMG	171828	IC3033	060320 -	IC3070 IC3076	IC3071 IC3077	IC3072 IC3078	18.4	1495	0.91	IC3050	RLD 07/02/2020
06/04/20	13:26	06/05/20	11:22	TMG	171856 171857 171858	IC3033	060420 -	IC3089 IC3092	IC3090 IC3093	IC3091 IC3094	19	1543	0.91	IC3083	RLD 07/02/2020
06/05/20	12:44	06/05/20	16:47	TMG	171909	IC3033	060520 -	IC3089 IC3092	IC3090 IC3093	IC3091 IC3094	18.6	1564	0.89	IC3083	RLD 07/02/2020
06/06/20	13:25	06/07/20	02:15	TMG	171911	IC3033	060620 -	IC3089 IC3100	IC3090 IC3101	IC3091 IC3102	18.7	1575	0.89	IC3083	RLD 07/02/2020
06/08/20	9:38	06/09/20	09:41	TMG	171934 171935	IC3033	060820 -	IC3089 IC3100	IC3090 IC3101	IC3091 IC3102	18	1617	0.89	IC3083	RLD 07/02/2020
06/09/20	12:48	06/10/20	11:47	TMG	171987 171988 171989	IC3033	060920 -	IC3089 IC3103	IC3090 IC3104	IC3091 IC3105	17.9	1604	0.89	IC3083	RLD 07/02/2020
06/10/20	12:44	06/11/20	10:08	TMG	172030 172031 172034	IC3033	061020 -	IC3089 IC3103	IC3090 IC3104	IC3091 IC3105	17.8	1628	0.89	IC3083	RLD 07/02/2020
06/11/20	12:51	06/12/20	10:06	TMG	172081 172082 172083	IC3033	061120 -	IC3106 IC3109	IC3107 IC3110	IC3108 IC3111	17.6	1656	0.89	IC3083	RLD 07/02/2020
06/12/20	12:40	06/13/20	04:52	TMG	172134	IC3033	061220 -	IC3106 IC3109	IC3107 IC3110	IC3108 IC3111	17.8	1638	0.89	IC3083	RLD 07/02/2020
06/15/20	10:37	06/16/20	08:45	TMG	172183 172237 172249	IC3033	061520 -	IC3106 IC3109	IC3107 IC3110	IC3108 IC3111	18.1	1612	0.89	IC3083	RLD 07/02/2020
06/16/20	12:13	06/17/20	03:04	TMG	172277 172278	IC3033	061620 -	IC3106 IC3109	IC3107 IC3110	IC3108 IC3111	18	1611	0.89	IC3083	RLD 07/02/2020
06/17/20	10:11			TMG	172309 172310	IC3033	061720 -	IC3106 IC3113	IC3107 IC3114	IC3108 IC3115	18.4	1610	0.89	IC3083	RLD 07/02/2020
06/22/20	12:21	06/23/20	02:11	KMT	172360 172361	IC3033	062220 -	IC3119 IC3122	IC3120 IC3123	IC3121 IC3124	18.3	1635	0.89	IC3083	RLD 07/02/2020
06/23/20	11:51	06/24/20	09:08	KMT	172500 172501	IC3033	062320 -	IC3119 IC3122	IC3120 IC3123	IC3121 IC3124	18.5	1615	0.89	IC3083	RLD 07/02/2020
06/24/20	14:43	06/25/20	10:11	KMT	172555 172557	IC3033	062420 -	IC3119 IC3125	IC3120 IC3126	IC3121 IC3127	18.3	1607	0.89	IC3083	RLD 07/02/2020
06/26/20	10:26	06/29/20	12:19	TMG	172623 172624 172645	IC3033	062620 -	IC3132 IC3135	IC3133 IC3136	IC3134 IC3137	18.4	1672	0.89	IC3083	RLD 07/02/2020
06/29/20	13:53	06/29/20	21:19	TMG	172678 172695	IC3033	062920 -	IC3132 IC3135	IC3133 IC3136	IC3134 IC3137	18.6	1695	0.89	IC3083	RLD 07/02/2020
06/30/20	8:23	07/01/20	16:02	TMG	172700 172701	IC3033	063020 -	IC3132 IC3135	IC3133 IC3136	IC3134 IC3137	18.5	1699	0.89	IC3083	
07/01/20	10:58	07/02/20	04:12	TMG	172728 172739	IC3033	070120 -	IC3132 IC3135	IC3133 IC3136	IC3134 IC3137	18.6	1703	0.89	IC3148	
07/06/20	8:07	07/08/20	11:04	TMG	172837 172838	IC3033	070620 -	IC3150 IC3153	IC3151 IC3154	IC3152 IC3155	18.3	1727	0.89	IC3148	
07/09/20	12:37	07/09/20	20:02	TMG	172947	IC3033	070920 -	IC3159 IC3162	IC3160 IC3163	IC3161 IC3164	18.4	1754	0.92	IC3148	
07/14/20	10:16	07/15/20	05:11	TMG	172928 173035 173036	IC3033	071420 -	IC3159 IC3168	IC3160 IC3169	IC3161 IC3170	18.2	1817	0.91	IC3148	
07/15/20	12:58	07/16/20	01:07	TMG	173092 173095	IC3033	071520 -	IC3159 IC3168	IC3160 IC3169	IC3161 IC3170	18.3	1831	0.91	IC3148	
07/16/20	13:32	07/16/20	10:28	TMG	173149 173150	IC3033	071620 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	18.4	1859	0.94	IC3148	
07/17/20	14:17	07/20/20	19:27	TMG	173195	IC3033	071720 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	18.6	1814	0.94	IC3148	
07/21/20	11:57	07/22/20	07:16	TMG	173296 173297	IC3033	072120 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	18.7	1799	0.95	IC3148	
07/22/20	11:56	07/23/20	06:51	TMG	173356 173357	IC3033	072220 -	IC3172 IC3175	IC3173 IC3176	IC3174 IC3177	18.3	1858	0.95	IC3148	
07/23/20	12:32	07/24/20	08:46	TMG	172928 173400 173401	IC3033	072320 -	IC3179 IC3182	IC3180 IC3183	IC3181 IC3184	18.3	1890	0.95	IC3148	
07/24/20	13:01	07/27/20	11:29	TMG	173455 173456	IC3033	072420 -	IC3179 IC3182	IC3180 IC3183	IC3181 IC3184	18.5	1862	0.95	IC3148	
07/29/20				TMG	173547 173548	IC3033	072920 -	IC3179 IC3188	IC3180 IC3189	IC3181 IC3190	18.2	1820	0.95	IC3148	
07/30/20				TMG	173640 173675	IC3033	073020 -	IC3191 IC3194	IC3192 IC3195	IC3193 IC3196	18.3	1867	0.95	IC3148	

Standard Log #:	IC3191	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	07/30/2020	Expiration Date:	08/06/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC3088) , Bromide (IC3087), and Nitrate (IC3084), 15 ml 1000 mg/L Chloride (IC3085) , and 25 ml 1000 mg/L Sulfate (IC2902), and brought to volume Milli-Q DI H20		

Standard Log #:	IC3192	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	07/30/2020	Expiration Date:	08/06/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2986) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC3193	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	07/30/2020	Expiration Date:	08/06/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC3088), Bromide (IC3087), and Nitrate (IC3084), and 25.6mL 1000mg/L Chloride (IC3085) and 1000mg/L Sulfate (IC2902), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3194	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	07/30/2020	Expiration Date:	07/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC3149), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3195	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	07/30/2020	Expiration Date:	07/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2985) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3196	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	07/30/2020	Expiration Date:	07/31/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC3149) brrought to volume with milli-Q H2O		

Standard Log #:	IC3188	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	07/28/2020	Expiration Date:	07/29/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC3149), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3189	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	07/28/2020	Expiration Date:	07/29/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2985) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3190	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	07/28/2020	Expiration Date:	07/29/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC3149) brrought to volume with milli-Q H2O		

Standard Log #:	IC3179	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	07/23/2020	Expiration Date:	07/30/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC3088) , Bromide (IC3087), and Nitrate (IC3084), 15 ml 1000 mg/L Chloride (IC3085) , and 25 ml 1000 mg/L Sulfate (IC2902), and brought to volume Milli-Q DI H20		

Standard Log #:	IC3180	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	07/23/2020	Expiration Date:	07/30/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2986) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC3181	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	07/23/2020	Expiration Date:	07/30/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC3088), Bromide (IC3087), and Nitrate (IC3084), and 25.6mL 1000mg/L Chloride (IC3085) and 1000mg/L Sulfate (IC2902), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3182	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	07/23/2020	Expiration Date:	07/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC3149), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3183	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	07/23/2020	Expiration Date:	07/24/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2985) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3184	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	07/23/2020	Expiration Date:	07/24/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC3149) brrought to volume with milli-Q H2O		

Standard Log #:	IC3172	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	07/16/2020	Expiration Date:	07/23/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC3088) , Bromide (IC3087), and Nitrate (IC3084), 15 ml 1000 mg/L Chloride (IC3085) , and 25 ml 1000 mg/L Sulfate (IC2902), and brought to volume Milli-Q DI H20		

Standard Log #:	IC3173	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	07/16/2020	Expiration Date:	07/23/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2986) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC3174	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L
Prep Date:	07/16/2020	Expiration Date:	07/23/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC3088), Bromide (IC3087), and Nitrate (IC3084), and 25.6mL 1000mg/L Chloride (IC3085) and 1000mg/L Sulfate (IC2902), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3175	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4

Prep Date:	07/16/2020	Expiration Date:	07/17/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC3149), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3176	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	07/16/2020	Expiration Date:	07/17/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2985) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3177	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	07/16/2020	Expiration Date:	07/17/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC3149) brrought to volume with milli-Q H2O		

Standard Log #:	IC3168	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	07/14/2020	Expiration Date:	07/15/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC3149), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3169	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	07/14/2020	Expiration Date:	07/15/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2985) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3170	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	07/14/2020	Expiration Date:	07/15/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC3149) brrought to volume with milli-Q H2O		

Standard Log #:	IC3149	Standard/Reagent:	PO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	07/02/2020	Expiration Date:	01/31/2021
Prep:	cat#:250-220-611 lot#: S190327034		

Standard Log #:	IC3150	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	07/02/2020	Expiration Date:	07/09/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC3088) , Bromide (IC3087), and Nitrate (IC3084), 15 ml 1000 mg/L Chloride (IC3085) , and 25 ml 1000 mg/L Sulfate (IC2902), and brought to volume Milli-Q DI H20		

Standard Log #:	IC3151	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	07/02/2020	Expiration Date:	07/09/2020
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2986) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC3152	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l

Standard Log #:	IC3145	Standard/Reagent:	Sodium Bicarbonate
Analyst:	TMG	Final Concentration:	NA
Prep Date:	06/30/2020	Expiration Date:	09/30/2022
Prep:	Lot: 175903 Cat: S233-500 Retest Date: 09/30/2022		

Standard Log #:	IC3146	Standard/Reagent:	Sodium Carbonate
Analyst:	TMG	Final Concentration:	NA
Prep Date:	06/30/2020	Expiration Date:	08/31/2024
Prep:	Lot: 191666 Cat: S263-500 Retest Date: 08/31/2024		

Standard Log #:	IC3147	Standard/Reagent:	Aquion Eluent
Analyst:	TMG	Final Concentration:	4.5nM CARB
Prep Date:	06/30/2020	Expiration Date:	06/30/2021
Prep:	Into a 20L carboy, pipetted 100mL of Aquion Eluent Concentrate(IC2935) and brought to volume with Milli-Q Di water.		

Standard Log #:	IC3148	Standard:	IC Eluent Dionex
			3.5 mM Sodium Carbonate

Analyst:	TMG	Concentrations:	1.0 mM Sodium Bicarbonate
Prep Date:	06/30/2020	Expiration Date (1 Year):	60/30/2021
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC2630 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC3095	Standard/Reagent:	Analytical Column
Analyst:	TMG	Final Concentration:	na
Prep Date:	06/08/2020	Expiration Date:	na
Prep:	Lot #: 01930011 Product #: 046124 Serial #: 200319160		

Standard Log #:	IC3096	Standard/Reagent:	Guard Column
Analyst:	TMG	Final Concentration:	na
Prep Date:	06/08/2020	Expiration Date:	na
Prep:	Lot #: 01930008 Product #: 046134 Serial #: 200306339		

Standard Log #:	IC3097	Standard/Reagent:	LL CURVE
Analyst:	TMG	Final Concentration:	see description
Prep Date:	06/08/2020	Expiration Date:	06/09/2020
Prep:	WS: into 100 ml flask pipette 0.1mL of P(IC2650) and bring to volume Curve: into 11 separate sample tubes pipette 0, 0.100, 0.250, 0.500, 1.00, 2.00, 3.00, 4.00, 5.00, 7.50, and 10.0ml of WS bring each tube to 10 ml of total volume using Milli-Q H2O		

Standard Log #:	IC3098	Standard/Reagent:	LL SPIKE
Analyst:	TMG	Final Concentration:	10mg/L

Standard Log #:	IC3083	Standard:	IC Eluent Dionex
Analyst:	TMG	Concentrations:	3.5 mM Sodium Carbonate 1.0 mM Sodium Bicarbonate
Prep Date:	06/04/2020	Expiration Date (1 Year):	06/04/2021
Prep:	Into a 10L carboy, pipetted 20mL of Dionex eluent concentrate IC2630 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC3084	Standard/Reagent:	NO3 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/04/2020	Expiration Date:	
Prep:	CAT#: 250-220-5x LOT#: S200217055		

Standard Log #:	IC3085	Standard/Reagent:	CL STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/04/2020	Expiration Date:	06/04/2021
Prep:	CAT#: 250-220-37x LOT#: S200218022		

Standard Log #:	IC3086	Standard/Reagent:	SO4 STOCK

Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/04/2020	Expiration Date:	
Prep:	CAT#: 250-220-70x LOT#: S200330020		

Standard Log #:	IC3087	Standard/Reagent:	BR STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/04/2020	Expiration Date:	
Prep:	CAT#: 250-220-23x LOT#: S200413026		

Standard Log #:	IC3088	Standard/Reagent:	FI STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	06/04/2020	Expiration Date:	
Prep:	CAT#: 250-220-40x LOT#: S191114024		

Standard Log #:	IC3089	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	06/04/2020	Expiration Date:	06/11/2020

Standard Log #:	IC3033A	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	05/11/2020	Expiration Date (48 Hours):	05/13/2020
Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2900, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2650 and brought to volume with Milli-Q DI H_20.		

Standard Log #:	IC3033	Standard:	IC_Calibration_Dionex_B
Analyst:	TMG	Concentrations:	N/A
Prep Date:	05/11/2020	Expiration Date (48 hours):	05/13/2020

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC3033A	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2901	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2902	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC3034	Standard/Reagent:	CCV NO2-P

Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	05/11/2020	Expiration Date:	05/12/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2900) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H200		

Standard Log #:	IC3035	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	05/11/2020	Expiration Date:	05/12/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H2O		

Standard Log #:	IC3036	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	05/11/2020	Expiration Date:	05/12/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2900) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2983	Standard/Reagent:	SPIKE MIX
Analyst:	KMT	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	04/20/2020	Expiration Date:	04/27/2020
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2901) and 1000mg/L Sulfate (IC2840), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2984	Standard/Reagent:	Sodium carbonate
Analyst:	TMG	Final Concentration:	NA
Prep Date:	04/20/2020	Expiration Date:	08/2024
Prep:	CAT:S263 LOT:191666		

Standard Log #:	IC2985	Standard/Reagent:	LCS NO2 STOCK
Analyst:	TMG	Final Concentration:	1000ug/L
Prep Date:	04/20/2020	Expiration Date:	04/30/2021
Prep:	CAT: AS-NO2N9-2Y LOT:S-29NO2N-2Y		

Standard Log #:	IC2986	Standard/Reagent:	LCS MIX STOCK
Analyst:	TMG	Final Concentration:	175ug/mL F, NO3, PO4, BR

Prep Date:	04/20/2020	Expiration Date:	04/30/2021
Prep:	CAT: VCTWI-3-500 LOT:16-119JKS		

Standard Log #:	IC2897	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO4
Prep Date:	02/25/2020	Expiration Date:	02/26/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2898	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	02/25/2020	Expiration Date:	02/26/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2899	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	02/25/2020	Expiration Date:	02/26/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2900	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L

Prep Date:	02/25/2020	Expiration Date:	07/2021
Prep:	CAT #:250-220-55X LOT#: S191010033		

Standard Log #:	IC2901	Standard/Reagent:	Cl STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	02/25/2020	Expiration Date:	07/2021
Prep:	CAT #: 250-220-37X LOT#: S191015047		

Standard Log #:	IC2902	Standard/Reagent:	SO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	02/25/2020	Expiration Date:	06/2021
Prep:	CAT #: 250-220-70X LOT#: S190913029		

Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2650), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2846	Standard/Reagent:	LCSW NO2
Analyst:	TMG	Final Concentration:	7.0mg/L NO2
Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2664) brought to volume with Milli-Q DI H20		

Standard Log #:	IC2847	Standard/Reagent:	SPIKE NO2-P
Analyst:	TMG	Final Concentration:	64.0mg/L NO2, PO4
Prep Date:	01/30/2020	Expiration Date:	01/31/2020
Prep:	Into a 100 mL volumetric flask, pipetted 6.4 mL 1000mg/L Nitrite(IC2288) and Phosphate(IC2650) brrought to volume with milli-Q H2O		

Standard Log #:	IC2848	Standard:	IC ICAL Mixed Std. Dionex
Analyst:	TMG	Concentrations:	50mg/L - NO_2, NO_3, PO_4, Br, F
Prep Date:	01/30/2020	Expiration Date (48 Hours):	02/01/2020

Prep:	Into a 100 mL volumetric flask pipetted 5 mL of 1000 mg/L Nitrite IC2288, Fluoride IC2535, Bromide IC2536, Nitrate IC2574, and Phosphate IC2650 and brought to volume with Milli-Q DI H_20.

Prep:

Prepared in 100 mL volumetric flasks and brought to volume with Milli-Q DI H_20.

Analyte	1	2	3	4	5	6	7	8	9
Mixed Std (50mg/L) IC2848	0	0.2	0.6	1.0	2.0	4.0	10.0	14.0	28.0
Chloride (1000mg/L) IC2791	0	0.05	0.075	0.1	0.5	1.0	2.0	3.0	4.0
Sulfate (1000mg/L) IC2840	0	0.05	0.075	0.1	0.5	1.0	3.0	5.0	7.0

Standard Log #:	IC2850	Standard/Reagent:	Analytical Column
Analyst:	TMG	Final Concentration:	NA
Prep Date:	01/30/2020	Expiration Date:	NA
Prep:	Serial #: 191205322 Lot#: 01914189		

Standard Log #:	IC2851	Standard/Reagent:	Guard Column
Analyst:	TMG	Final Concentration:	NA

Prep Date:	01/30/2020	Expiration Date:	NA
Prep:	Serial #: 191203132 Lot#: 01914183		

Prep:	CAT#: 250-220-701 LOT#:S190913029 exp:01/23/2021

Standard Log #:	IC2841	Standard/Reagent:	Sodium Bicarbonate
Analyst:	TMG	Final Concentration:	na
Prep Date:	01/23/2020	Expiration Date:	05/01/23
Prep:	Rec.11/26/2019 Retest:05/01/2023		

Standard Log #:	IC2661	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2662	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2663	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/l
Prep Date:	10/17/2019	Expiration Date:	10/24/2019
Prep:	Into a 100 mL volumetric flask pipetted 6.4 mL 1000mg/L Fluoride(IC2535), Bromide (IC2536), and Nitrate (IC2118), and 25.6mL 1000mg/L Chloride (IC2619) and 1000mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H2O		

Standard Log #:	IC2664	Standard/Reagent:	NO2 LCS STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL

Prep Date:	10/17/2019	Expiration Date:	05/30/2020
Prep:	LOT#: 4-167NO2N-2Y CAT#:AS-NO2N9-2Y EXP:05/30/2020		

Standard Log #:	IC2665	Standard/Reagent:	LCSW MIX STOCK
Analyst:	TMG	Final Concentration:	1250ug/mL SO4, 750ug/mL
Prep Date:	10/17/2019	Expiration Date:	09/30/2020
Prep:	LOT#: 15-128JKS CAT#:VCTWI-3-500 EXP:09/30/2020		

Standard Log #:	IC2650	Standard/Reagent:	PO4 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	10/10/2019	Expiration Date:	10/10/2020
Prep:	LOT#: S190327034 CAT#: 250-220-611 EXP:10/10/2020		

Standard Log #:	IC2651	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2619) , and 25 ml 1000 mg/L Sulfate (IC2593), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2652	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	10/10/2019	Expiration Date:	10/17/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2653	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L

Standard Log #:	IC2574	Standard/Reagent:	NO2 STOCK
Analyst:	TMG	Final Concentration:	1000mg/L NO3
Prep Date:	08/29/2019	Expiration Date:	08/29/2020
Prep:	LOT #:S190225004 CAT#:250-220-521 EXP:08/29/2020		

Standard Log #:	IC2575	Standard/Reagent:	CCV MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3 30mg/L C
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Fluoride (IC2535) , Bromide (IC2536), and Nitrate (IC2118) , 15 ml 1000 mg/L Chloride (IC2426) , and 25 ml 1000 mg/L Sulfate (IC2427), and brought to volume with Milli-Q DI H20		

Standard Log #:	IC2576	Standard/Reagent:	LCSW MIX
Analyst:	TMG	Final Concentration:	7mg/L Fl, Br, NO3,PO4 30m
Prep Date:	08/29/2019	Expiration Date:	09/05/2019
Prep:	Into a 500 mL volumetric flask, pipetted 20 mL of Custom Mix Stock Standard (175 mg/L Fluoride, Bromide, Nitrate, and Phosphate, 1250 mg/L Sulfate, and 750 mg/L Chloride) (IC2336) brought to volume with Milli-Q DI H20.		

Standard Log #:	IC2577	Standard/Reagent:	SPIKE MIX
Analyst:	TMG	Final Concentration:	64mg/L Fl, Br, NO3 256mg/L

Standard Log #:	IC2535	Standard/Reagent:	FI STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S190129008 Cat #: 250-220-401 Exp: 08/08/2020		

Standard Log #:	IC2536	Standard/Reagent:	Br STOCK
Analyst:	TMG	Final Concentration:	1000mg/L
Prep Date:	08/08/2019	Expiration Date:	08/08/2020
Prep:	Lot #:S1920213009 Cat #: 250-220-236 Exp: 08/08/2020		

Standard Log #:	IC2537	Standard/Reagent:	CCV NO2-P
Analyst:	TMG	Final Concentration:	7.0mg/L NO2, PO
Prep Date:	08/08/2019	Expiration Date:	08/09/2019
Prep:	Into a 500 mL volumetric flask pipetted 3.5 mL 1000 mg/L Nitrite (IC2288) and ortho-phosphate (IC2245), and brought to volume with Milli-Q DI H20		

Standard Log #:		Standard/Reagent:	

WPH Analytical Run
173461 on 08/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
155089	450344		07/23/2020	1500			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	PH		GW	**4**	
		IDW-48/49											
	450456		07/23/2020	0700					PH SM4500H+B		WW	**1**	
		PLANT 1											
	450458		07/23/2020	0700					PH SM4500H+B		WW	**1**	
		PLANT 2											
	450459		07/23/2020	0700					PH SM4500H+B		WW	**1**	
		PLANT 4											
	450460		07/22/2020	1600					PH SM4500H+B		WW		
		DE-RO REJECT											
	450461		07/22/2020	1630					PH SM4500H+B		WW		
		DM-RO REJECT											
	450597		07/22/2020	1630					PH SM4500H+B				
		DM-RO REJECT			DUP	450461				0			
	450598		07/23/2020	1500					PH				
		IDW-48/49			DUP	450344				0			

8 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

pH Data Validation Checklist

		Method: pH EPA 150.1, SM 4500-H+B, EPA 9040C, EPA 9045D			
LIMS Run #(s)	**Analysis Date**	**Analyst / Data Interpreter**	**Independent Reviewer**	**Date of Review**	**Approved? (Yes or No)**
173461	07/24/2020	HLB	SRW	07/29/2020	YES

Instructions: Complete one checklist per *analytical run* . Enter the appropriate response for each question.
Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement:	**Acceptance Criteria**	**Analyst Review**		**Independent Review**		**Comments:**
		Yes	No	Yes	No	(indicate reference to an attachment if necessary)
1. Was the calibration slope recorded on the bench sheet?	95-110%	Yes		Yes		
2. Were reagents/standards used before expiration date?	---	Yes		Yes		
3. Were duplicates analyzed at the appropriate frequency?	1 every 20 samples of the same matrix	Yes		Yes		
4. Were the duplicates within acceptable limits?	Differ by $\leq$ 0.10 pH units	Yes		Yes		
5. Are all samples on the job lists accounted for?	---	Yes		Yes		
6. Were SM 4500-H+B samples bracketed by calibration buffer 7?	Every 10 samples, Differ by $\leq$ 0.10 pH units	Yes		Yes		

Mettler Toledo (Easy Seven) pH Calibration & Maintenance Run Logbook

		pH Buffer Reference ID #			3 Point Calibration						
Date	Analyst	pH 7	pH 4	pH 10	1st Buffer	2nd Buffer	3rd Buffer	Slope (95-110%)	Temp ° C	Comments	Review
07/21/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	96%	19.2		
07/22/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.4		
07/23/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.2		
07/24/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.6		
07/27/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	95%	19.9		
07/28/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	96%	19.1		
07/29/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	97%	19.9		
07/30/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.5		
07/31/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.3		
08/03/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	98%	19.1		
08/04/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.08	97%	18.8		
08/05/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	98%	19		
08/06/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.1		
08/07/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.3		
08/10/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	97%	19.9		
08/11/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.06	96%	19.6		
08/12/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.4		
08/13/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.3		
08/14/20	LAY	WC70 EX: 02/13/21	WC38 EX: 12/30/20	WC105 EX:05/04/21	7.02	4	10.07	97%	19.5		

Mettler Toledo (Easy Seven) Instrument Run Logbook

Date	Start Time	End Time	Analyst	Analyte	Lims Run #(s)	Comments
06/19/20	16:20	16:50	SRW	PH	172428	
06/22/20	14:55	15:20	RLB	PH	172465	
06/23/20	14:15	14:25	HLB	PH	172520	
06/24/20	14:00	14:15	ATJ	PH	172564	
06/25/20	14:25	14:45	HLB	PH	172613	
06/26/20	15:00	15:30	SRW	PH	172647	
06/30/20	14:55	15:05	HLB	PH	172719	
07/01/20	14:00	14:30	atj	ph	172751	
07/02/20	15:00	15:30	SRW	PH	172797	
07/03/20	14:00	14:37	ATJ/LAY	PH	172832	
07/06/20	14:30	14:45	RLB	PH	172861	
07/07/20	16:15	16:25	HLB	PH	172892	
07/08/20	14:15	14:45	ATJ/LAY	PH	172913	
07/09/20	14:30	15:00	SRW/LAY	PH	172963 172964	
07/10/20	14:25	14:43	ATJ/LAY	PH	172993	
07/13/20	14:35	14:44	RLB	PH	173030	
07/14/20	15:05	15:25	LAY	PH	173069	
07/15/20	14:00	14:20	hlb	PH	173098	
07/16/20	14:18	14:45	ATJ	PH	173155	
07/17/20	14:20	14:50	HLB	PH	173196	
07/20/20	14:00	14:10	RLB	PH	173256	
07/22/20	14:07	14:57	LAY	PH	173373	
07/23/20	15:15	15:40	HLB	PH	173425	
07/24/20	14:05	14:20	HLB	PH	173461	
07/27/20	14:20	14:30	RLB	PH	173509	
07/28/20	16:00	16:30	SRW	PH	173568	
07/29/20	14:13	14:44	LAY	PH	173620 173624	
07/30/20	15:00	15:20	ATJ	PH	173672	
07/31/20	15:05	15:30	HLB	PH	173703	
08/03/20	14:05	14:25	RLB	PH	173745	
08/04/20	14:00	14:15	SRW	PH	173774	
08/05/20	14:25	14:50	LAY	PH	173804	
08/06/20	15:30	16:20	ATJ	PH	173884	
08/06/20	16:25	16:40	HLB	PH	173852	
08/07/20	15:00	15:15	HLB	PH	173917	
08/10/20	15:30	16:30	HLB	PH	173958 173959	
08/11/20	16:40	16:50	HLB	PH	174011	
08/12/20	15:35	15:55	LAY	PH	174056	
08/13/20	14:30	15:14	ATJ	PH	174086	

Standard Log #:	WC105	Chemical:	pH Buffer 10
Analyst:	HLB	Vendor:	Inorganics Ventures
Date Received:	4-23-2020	Catalog #:	PHBLUE-10
Expiration Date (if any):	5-4-2021	Lot #:	P2-WCS681003
Comments:	opened 5-4-2020		

Standard Log #:	WC70	Chemical:	pH Buffer 7
Analyst:	HLB	Vendor:	Inorganics Ventures
Date Received:	2-13-2020	Catalog #:	PHYELLOW-7
Expiration Date (if any):	2-13-2021	Lot #:	P2-WCS680595
Comments:	bag opened 2-13-2020		

WC_StdLog_01
Wet Chem Chemical Logbook
Logbook Created: 10/22/2019

NOTEBOOK VIEW: LTN_WC_StdLog_01_Default, NOTEBOOK: WC_StdLog_01, PAGE: 22
Page is Locked
Author: swachter on: 1/7/2020 9:37:47 AM
Page is not Witnessed
Project: Unassigned
Page Title: 123019

Standard Log #:	WC38	Chemical:	pH 4 Calibration Std 4L
Analyst:	HLB	Vendor:	Inorganic Ventures
Date Received:	12-30-19	Catalog #:	PHRED-4-4L
Expiration Date (if any):	12-30-20	Lot #:	P2-WCS680743
Comments:			

WORGANIC CARBON QSM 5.0 Analytical Run
173667 on 08/14/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	455141								WORGANIC CARBON QSM 5.0				
					CCV					0			
	455142								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	455143								WORGANIC CARBON QSM 5.0				
					MBW					0			
154947	447991		07/20/2020	1140			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW4											
154947	447992		07/20/2020	1230			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW3											
154947	447993		07/20/2020	1230			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13TW3											
154947	447994		07/20/2020	1325			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		49MW04											
154947	447995		07/20/2020	1415			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		13MW2			Designated MS/MSD								
	455144		07/20/2020	1415					ORGAN CARBON T QSM 5.0				
		13MW2			DUP	447995				0			
	455145								WORGANIC CARBON QSM 5.0				
					CCV					0			
	455146								WORGANIC CARBON QSM 5.0				
					CCB					0			
	455147		07/20/2020	1415					ORGAN CARBON T QSM 5.0				
		13MW2			MSW	447995				0			
	455148		07/20/2020	1415					ORGAN CARBON T QSM 5.0				
		13MW2			MSDW	455147				0			
	455149								WORGANIC CARBON QSM 5.0				
					CCV					0			
	455150								WORGANIC CARBON QSM 5.0				
					CCB					0			

15 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
173668 on 08/12/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME		QC TYPE (Parent Sample)		CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
	460094								WORGANIC CARBON QSM 5.0				
					ICV								
	460095								WORGANIC CARBON QSM 5.0				
					ICB								
	455158								WORGANIC CARBON QSM 5.0				
					CCV					0			
	455159								WORGANIC CARBON QSM 5.0				
					LCSW					0			
	455160								WORGANIC CARBON QSM 5.0				
					MBW					0			
	455161								WORGANIC CARBON QSM 5.0				
					CCV					0			
	455162								WORGANIC CARBON QSM 5.0				
					CCB					0			
154987	448828		07/21/2020	0940					ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW13											
154987	448839		07/21/2020	0940					ORGAN CARBON T QSM 5.0		GW	**4**	
		54TW13											
154987	448840		07/21/2020	1050					ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW12			Designated MS/MSD								
	455163		07/21/2020	1050					ORGAN CARBON T QSM 5.0				
		54MW12			DUP	448840				0			
	455164		07/21/2020	1050					ORGAN CARBON T QSM 5.0				
		54MW12			MSW	448840				0			
	455165		07/21/2020	1050					ORGAN CARBON T QSM 5.0				
		54MW12			MSDW	455164				0			
154987	448841		07/21/2020	1230					ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW10											
154987	448842		07/21/2020	1400					ORGAN CARBON T QSM 5.0		GW	**4**	
		54MW1											
	455166								WORGANIC CARBON QSM 5.0				
					CCV					0			
	455167								WORGANIC CARBON QSM 5.0				
					CCB					0			
155037	449329		07/22/2020	1000			WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
		50MW02											

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

WORGANIC CARBON QSM 5.0 Analytical Run
173668 on 08/12/2020

Date Analyzed: _____ Date Reviewed: _____

Date Entered: _____ Date Validated: _____

COC	ORDER	SAMPLE DECRIPTION	SAMPLE DATE/ TIME	QC TYPE (Parent Sample)	CLIENT	PROJECT	TEST	PREP BATCH	MATRIX	DEL	RUSH
155037	449330	48MW2	07/22/2020 1110		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
155037	449331	48MW3	07/22/2020 1205		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
155037	449332	48TW3	07/22/2020 1205		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
155037	449333	49MW2	07/22/2020 1335		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
155037	449334	49EB2	07/22/2020 1500		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
155089	450340	48MW06	07/23/2020 0920		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
155089	450341	48MW01	07/23/2020 1015		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
155089	450342	49MW01	07/23/2020 1135		WESTON SOLUTIONS, INC.	RADFORD AAP SWMU-49	ORGAN CARBON T QSM 5.0		GW	**4**	
	455168						WORGANIC CARBON QSM 5.0				
				CCV				0			
	455169						WORGANIC CARBON QSM 5.0				
				CCB				0			

28 SAMPLE COUNT ON RUN, INCLUDING METHOD AND INSTRUMENT QC

Matrix: S-Soil Slg-Sludge GW-GroundWater M-Misc Waste SW-Surface Water A-Air WW-WasteWater DW-Drinking Water SD=Sediment Leachate=LE

FWC39-01 Data Review Checklist

	Method: Total Organic Carbon Method 415.1/9060	Independent Data Review Checklist	Instrument: TOCW

LIMS Run #(s)	Analysis Date	Analyst / Data Interpreter	Independent Reviewer	Date of Review	Approved? (Yes or No)
173665, 173666, 173667, 173668	07/31/2020	KMT	RLD	08/03/2020	Yes

Instructions: Complete one checklist per *analytical sequence* . Enter the appropriate response for each question. Each "No" response requires an explanation in the Comments section, and may require the initiation of a Nonconformance Report.

Requirement	Acceptance Criteria	Analyst Review		Independent Review		Comments
		Yes	No	Yes	No	(Indicate reference to an attachment if necessary)
1. Were the samples preserved prior to analysis and analyzed within hold time?	pH <2, 28 days or program/project specific	Yes		Yes		
2. Was the calibration curve performed using the required number of standards?	3 standards and a blank	Yes		Yes		
3. Was the correlation coefficient acceptable?	r ≥ .995	Yes		Yes		
4. Were the ICV and ICB analyzed?	---	Yes		Yes		
5. Was the ICV result acceptable?	90 – 110 % Rec. or contract/program specific	Yes		Yes		
6. Was the ICB result acceptable?	< LOD or contract/program specific	Yes		Yes		
7. Was an LCS & MB run with each batch of samples?	One each per analytical batch or contract/program specific frequency.	Yes		Yes		
8. Was the LCS recovery acceptable?	In-house derived or contract/program specific limits.	Yes		Yes		
9. Were the MB results acceptable?	< LOD or project/ program specific (<1/2 RL for DOD-QSM).	Yes		Yes		
10. Were the CCV's analyzed at the required frequency?	Beginning, after every 10 sample, & at the end of a sequence.	Yes		Yes		
11. Were the CCB's analyzed at the required frequency?	After each CCV (unless MB analyzed after CCV)	Yes		Yes		
12. Were the CCV recoveries acceptable?	90 – 110 % Rec. or project/ program specific	Yes		Yes		
13. Were the CCB results acceptable?	< LOD or project/ program specific	Yes		Yes		

14. Were all positive results that were reported within the calibration curve?	---	Yes		Yes		
15. Was an MS and MSD analyzed at the required frequency?	1 / 20 of the same matrix or project/ program specific	Yes		Yes		
16. Were the MS and MSD recoveries acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
17. Was the RPD between the MS and MSD acceptable?	In-house derived or project/ program specific limits	Yes		Yes		
18. Was a Duplicate analyzed at the required frequency?	1 per 20 of the same matrix or contract/program specific	Yes		Yes		
19. Was the RPD between the Duplicate (if valid) and the sample acceptable?	In-house derived or project/ program specific limits (QSM samples, duplicate only valid when sample result ≥5x the LOQ)	Yes		Yes		DUP (447995) <LOD = Invvalid
20. Are all samples on the job lists accounted for?	---	Yes		Yes		
21. Is the standards prep log numbers noted on the analytical report?	---	Yes		Yes		
22. Were post analysis corrections addressed and/or the Audit Trail function turned on (if available)?	Correction should be initialed, dated, and reason given. Audit trail must be on (if available)	Yes		Yes		
23. Were non-matrix related nonconformities (if applicable) documented in the NCR spreadsheet?	---	Yes		Yes		

Non-Applicable Yes/No Cells Are Left Blank

Comments:

TOC Instrument Run Logbook

Start Date	Start Time	End Date	End Time	Analyst	LIMs Run #	Matrix (S or W)	Calibration ID #	COMMENTS
7/8/2020	~~10:05~~ KMT 7/9/2020 10:06	7/8/2020	17:44	KMT	172901, 172902	W	0398	070820 - 070820B-
7/9/2020	11:13	7/9/2020	15:32	KMT	172944	W	0398	
7/10/2020	09:52	7/10/2020	13:32	KMT	172975	W	0398	
~~7/13/2020~~ KMT 7/14/2020		KMT 7/21/2020		KMT	173028, 173029	W	0398	
7/21/2020	13:07	7/22/2020	01:51	KMT	173028, 173029, 173300, 173301	W	0398	
7/22/2020	11:02	7/23/2020	02:52	KMT	173349, 173350, 173351	W	0398	
7/23/2020	09:35	7/23/2020	20:22	KMT	RR 173349, 173350	W	0398	
7/24/2020	09:02	7/24/2020	11:43	KMT	173439	W	0398	
7/24/2020	13:06	7/25/2020	00:32	KMT	173451, 173452	W	0398	
7/25/2020	17:14	7/25/2020	23:25	KMT	173483	W	0398	
7/27/2020	09:43	7/27/2020	18:27	KMT	173482, 173485	W	0398	
7/28/2020	09:34	7/28/2020	16:35	KMT	RR 173482, 173485	W	0398	
7/29/2020	13:48	7/30/2020	04:13	KMT	①~~SAND TEST~~ 173614 173615	S W	①~~038~~ 0398	
7/30/2020	16:37	7/31/2020	07:22	KMT	173665, 173666, 173667	W	0398	
7/31/2020	11:29	8/1/2020	04:03	KMT	RR 173665 173667 173666 173668	W	0398	
8/1/2020	16:38	8/1/2020	19:59	KMT	173705	W	0398	
8/3/2020	14:47	8/3/2020	16:00	KMT	ICAL 0412	S	~~N/A KMT 8/3/2020~~	
8/3/2020	17:32	8/3/2020	21:00	KMT	RR 173705	W	0398	

Reviewed By: RJ 8/5/2020

①KMT 7/21/2020

Standard Log #:	TOC0411	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	07/30/2020	Expiration Date (1 Month):	08/30/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0407	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	07/27/2020	Expiration Date (1 Month):	08/27/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0406	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	07/24/2020	Expiration Date (1 Month):	08/24/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0405	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	07/21/2020	Expiration Date (1 Month):	08/21/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0403	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	06/25/2020	Expiration Date (1 Month):	07/25/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0402	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	06/22/2020	Expiration Date (1 Month):	07/22/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0401	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	06/15/2020	Expiration Date (1 Month):	07/15/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0400	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	06/12/2020	Expiration Date (1 Month):	07/12/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0398	Standard:	TOCW Ical.
Analyst:	KMT		
Prep Date:	06/08/2020	Expiration Date (1 Month):	07/08/2020

Prep:

Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0376 and brought to volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

Standard Log #:	TOC0399	Standard/Reagent:	CATALYST TC-PLATINIM
Analyst:	KMT	Final Concentration:	N/A
Prep Date:	N/A	Expiration Date:	N/A

Prep:

Part # 2CA10316
Lot # 170849 (21-12-2017)

Standard Log #:	TOC0396	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	05/28/2020	Expiration Date (1 Month):	06/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0397	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	05/28/2020	Expiration Date (1 Month):	06/28/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0394	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	05/18/2020	Expiration Date (1 Month):	06/18/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0395	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	05/18/2020	Expiration Date (1 Month):	06/18/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0390	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/15/2020	Expiration Date (1 Month):	05/15/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0391	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/15/2020	Expiration Date (1 Month):	05/15/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0384	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/13/2020	Expiration Date (1 Month):	05/13/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0382	Standard:	TOCW CCV Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/07/2020	Expiration Date (1 Month):	05/07/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0383	Standard:	TOCW LCS Std.
Analyst:	KMT	Concentration:	50 mg/L
Prep Date:	04/07/2020	Expiration Date (1 Month):	05/07/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0379	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	03/10/2020	Expiration Date (1 Month):	04/10/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0380	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	03/10/2020	Expiration Date (1 Month):	04/10/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0381	Standard:	TOCW Ical.
Analyst:	TMG		
Prep Date:	03/10/2020	Expiration Date (1 Month):	04/10/2020
	Into seven 50mL volumetric flasks, pipetted the following amounts of TOCW Ical/CCV Stock Std. (1000mg/L) TOC0376 and brought to volume with Milli-Q H_2O:		

Prep:

volume with Milli-Q H_20:

Level	ICal Stock (mL)	True Value (pg/L)
1	0	0
2	0.05	1
3	0.25	5
4	0.5	10
5	1.25	25
6	2.5	50
7	5.0	100

LPVO2-01
TOC Prep Logbook
Notebook Created: 01/12/2015
Balances used in reagent prep:
WCB01 and WCB03
NOTEBOOK VIEW: LTN_TOC_Logbook_01_Default, NOTEBOOK: TOC_Logbook_01, PAGE: 193
Page is Unlocked
Page is not Witnessed
Project: Unassigned
Page Title: 020520

Standard Log #:	TOC0374	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	02/05/2020	Expiration Date (1 Month):	03/05/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0376 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0375	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	02/05/2020	Expiration Date (1 Month):	03/05/2020
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0376	Standard/Reagent:	CCV STOCK
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	02/05/2020	Expiration Date:	08/31/2021
Prep:	LOT: 0006475816 EXP:08/31/2021		

1

CT Laboratories, LLC

Standard Log #:	TOC0359	Standard/Reagent:	LCS TOC STOCK STD
Analyst:	TMG	Final Concentration:	1000ug/mL
Prep Date:	10/28/2019	Expiration Date:	09/01/2021
Prep:			

Standard Log #:	TOC0360	Standard:	TOCW CCV Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW Ical/CCV Stock (1000mg/L) TOC0258 and brought to volume with Milli-Q DI H_2O.		

Standard Log #:	TOC0361	Standard:	TOCW LCS Std.
Analyst:	TMG	Concentration:	50 mg/L
Prep Date:	10/28/2019	Expiration Date (1 Month):	11/28/2019
Prep:	Into a 100 mL volumetric flask, pipetted 5mL of TOCW ICV/LCS Stock (1000mg/L) TOC0359 and brought to volume with Milli-Q DI H_2O.		

CHAIN OF CUSTODY,
PM CONFIRMATION
AND
SAMPLE CONDITION FORMS
DOCUMENTS

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: WESTON SOLUTIONS
Project Contact: TONY PACE
Telephone: 757 819 5310
Project Name: RADFORD AAP SWMU-49
Project #:
Location: RADFORD VA
Sampled By: BOUNDS/EKBLM

CT LABORATORIES
1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder #: 154947
Company: WESTON SOLUTIONS.
Project: RADFORD AAP SWMU-
Logged By: EKB PM: BM

)gram:
M RCRA SDWA NPDES
id Waste Other _____
)#

Report To: TONY PACE
EMAIL: TONY.PACE@WESTONSOLUTIONS.COM
Company: WESTON SOLUTIONS
Address: 2 EATON ST SUITE 603 HAMPTON VA 23669

Invoice To:*
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC 8260C	MEE RSK 175	ANIONS 9056A	TOC 9060A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
7/20/20	1140	GW	G		13MW 4	N	3	2	1	1	7	N	447991
7/20/20	1230	GW	G		13MW 3	N	3	2	1	1	7	N	447992
7/20/20	1230	GW	G		13 DUP 3	N	3	2	1	1	7	N	447993
7/20/20	1325	GW	G		49MW04	N	3	2	1	1	7	N	447994
7/20/20	1415	GW	G		13MW 2	N	6	6	3	3	21	Y	447995
7/20/20	1500	GW	G		TB-1	N	2				2		447996

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Relinquished By:	Date/Time	Received By:	Date/Time
	7/20/20 1600	FedEx ells	7-21-20 10:22
Received by:	Date/Time	Received for Laboratory by:	Date/Time
		ells	7-21-2020 10:45

Lab Use Only
Ice Present (Yes) No
Temp 4.6 IR Gun 27
Cooler # XXX

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information, if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

Temperature 4.36

IR Gun # 27

Initials elb

Date 7-21-2020 Time 10:22

Cooler #: XXX

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 7/20/20
SIGNATURE

QEC
Quality Environmental Containers
800-255-3950 • www.qecusa.com

CUSTODY SEAL
DATE 7/20/20
SIGNATURE

ORIGIN ID:WALA (757) 416-2449
BILL BOVALDS
WESTON SOLUTIONS INC
2 EATON ST STE 603

HAMPTON, VA 23669
UNITED STATES US

SHIP DATE: 20JUL20
ACTWGT: 40.60 LB
CAD: 6995155/SSFE2110
DIMS: 24x13x13 IN

BILL THIRD PARTY

TO

CT LABS
1230 LANGE CT

BARABOO WI 53913
(608) 356-2760
INV:
PO:
REF: 03886.552.500.3140(SHMU 49)
DEPT:

FedEx Express

TRK# 0201 3949 7622 9749

TUE - 21 JUL 10:30A
PRIORITY OVERNIGHT

XH LNRA

AHS
53913
WI-US MSN

Folder #: 154947

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU-49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 155594

Project Manager: *BMS* **Date Received:** 07/21/20 **Log Date:** 07/21/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 4.6 oC

SAMPLE #: 447991 DESCR: 13MW4 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/20/2020 Time: 1140**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/03/2020	08/02/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/03/2020	08/02/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/22/2020	08/02/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/17/2020	08/02/2020		Logged

Folder #: 154947 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 447992 **DESCR:** 13MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/20/2020 **Time:** 1230

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/03/2020	08/02/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/03/2020	08/02/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/22/2020	08/02/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/17/2020	08/02/2020		Logged

SAMPLE #: 447993 **DESCR:** 13TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/20/2020 **Time:** 1230

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/03/2020	08/02/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/03/2020	08/02/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/22/2020	08/02/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/17/2020	08/02/2020		Logged

Folder #: 154947 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 447994 **DESCR:** 49MW04 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/20/2020 **Time:** 1325

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/03/2020	08/02/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/03/2020	08/02/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/22/2020	08/02/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/17/2020	08/02/2020		Logged

SAMPLE #: 447995 **DESCR:** 13MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/20/2020 **Time:** 1415

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y* ***DESIGNATED MATRIX SPIKE***	08/03/2020	08/02/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)			***DESIGNATED MATRIX SPIKE***	08/03/2020	08/02/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)			***DESIGNATED MATRIX SPIKE***	07/22/2020	08/02/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)			***DESIGNATED MATRIX SPIKE***	08/17/2020	08/02/2020		Logged

Folder #: 154947 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 447996 **DESCR:** TB-1 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 07/20/2020 **Time:** 1500

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/03/2020	08/02/2020		Logged

Invoice Number: 155594 **Preliminary Invoice Estimate:** $ 1,264.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	7	$ 12.00	0.00	$ 84.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	7	$ 12.00	0.00	$ 84.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	7	$ 12.00	0.00	$ 84.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	7	$ 16.00	0.00	$ 112.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	7	$ 16.00	0.00	$ 112.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	7	$ 16.00	0.00	$ 112.00
ORGAN CARBON T QSM 5.0	GROUND WATER	7	$ 28.00	0.00	$ 196.00
VOC 8260 QSM 5.0	GROUND WATER	7	$ 60.00	0.00	$ 420.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**7**	TOC
UNPRES PL	**7**	Anions
VOA HCL	**37**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 154947
Client: WESTON SOLUTIONS, INC.

Project Name: RADFORD AAP SWMU-49
Project Phase: RADFORD, VA

Coolers: XXXX
Custody Seals Present : **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Print Date / Time: 07/21/2020 11:04
Received Date / Time / By: 07/21/2020 10:22 EKB

Log-In Date / Time / By: 07/21/2020 10:45 EKB
Project #: PM: BMS

Temperature: 4.6 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Numbers: DATED & SIGNED
Tracking Number: 394976229749
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 7/20/20 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
447991 13MW4				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
447991 13MW4				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
447991 13MW4				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
447992 13MW3				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
447992 13MW3				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
447992 13MW3				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

447993 13TW3

UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **1**			

447993 13TW3

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	(***VOA HCL***) = **5**			

447993 13TW3

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	(***H2SO4 PL***) = **1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

447994 49MW04

UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **1**			

447994 49MW04

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	(***VOA HCL***) = **5**			

447994 49MW04

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	(***H2SO4 PL***) = **1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

447995 13MW2

UNPRES PL	1		/	Anions
UNPRES PL	1		/	Anions
UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **3**			

447995 13MW2

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	(***VOA HCL***) = **15**			

447995 13MW2

H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	(***H2SO4 PL***) = **3**			

154947

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
447996 TB-1				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	(***VOA HCL***) =	**2**	

Condition Code	*Condition Description*
1	Sample Received OK

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: WESTON SOLUTIONS
Project Contact: TONY PSCE
Telephone: 757 871 5310
Project Name: RADFORD AAP
Project #:
Location: RADFORD VA
Sampled By: BOWLDS/ENGLI

CT Laboratories Proposal #

Folder # 155037
Company: WESTON SOLUTIONS
Project: RADFORD AAP
Logged By: EKB PM: BM

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: TONY.PSCE@WESTONSOLUTIONS.COM
Company: WESTON SOLUTIONS
Address: 2 EATON ST SUITE 603 HAMPTON VA 23669

Invoice To:*
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
(Normal) RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	ANALYSES REQUESTED: VOC 8260C	MEE RSK-175	ANIONS 9056A	TOC 9060A	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test						
7/22/20	1000	GW	G		SOMW02	N	3	2	1	1			449329
7/22/20	1110	GW	G		48MW2	N	3	2	1	1			449330
7/22/20	1205	GW	G		48MW3	N	3	2	1	1			449331
7/22/20	1205	GW	G		48TW3	N	3	2	1	1			449332
7/22/20	1335	GW	G		49MW2	N	3	2	1	1			449333
7/22/20	1500	GW	G		49EB2	N	3	2	1	1			449334
7/22/20	1530	GW	G		TB-49	N	2						449335

Relinquished By:	Date/Time	Received By:	Date/Time	Lab Use Only
	7/22/20 1600	FEDEX	7/23/2020 1005	Ice Present (Yes) No
Received by:	Date/Time	Received for Laboratory by:	Date/Time 7-23-2020 11:03	Temp 3.0 IR Gun 27
				Cooler # 5188

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified. (b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.

1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.

1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.

1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.

1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.

1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).

1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.

3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.

3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.

4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.

4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.

4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.

4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.

4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.

4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.

5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.

5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.

5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.

5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.

5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.

5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability Insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices.

Cooler Receipt Form

Ice Present (YES) NO

Temperature 3.0

IR Gun # 27

Initials yls

Date 7/23/2020 Time 1005

Cooler #: 5188

Folder #: 155037

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU-49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 155683

Project Manager: *BMS* **Date Received:** 07/23/20 **Log Date:** 07/23/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 3.0 oC

SAMPLE #: 449329 DESCR: 50MW02 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/22/2020 Time: 1000**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/05/2020	08/04/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/05/2020	08/04/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/24/2020	08/04/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/19/2020	08/04/2020		Logged

Folder #: 155037 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 449330 **DESCR:** 48MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/22/2020 **Time:** 1110

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/05/2020	08/04/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/05/2020	08/04/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/24/2020	08/04/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/19/2020	08/04/2020		Logged

SAMPLE #: 449331 **DESCR:** 48MW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/22/2020 **Time:** 1205

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/05/2020	08/04/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/05/2020	08/04/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/24/2020	08/04/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/19/2020	08/04/2020		Logged

Folder #: 155037 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 449332 **DESCR:** 48TW3 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/22/2020 **Time:** 1205

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/05/2020	08/04/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/05/2020	08/04/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/24/2020	08/04/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/19/2020	08/04/2020		Logged

SAMPLE #: 449333 **DESCR:** 49MW2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/22/2020 **Time:** 1335

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/05/2020	08/04/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/05/2020	08/04/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/24/2020	08/04/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	EPA 9060A)				08/19/2020	08/04/2020		Logged

Folder #: 155037 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 449334 **DESCR:** 49EB2 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/22/2020 **Time:** 1500

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/05/2020	08/04/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/05/2020	08/04/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/24/2020	08/04/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/19/2020	08/04/2020		Logged

SAMPLE #: 449335 **DESCR:** TB-49 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 07/22/2000 **Time:** 1530

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/05/2000	08/04/2020		Logged

Folder #: 155037 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

Invoice Number: 155683 **Preliminary Invoice Estimate:** $ 1,092.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	6	$ 12.00	0.00	$ 72.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	6	$ 12.00	0.00	$ 72.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	6	$ 12.00	0.00	$ 72.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	6	$ 16.00	0.00	$ 96.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	6	$ 16.00	0.00	$ 96.00
METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	6	$ 16.00	0.00	$ 96.00
ORGAN CARBON T QSM 5.0	GROUND WATER	6	$ 28.00	0.00	$ 168.00
VOC 8260 QSM 5.0	GROUND WATER	6	$ 60.00	0.00	$ 360.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**6**	TOC
UNPRES PL	**6**	Anions
VOA HCL	**32**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 155037
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 07/23/2020 11:05
Received Date / Time / By: 07/23/2020 10:05 JLS

Project Name: RADFORD AAP SWMU-49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 07/23/2020 11:03 EKB
Project #: PM: BMS

Coolers: 5188
Custody Seals Present : **Y**

Temperature: 3.0 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 395056665851
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 7/22/20 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
449329 50MW02				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
449329 50MW02				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
449329 50MW02				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
449330 48MW2				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
449330 48MW2				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
449330 48MW2				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

449331 48MW3

UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **1**			

449331 48MW3

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	(***VOA HCL***) = **5**			

449331 48MW3

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	(***H2SO4 PL***) = **1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

449332 48TW3

UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **1**			

449332 48TW3

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	(***VOA HCL***) = **5**			

449332 48TW3

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	(***H2SO4 PL***) = **1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

449333 49MW2

UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **1**			

449333 49MW2

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	(***VOA HCL***) = **5**			

449333 49MW2

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	(***H2SO4 PL***) = **1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

449334 49EB2

UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **1**			

449334 49EB2

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC

155037

		Total # of Containers of Type	(***VOA HCL***) = **5**		
449334	49EB2				
		H2SO4 PL	1	Y /	TOC
		Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	**Container Type**	**Cond. Code**	**pH OK?/Filtered?**	**Tests**
449335 TB-49				
	VOA HCL	1	/	VOC
	VOA HCL	1	/	VOC
	Total # of Containers of Type	(***VOA HCL***) = **2**		

Condition Code	*Condition Description*
1	Sample Received OK

155037

Rev. 02/2017

CHAIN OF CUSTODY

Page 1 of 1

Company: WESTON Solutions
Project Contact: Tony PACE
Telephone: 757 819 5310
Project Name: Radford AAP
Project #:
Location: Radford VA
Sampled By: Bounds/Ewell

CT LABORATORIES

1230 Lange Court, Baraboo, WI 53913
608-356-2760 Fax 608-356-2766
www.ctlaboratories.com

Folder # 155089
Company: WESTON SOLUTIONS,
Project: RADFORD AAP
Logged By: EKB PM: BM

Program:
QSM RCRA SDWA NPDES
Solid Waste Other _____

PO #

Report To:
EMAIL: TONY.PACE@WESTONSOLUTIONS
Company: Weston Solutions
Address: 2 EATON ST SUITE 605
HAMPTON VA 23669

Invoice To:*
EMAIL:
Company:
Address:

*Party listed is responsible for payment of invoice as per CT Laboratories' terms and conditions

Client Special Instructions

Matrix:
GW – groundwater SW - surface water WW - wastewater DW - drinking water
S - soil/sediment SL - sludge A - air M - misc/waste

Turnaround Time
Normal RUSH*
Date Needed: _____
Rush analysis requires prior CT Laboratories' approval
Surcharges:
24 hr 200%
2-3 days 100%
4-9 days 50%

Collection Date	Collection Time	Matrix	Grab/ Comp	Sample #	Sample ID Description	Filtered? Y/N	VOC 8260C	MEK RSK-175	MW:ONS 9056A	TOC 9060A	TAL METALS	COD	pH	Total # Containers	Designated MS/MSD	CT Lab ID # (Lab use only)
							Fill in Spaces with Bottles per Test									
7/23/20	920	GW	G		48MW06	N	3	2	1	1						450340
7/23/20	1015	GW	G		48MW01	N	3	2	1	1						450341
7/23/20	1135	GW	G		49MW01	N	3	2	1	1						450342
7/23/20	1400	GW	G		TB-48	N	2									450343
7/23/20	1500	GW	G		IDW-48/49	N					1	1	1			450344

Relinquished By:	Date/Time	Received By:	Date/Time
	7/23/2020 1600	FEDEX	
Received by:	Date/Time	Received for Laboratory by:	Date/Time
ellb for OTL	7-24-2020 ~~10:50~~ 0950	ellb	7-24-2020 10:07

Lab Use Only
Ice Present (Yes) No
Temp 2.1 IR Gun 07
Cooler # XXXX

CT Laboratories Terms and Conditions

Where a purchaser (Client) places an order for laboratory, consulting or sampling services from CT Laboratories (CTL), CTL shall provide the ordered services pursuant to these Terms and Conditions, and the related Quotation, or as agreed in a negotiated contract. In the absence of a written agreement to the contrary, the Order constitutes an acceptance by the Client of CTL's offer to do business under these Terms and Conditions, and an agreement to be bound by these Terms and Conditions. No contrary or additional terms and conditions expressed in a Client's document shall be deemed to become a part of the contract created upon acceptance of these Terms and Conditions, unless accepted by CTL in advance of the start of the project and in writing.

1. ORDERS AND RECEIPT OF SAMPLES (Sample Acceptance Policy)

1.1 The Client may place the Order (i.e., specify a Scope of Work) either by submitting a purchase order to CTL in writing, by telephone (confirmed in writing) or by negotiated contract. Whichever option the Client selects for placing the Order, the Order shall not be valid unless it contains sufficient information to enable CTL to carry out the Client's requirements. It is the policy of CTL that samples not meeting the acceptance criteria, outlined in the NELAC standards and Section 5.8.3.2 of the DOD QSM, will not be accepted by the laboratory or will be qualified on the final report. All samples submitted to the laboratory must: (a) be accompanied by proper, full and complete documentation, including sample identification, location, date and time of collection, the collector's name, type of preservation (if any), type of sample, any special comments concerning the sample and any additional pertinent fields on the chain-of-custody. In the absence of any of the required information, the laboratory will attempt to contact the client to obtain the information; if unable to obtain the necessary information, the final report will be qualified
(b) samples must be labeled appropriately with a unique sample identification written with indelible ink on water resistant labels. If the laboratory cannot determine the identity of a sample, it may be rejected and the client will be contacted for further instructions or resampling. (c) samples must be in an appropriate sample container. If the container is inappropriate, the client will be contacted for further instructions or resampling. If analysis is possible, the final report will be qualified. CTL can provide a sampling guide containing approved containers and preservations for analytical methods requested. (d) adhere to method specified holding times. If samples are received with less than ½ the holding time remaining for the requested test, CTL will make its best effort to analyze the samples and notify the client. If holding times are exceeded, the final report will be qualified. (e) contain adequate sample volume to perform the necessary testing. If sufficient volume is not present, the sample may be rejected and the client will be contacted for further instructions or resampling. If samples show signs of damage, contamination or inadequate preservation, the client will be notified. If analysis can be performed, the final report will be qualified. If not, the samples will be rejected and the client notified for further instructions or resampling. It is the Client's responsibility to understand and package samples correctly and provide the proper amount of temperature control (ice) suitable to current weather conditions.
1.2 CTL must be supplied with complete written disclosure of the known or suspected presence of any hazardous substances, as defined by applicable federal or state law. Where any samples which were not accompanied by the required disclosure, cause interruptions in the lab's ability to process work due to contamination of instruments or work areas, the Client will be responsible for the costs of clean up and recovery.
1.3 Prior to Sample Acceptance, the entire risk of loss or damage to samples remains with the Client. In no event will CTL have any responsibility or liability for the action or inaction of any carrier shipping or delivering any sample to or from CTL's premises. Client is responsible to assure that any sample containing any hazardous substance which is to be delivered to CTL's premises will be packaged, labeled, transported and delivered properly and in accordance with applicable laws.
1.4 Clients using CTL's shipping account(s) do so at their own risk and must purchase separate insurance if they do not wish to assume risk of loss. CTL will not assume any risk whatsoever for any samples outside of CTL's control and not successfully delivered to the laboratory within specified hold times.
1.5 CTL will not accept liability for any sample(s), except sample(s) damaged or broken by log-in staff prior to successful log-in of the sample(s) into the CTL- LIMS system. This includes, but may not be limited to: complete, valid COC documentation, all sample receiving issues being resolved from a delay caused by the Client in CTL's ability to log-in samples, including missed turnaround and hold times, delay in processing and, ultimately, additional charges to the Client.
1.6 CTL will only reject samples per directions from the Client. CTL's sole liability is to inform the Client of any sample receipt issues, and may provide an indication how proceeding with the analysis may affect results and final acceptance by the regulating agency. Ultimately, suitability for use is between the Client and the regulating agency(s).
1.7 Signing of this COC by the Client or Client's representative, or directions to CTL via email or Fax constitutes acceptance of these Terms and Conditions, and guarantees payment by the Client to CTL.

2. PAYMENT TERMS

2.1 Services performed by CTL will be in accordance with prices quoted and later confirmed in writing or as stated in the Price Schedule. Invoices may be submitted to Client upon completion of any sample delivery group. Payment in advance is required for all Clients except those whose credit has been established with CTL. For Clients with approved credit, payment terms are net 30 days from the date of invoice by CTL. All overdue payments are subject to an additional interest and service charge of one and one-half percent (1.5%) or the maximum rate permissible by law, per month or portion thereof from the due date until the date of payment. All fees are charged or billed directly to the Client. The billing of a third party will not be accepted without a statement, signed by the third party that acknowledges and accepts payment responsibility. CTL may suspend work and withhold delivery of data under this order at any time in the event Client fails to make timely payment of its invoices. Client shall be responsible for all costs and expenses of collection including reasonable attorney's fees. CTL reserves the right to refuse to proceed with work at any time based upon an unfavorable Client credit report.

3. CHANGE ORDERS, TERMINATION

3.1 Changes to the Scope of Work, price, or result delivery date may be initiated by CTL after Sample Acceptance due to any condition which conflicts with analytical, QA or other protocols warranted in these Terms and Conditions. CTL will not proceed with such changes until an agreement with the Client is reached on the amount of any cost, schedule change or technical change to the Scope of Work, and such agreement is documented in writing.
3.2 Changes to the Scope of Work, including but not limited to increasing or decreasing the work, changing test and analysis specification or acceleration in the performance of the work may be initiated by the Client after sample acceptance. Such a change will be documented in writing and may result in a change in cost and turnaround time commitment. CTL's acceptance of such changes is contingent upon technical feasibility and operational capacity.
3.3 Suspension or termination of all or any part of the work may be initiated by the Client. CTL will be compensated consistent with Section 2 of these Terms and Conditions. CTL will complete all work in progress and be paid in full for all work completed.

4. WARRANTIES AND LIABILITY

4.1 Where applicable, CTL will use analytical methodologies which are in substantial conformity with published test methods. CTL has implemented these methods in its Laboratory Quality Manuals and referenced Standard Operating Procedures and where the nature or composition of the sample requires it, CTL reserves the right to deviate from these methodologies as necessary or appropriate, based on the reasonable judgment of CTL, which deviations, if any, will be made on a basis consistent with recognized standards of the industry and/or CTL's Laboratory Quality Manuals. Client may request that CTL perform according to a mutually agreed Quality Assurance Project Plan (QAPP). In the event that samples arrive prior to agreement on a QAPP, CTL will proceed with analyses under its standard Quality Manuals then in effect, and CTL will not be responsible for any resampling or other charges if work must be repeated to comply with a subsequently finalized QAPP.
4.2 CTL shall start preparation and/or analysis within holding times provided that Sample Acceptance occurs within 48 hours of sampling or 1/2 of the holding time for the test, whichever is less. Samples received that do not meet this provision will be charged as expedited samples and the appropriate rate will be added accordingly. Where resolution of inconsistencies leading to Sample Acceptance does not occur within this period, CTL will use its best efforts to meet holding times and will proceed with the work provided that, in CTL's judgment, the chain-of-custody or definition of the Scope of Work provide sufficient guidance. Reanalysis of samples to comply with CTL's Quality Manuals will be deemed to have met holding times provided the initial analysis was performed within the applicable holding time. Where reanalysis demonstrates that sample matrix interference is the cause of failure to meet any Quality Manual requirements, the warranty will be deemed to have been met.
4.3 CTL warrants that it possesses and maintains all licenses and certifications which are required to perform services under these Terms and Conditions provided that such requirements are specified in writing to CTL prior to Sample Acceptance. CTL will notify the Client in writing of any decertification or revocation of any license, or notice of either, which affects work in progress.
4.4 The warranty obligations set forth in Sections 4.1, 4.2 and 4.3 are the sole and exclusive warranties given by CTL in connection with any services performed by CTL or any Results generated from such services, and CTL gives and makes NO OTHER REPRESENTATION OR WARRANTY OF ANY KIND, EXPRESS OR IMPLIED. No representative of CTL is authorized to give or make any other representation or warranty or modify this warranty in any way.
4.5 Client's sole and exclusive remedy for the breach of warranty in connection with any services performed by CTL, will be limited to repeating any services performed, contingent on the Client's providing, at the request of CTL and at the Client's expense, additional sample(s) if necessary. Any reanalysis requested by the Client generating Results consistent with the original Results will be at the Client's expense. If resampling is necessary, CTL's liability for resampling costs will be limited to actual cost or one hundred or one hundred fifty dollars ($150) per sample, whichever is less.
4.6 CTL's liability for any and all causes of action arising hereunder, whether based in contract, tort, warranty, negligence or otherwise, shall be limited to the lesser amount of compensation for the services performed or $100,000. All claims, including those for negligence, shall be deemed waived unless suit thereon is filed within one year after CTL's completion of the services. Under no circumstances, whether arising in contract, tort (including negligence), or otherwise, shall CTL be responsible for loss of use, loss of profits, or for any special, indirect, incidental or consequential damages occasioned by the services performed or by application or use of the reports prepared.
4.7 In no event shall CTL have any responsibility or liability to the Client for any failure or delay in performance by CTL which results, directly or indirectly, in whole or in part, from any cause or circumstance beyond the reasonable control of CTL. Such causes and circumstances shall include, but not be limited to, acts of God, acts of Client, acts or orders of any governmental authority, strikes or other labor disputes, natural disasters, accidents, wars, civil disturbances, equipment breakdown, matrix interference or unknown highly contaminated samples that impact instrument operation, unavailability of supplies from usual suppliers, difficulties or delays in transportation, mail or delivery services, or any other cause beyond CTL's reasonable control.

5. RESULTS, WORK PRODUCT

5.1 Data or information provided to CTL or generated by services performed under this agreement shall only become the property of the Client upon receipt in full by CTL of payment for the whole Order. Ownership of any analytical method, QA/QC protocols, software programs or equipment developed by CTL for performance of work will be retained by CTL, and Client shall not disclose such information to any third party.
5.2 Data and sample materials provided by Client or at Client's request, and the result obtained by CTL shall be held in confidence (unless such information is generally available to the public or is in the public domain or Client has failed to pay CTL for all services rendered or is otherwise in breach of these Terms and Conditions), subject to any disclosure required by law or legal process.
5.3 Should the Results delivered by CTL be used by the Client or Client's client, even though subsequently determined not to meet the warranties described in these Terms and Conditions, then the compensation will be adjusted based upon mutual agreement. In no case shall the Client unreasonably withhold CTL's right to independently defend its data.
5.4 CTL reserves the right to subcontract services ordered by the Client to another laboratory or laboratories, if, in CTL's sole judgment, it is reasonably necessary, appropriate or advisable to do so, and with the Client's permission. CTL will in no way be liable for any subcontracted services and all applicable warranties, guarantees and insurance are those of the subcontracted laboratory.
5.5 CTL shall dispose of the Client's samples and extracts 30 days after the analytical report is issued, unless instructed to store them for an alternate period of time or to return such samples to the Client, in a manner consistent with U.S. Environmental Protection Agency regulations or other applicable Federal, state or local requirements. Additional charges will apply for samples or extracts stored longer than 30 days at the Clients request. Any samples for projects that are canceled or not accepted, or for which return was requested, will be returned to the Client at Client expense. CTL reserves the right to return to the Client any sample or unused portion of a sample that is not within CTL's permitted capability or the capabilities of CTL's designated waste disposal vendor(s), or will make arrangements to dispose of these samples at Client direction and expense.
5.6 Unless a different time period is agreed to in any order under these Terms and Conditions, CTL agrees to retain all records for five (5) years.
5.7 In the event that CTL is required to respond to legal process related to services for Client, Client agrees to reimburse CTL for hourly charges for personnel involved in the response and attorney fees reasonably incurred in obtaining advice concerning the response, preparation to testify, and appearances related to the legal process, travel and all reasonable expenses associated with the litigation.

6. INSURANCE

6.1 CTL shall maintain in force during the performance of services under these Terms and Conditions, Workers' Compensation and Employer's Liability insurance in accordance with the laws of the states having jurisdiction over CTL's employees who are engaged in the performance of the work. CTL shall also maintain during such period, Comprehensive General and Contractual Liability (limit of $2,000,000 per occurrence/ aggregate), Comprehensive Automobile Liability, owned and hired, ($1,000,000 combined single limit), and Professional/Pollution Liability Insurance (limit of $5,000,000 per occurrence/aggregate). Any Client required changes to these limits or conditions will result in a change in cost to the Client.

7. AUDIT

7.1 Upon prior notice to CTL, the Client may audit and inspect CTL's records and accounts covering reimbursable costs related to work done for the Client, for a period of one (1) year after completion of the work. The purpose of any such audit shall be only for verification of such costs, and CTL shall not be required to provide access to cost records where prices are expressed as fixed fees or published unit prices

Cooler Receipt Form

Ice Present (YES) NO

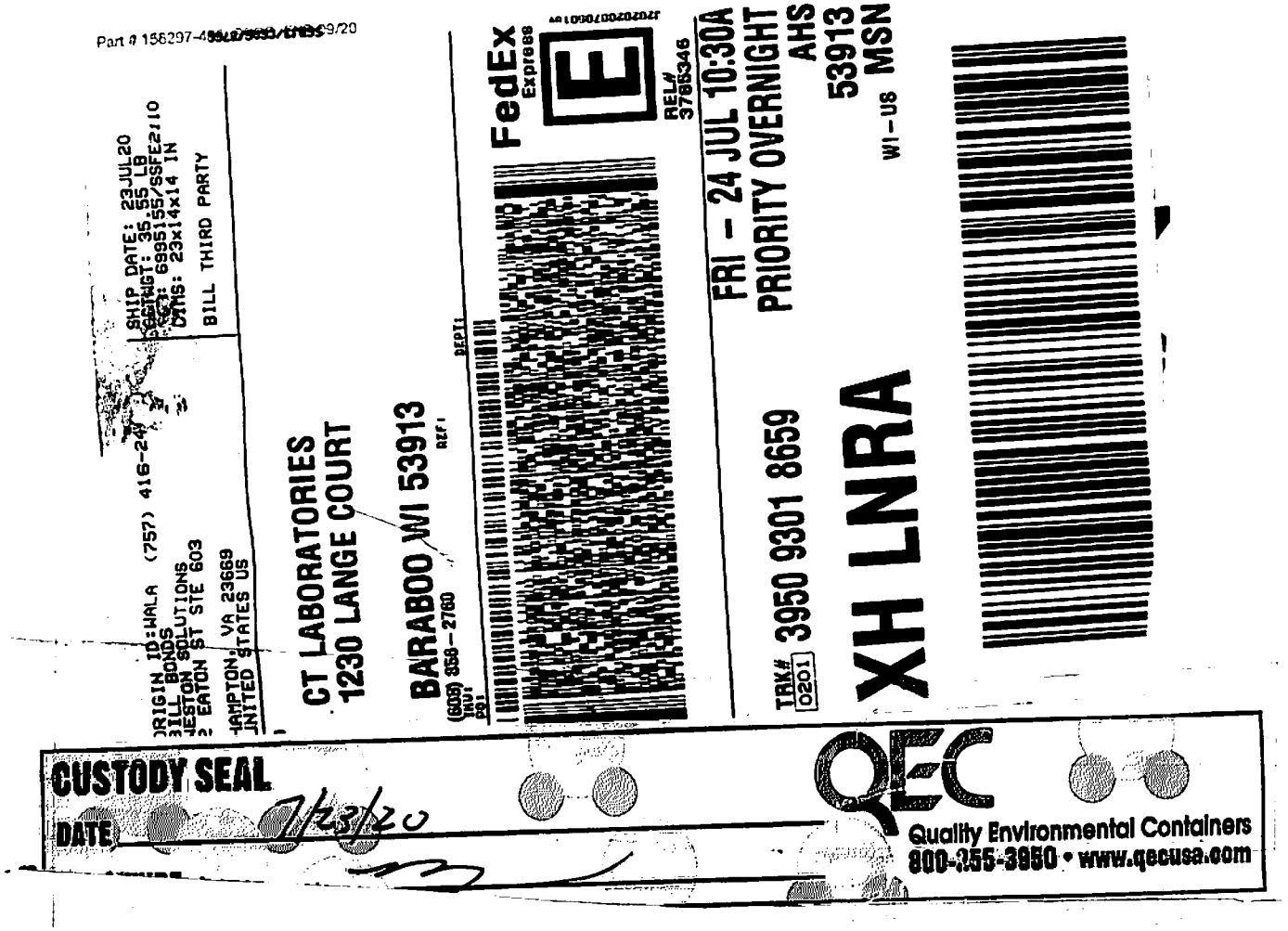
Temperature 2.1

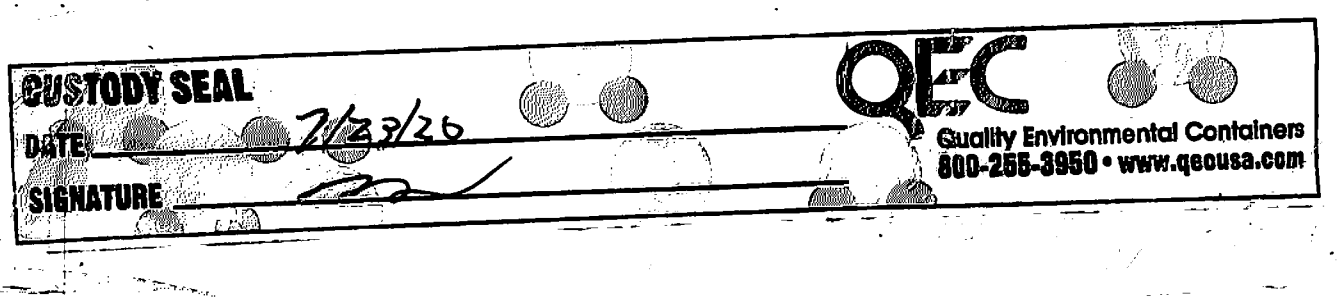
IR Gun # 27

Initials DL

Date 7/24/20 Time ~~10:50~~ 0950

Cooler #: —





Folder #: 155089

PM LOGIN CONFIRMATION

Contract #: 3313

Company: WESTON SOLUTIONS, INC. **Project:** RADFORD AAP SWMU-49 **Proj #:**

Project Phase: RADFORD, VA **PO Number:** **Invoice #:** 155735

Project Manager: *BMS* **Date Received:** 07/24/20 **Log Date:** 07/24/2020

Report To: ANTHONY PACE CC:
2 EATON STREET
SUITE 603
HAMPTON, VA 23669
Phone: 757-819-5310: Fax:
Rep. E-Mail anthony.pace@westonsolutions.com

Invoice To :ACCOUNTS PAYABLE CC:
1400 WESTON WAY, BLDG 5-1
WEST CHESTER, PA 19380
Phone: Fax:
EMail:

Collected By:
Collector's Phone: 757-819-5310

Arrival Temperature: 2.1 oC

SAMPLE #: 450340 DESCR: 48MW06 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED: 07/23/2020 Time: 0920**

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/06/2020	08/05/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/06/2020	08/05/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/25/2020	08/05/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/20/2020	08/05/2020		Logged

Folder #: 155089 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 450341 **DESCR:** 48MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/23/2020 **Time:** 1015

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/06/2020	08/05/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/06/2020	08/05/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/25/2020	08/05/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/20/2020	08/05/2020		Logged

SAMPLE #: 450342 **DESCR:** 49MW01 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/23/2020 **Time:** 1135

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/06/2020	08/05/2020		Logged
1224	METH,ETH,ETHE QSM 5.0	(Mod RSK 175)				08/06/2020	08/05/2020		NeedPrep
			Ethane						
			Ethene						
			Methane						
1227	ANIONS IC QSM 5.0	(EPA 9056A)				07/25/2020	08/05/2020		Logged
			Chloride						
			Nitrate Nitrogen						
			Sulfate						
1230	ORGAN CARBON T QSM 5.(	(EPA 9060A)				08/20/2020	08/05/2020		Logged

Folder #: 155089 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 450343 **DESCR:** TB-48 **PRIMARY / DETAILED MATRIX:** AQUEOUS / TRIP BLANK **SAMPLED:** 07/23/2020 **Time:** 1400

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
1221	VOC 8260 QSM 5.0	(EPA 8260C)			*Y*	08/06/2020	08/05/2020		Logged

SAMPLE #: 450344 **DESCR:** IDW-48/49 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/23/2020 **Time:** 1500

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
203	PH	(EPA 9040C)					08/05/2020		Entered
989	COD QSM	(EPA 410.4)				08/20/2020	08/05/2020		NeedPrep
1183	ICP K TOTAL QSM 5.0	(EPA 6010C)				01/19/2021	08/05/2020		Logged
1190	ICP NA TOTAL QSM 5.0	(EPA 6010C)				01/19/2021	08/05/2020		Logged
1200	ICP TOTAL QSM 5.0	(EPA 6010C)				01/19/2021	08/05/2020		Logged
			Total Aluminum						
			Total Antimony						
			Total Arsenic						
			Total Barium						
			Total Beryllium						
			Total Cadmium						
			Total Calcium						
			Total Chromium						
			Total Cobalt						
			Total Copper						
			Total Iron						
			Total Lead						
			Total Magnesium						
			Total Manganese						
			Total Nickel						
			Total Selenium						
			Total Silver						

Folder #: 155089 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

SAMPLE #: 450344 **DESCR:** IDW-48/49 **PRIMARY / DETAILED MATRIX:** AQUEOUS / GROUND WATER **SAMPLED:** 07/23/2020 **Time:** 1500

CLIENT SAMPLE #: **DETAILED SITE/POINT ID INFORMATION:**

TEST#	TEST	TEST METHOD	ANALYTE	TEST GROUP	SPECIAL REQUIREMENTS	HOLD DATE	ANALYSIS DUE	RUSH	STATUS
			Total Thallium						
			Total Vanadium						
			Total Zinc						
1208	MERCURY TOTAL QSM 5.0(EPA 7470A)					08/20/2020	08/05/2020		NeedPrep

Folder #: 155089 **Company:** *WESTON SOLUTIONS, INC.* **Project:** RADFORD AAP SWMU-49

Invoice Number: 155735 **Preliminary Invoice Estimate:** $ 704.00

Item	Matrix	Quantity	Price	Expedited TAT Surcharge	Total
ANIONS IC QSM 5.0 Chloride	GROUND WATER	3	$ 12.00	0.00	$ 36.00
ANIONS IC QSM 5.0 Nitrate Nitrogen	GROUND WATER	3	$ 12.00	0.00	$ 36.00
ANIONS IC QSM 5.0 Sulfate	GROUND WATER	3	$ 12.00	0.00	$ 36.00
COD QSM	GROUND WATER	1	$ 18.00	0.00	$ 18.00
ICP K TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP NA TOTAL QSM 5.0	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Aluminum	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Antimony	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Arsenic	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Barium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Beryllium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cadmium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Calcium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Chromium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Cobalt	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Copper	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Iron	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Lead	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Magnesium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Manganese	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Nickel	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Selenium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Silver	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Thallium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Vanadium	GROUND WATER	1	$ 3.50	0.00	$ 3.50
ICP TOTAL QSM 5.0 Total Zinc	GROUND WATER	1	$ 3.50	0.00	$ 3.50
MERCURY TOTAL QSM 5.0	GROUND WATER	1	$ 23.00	0.00	$ 23.00
METH,ETH,ETHE QSM 5.0 Ethane	GROUND WATER	3	$ 16.00	0.00	$ 48.00
METH,ETH,ETHE QSM 5.0 Ethene	GROUND WATER	3	$ 16.00	0.00	$ 48.00

METH,ETH,ETHE QSM 5.0 Methane	GROUND WATER	3	$ 16.00	0.00	$ 48.00
ORGAN CARBON T QSM 5.0	GROUND WATER	3	$ 28.00	0.00	$ 84.00
PH	GROUND WATER	1	$ 10.00	0.00	$ 10.00
VOC 8260 QSM 5.0	GROUND WATER	3	$ 60.00	0.00	$ 180.00
VOC 8260 QSM 5.0	TRIP BLANK	1	$ 60.00	0.00	$ 60.00
Temporary Fuel Surcharge on lab supplies and services (if applicable):					$ 0.00

Bottle Information

Container	# Containers	Tests
H2SO4 PL	**4**	COD
HNO3	**1**	HG,ICP,K,NA
UNPRES PL	**4**	Anions
VOA HCL	**17**	GAS,VOC

CT LABORATORIES
delivering more than data from your environmental analyses

Sample Condition Report

Folder #: 155089
Client: WESTON SOLUTIONS, INC.

Print Date / Time: 07/24/2020 10:08
Received Date / Time / By: 07/24/2020 09:50 DJL

Project Name: RADFORD AAP SWMU-49
Project Phase: RADFORD, VA

Log-In Date / Time / By: 07/24/2020 10:07 EKB
Project #: PM: BMS

Coolers: XXXX
Custody Seals Present : **Y**

Temperature: 2.1 C On Ice: **Y**
COC Present:? **Y** Complete? **Y**

Seal Intact? **Y**
Ship Method: FEDEX EXPRESS
Adequate Packaging: **Y**

Numbers: DATED AND SIGNED
Tracking Number: 395093018659
Temp Blank Enclosed? **Y**

Notes: THE SAMPLES WERE RECEIVED IN GOOD CONDITION ON ICE.

TWO CUSTODY SEALS WERE PRESENT AND INTACT UPON RECEIPT - BOTH WERE DATED 7/23/20 AND SIGNED.

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
450340 48MW06				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
450340 48MW06				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
450340 48MW06				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests
450341 48MW01				
	UNPRES PL	1	/	Anions
	Total # of Containers of Type	(***UNPRES PL***) = **1**		
450341 48MW01				
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	VOA HCL	1	/	GAS,VOC
	Total # of Containers of Type	(***VOA HCL***) = **5**		
450341 48MW01				
	H2SO4 PL	1	Y /	TOC
	Total # of Containers of Type	(***H2SO4 PL***) = **1**		

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

450342 49MW01

UNPRES PL	1		/	Anions
Total # of Containers of Type	(***UNPRES PL***) = **1**			

450342 49MW01

VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
VOA HCL	1		/	GAS,VOC
Total # of Containers of Type	(***VOA HCL***) = **5**			

450342 49MW01

H2SO4 PL	1	Y	/	TOC
Total # of Containers of Type	(***H2SO4 PL***) = **1**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

450343 TB-48

VOA HCL	1		/	VOC
VOA HCL	1		/	VOC
Total # of Containers of Type	(***VOA HCL***) = **2**			

Sample ID / Description	Container Type	Cond. Code	pH OK?/Filtered?	Tests

450344 IDW-48/49

H2SO4 PL	1	Y	/	COD
Total # of Containers of Type	(***H2SO4 PL***) = **1**			

450344 IDW-48/49

HNO3	1	Y	/	HG,ICP,K,NA
Total # of Containers of Type	(***HNO3***) = **1**			

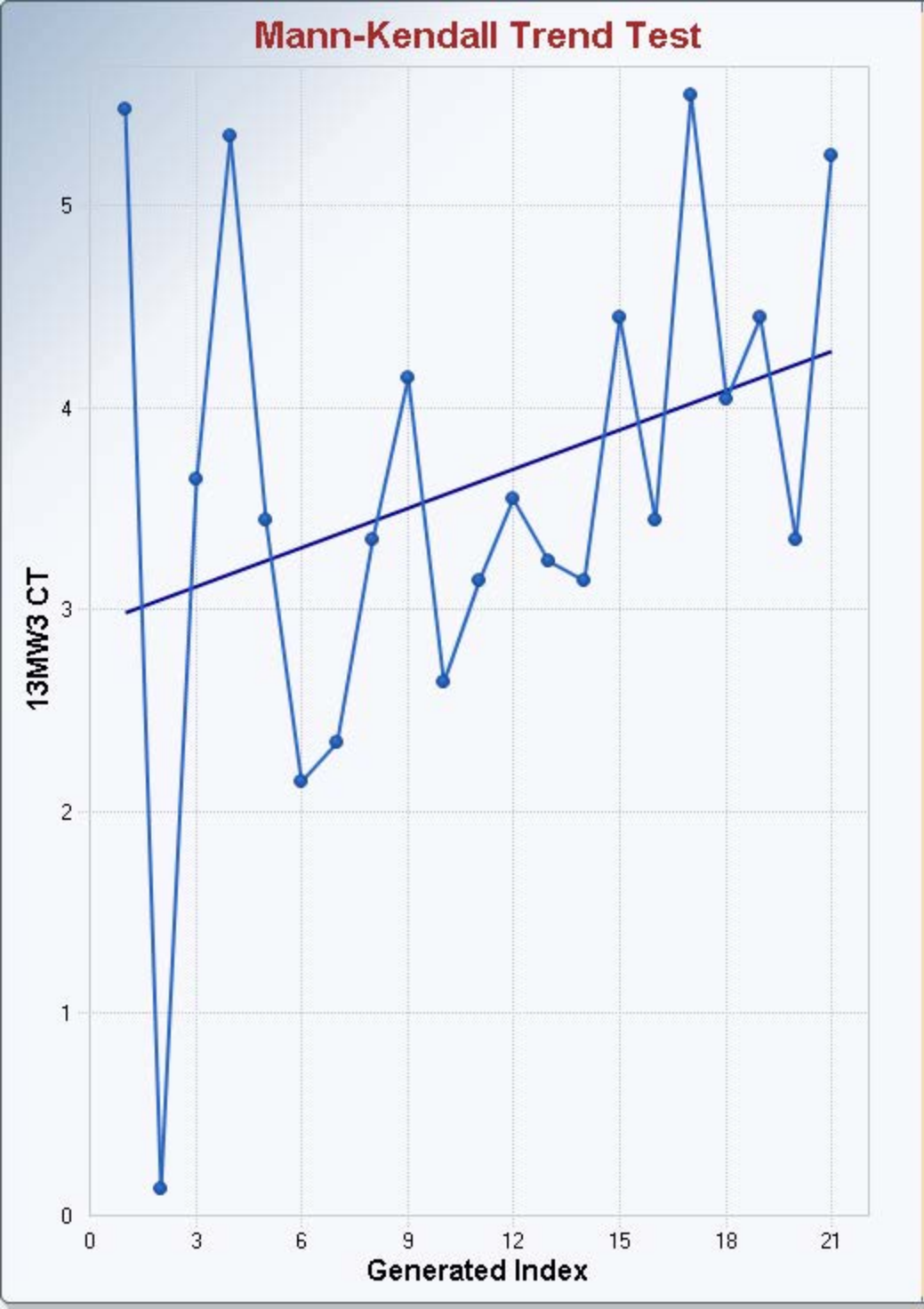
450344 IDW-48/49

UNPRES PL	1		/	pH
Total # of Containers of Type	(***UNPRES PL***) = **1**			

Condition Code	*Condition Description*
1	Sample Received OK

155089

APPENDIX C
MANN-KENDALL ANALYSIS



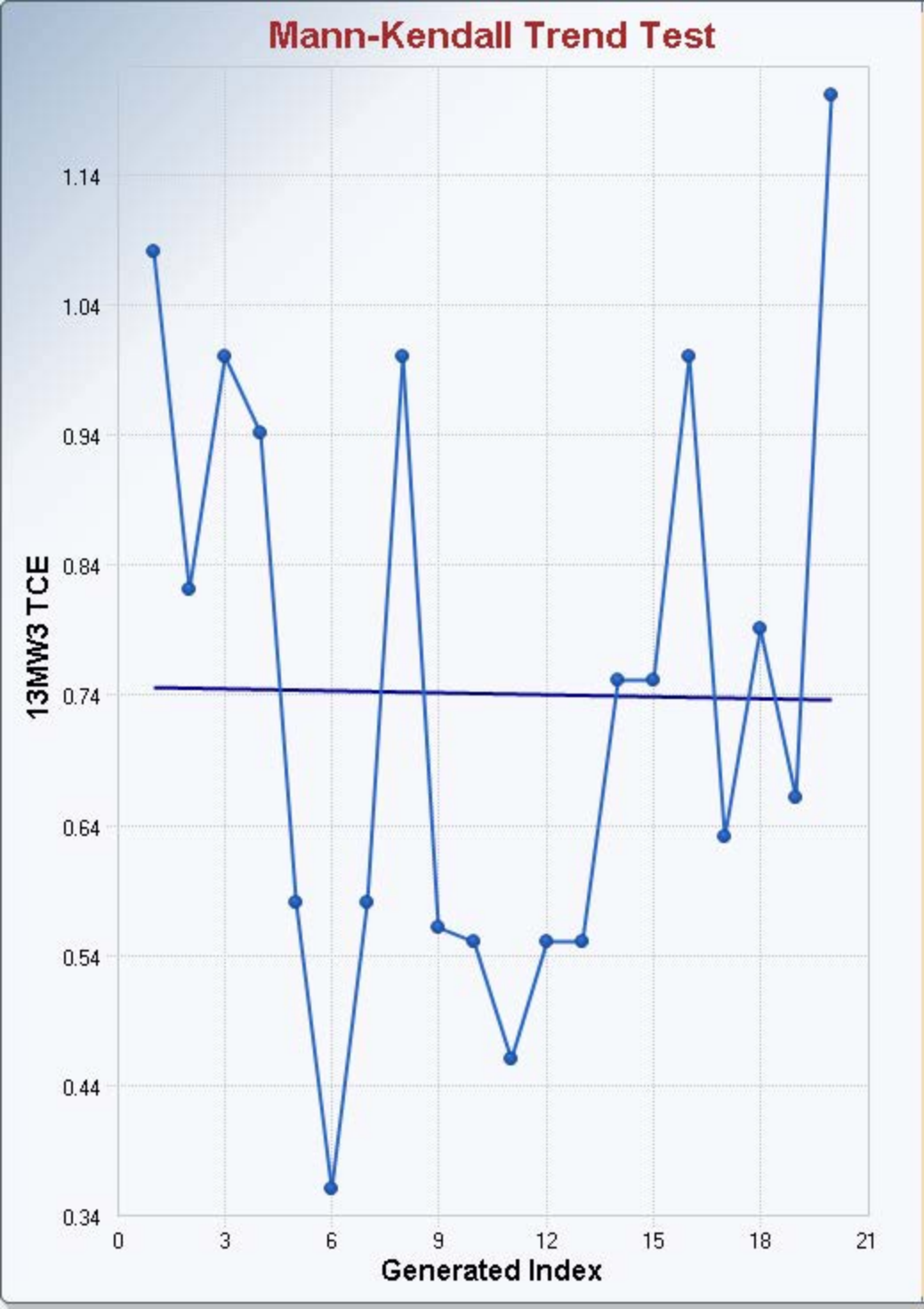
Mann-Kendall Trend Analysis

n	21
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	33.0555
Standardized Value of S	1.3008
M-K Test Value (S)	44
Tabulated p-value	0.0980
Approximate p-value	0.0967

OLS Regression Line (Blue)

OLS Regression Slope	0.0648
OLS Regression Intercept	3.0740

Insufficient statistical evidence of a significant trend at the specified level of significance.



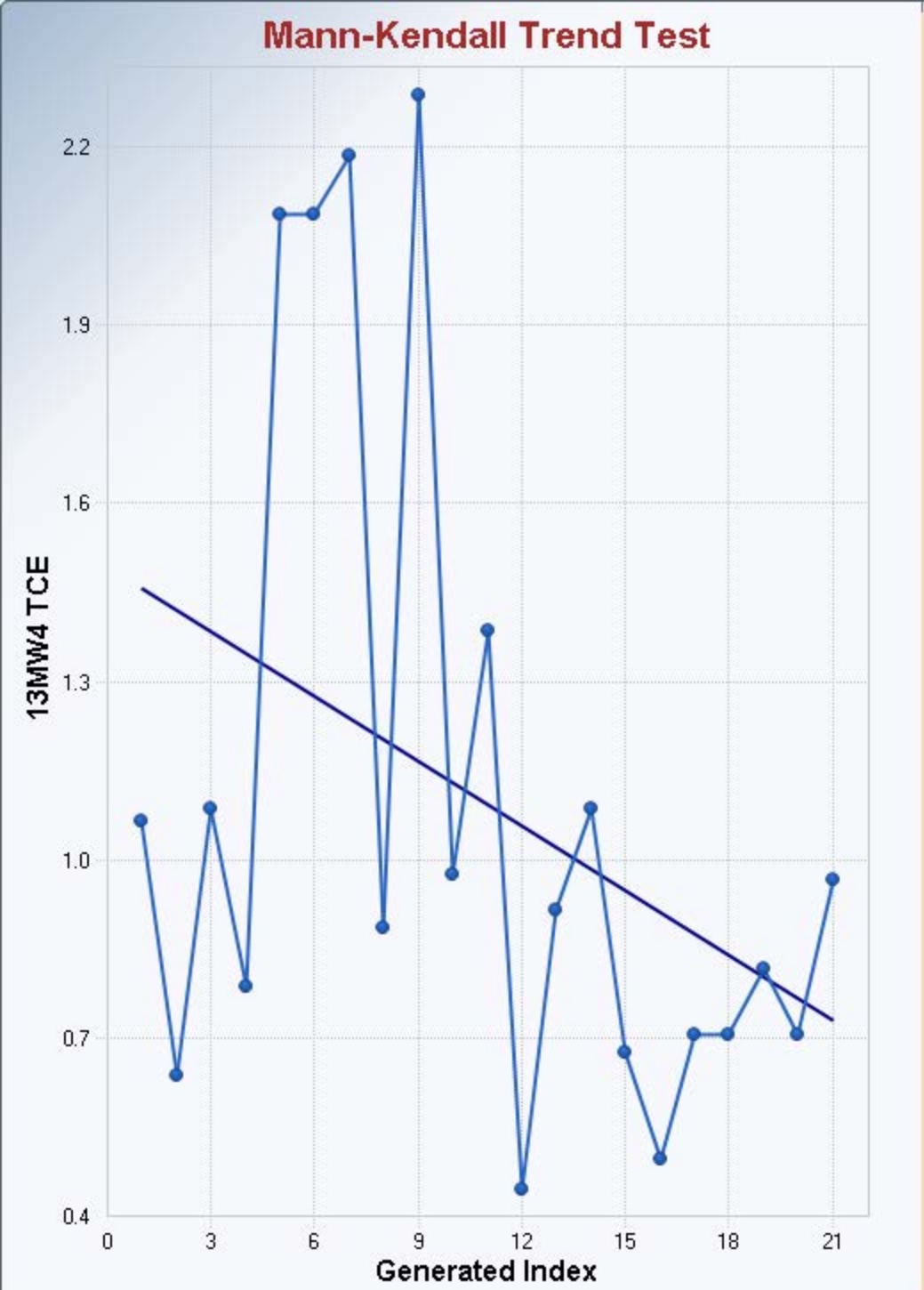
Mann-Kendall Trend Analysis

n	20
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	30.6703
Standardized Value of S	-0.0326
M-K Test Value (S)	-2
Tabulated p-value	0.4870
Approximate p-value	0.4870

OLS Regression Line (Blue)

OLS Regression Slope	-0.0005
OLS Regression Intercept	0.7458

Insufficient statistical evidence of a significant trend at the specified level of significance.



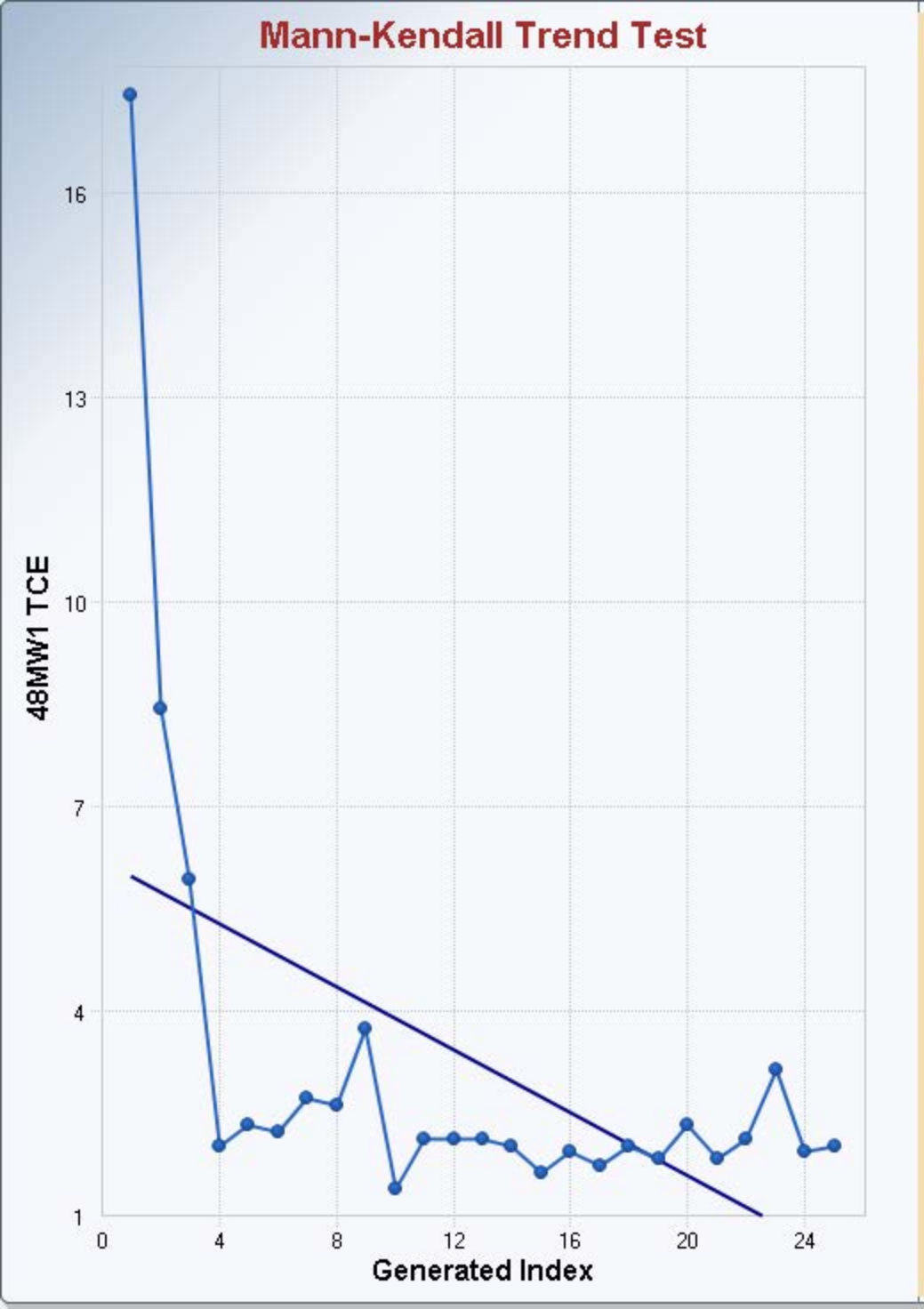
Mann-Kendall Trend Analysis

n	21
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	33.0303
Standardized Value of S	-1.3321
M-K Test Value (S)	-45
Tabulated p-value	0.0980
Approximate p-value	0.0914

OLS Regression Line (Blue)

OLS Regression Slope	-0.0364
OLS Regression Intercept	1.5090

Insufficient statistical evidence of a significant trend at the specified level of significance.



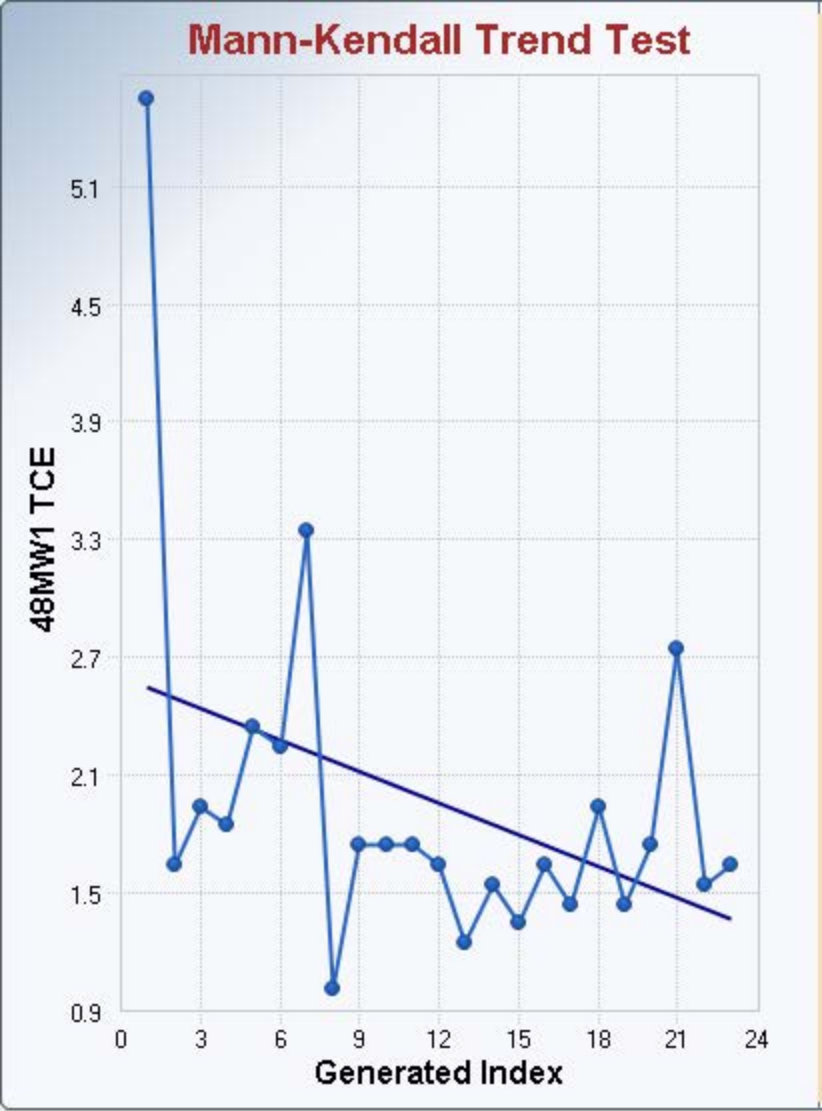
Mann-Kendall Trend Analysis

n	25
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	42.5793
Standardized Value of S	-2.6304
M-K Test Value (S)	-113
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0043

OLS Regression Line (Blue)

OLS Regression Slope	-0.2328
OLS Regression Intercept	5.7889

Statistically significant evidence of a decreasing trend at the specified level of significance.



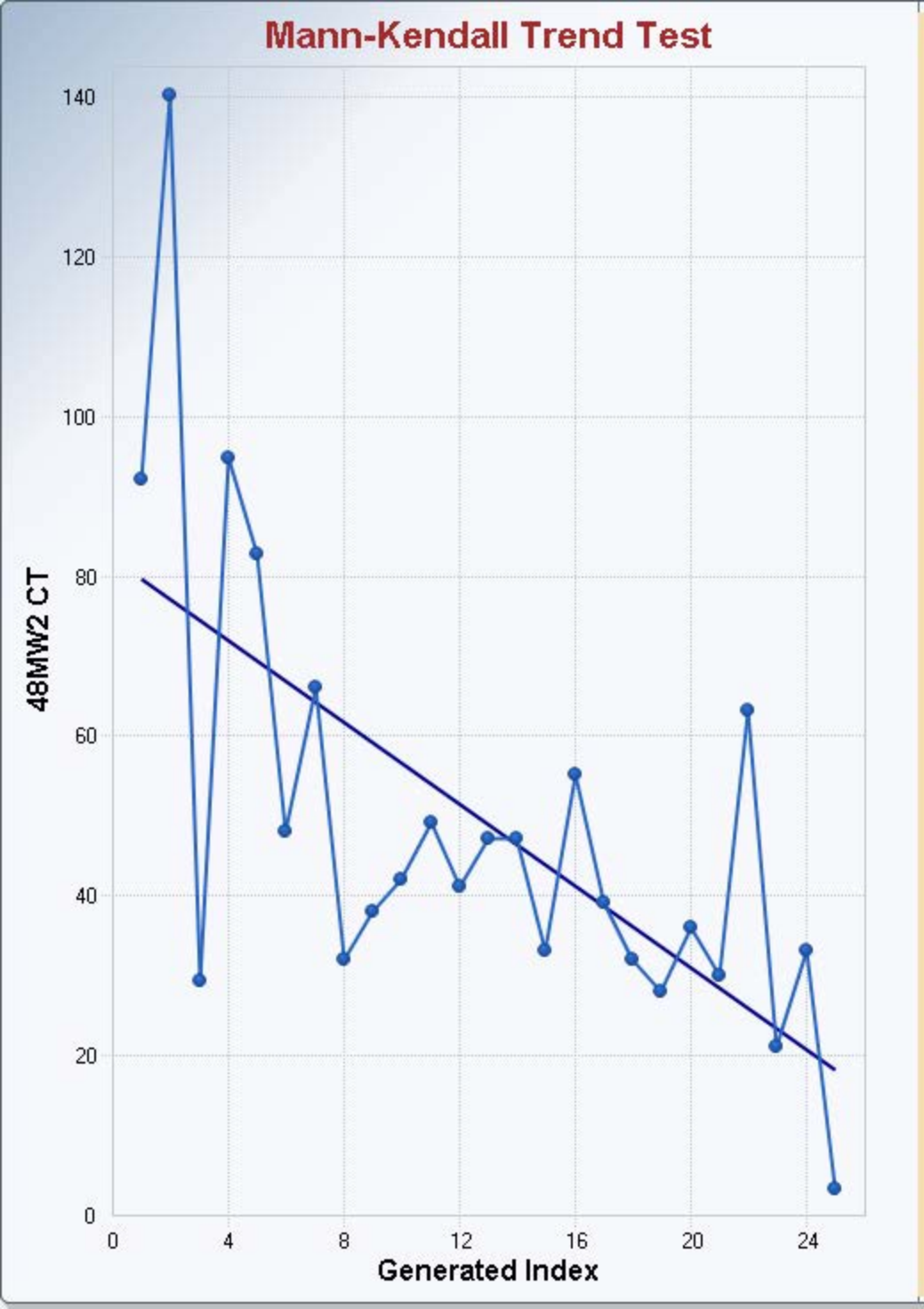
Mann-Kendall Trend Analysis

n	23
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	37.5943
Standardized Value of S	-1.7290
M-K Test Value (S)	-66
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0419

OLS Regression Line (Blue)

OLS Regression Slope	-0.0540
OLS Regression Intercept	2.5645

Statistically significant evidence of a decreasing trend at the specified level of significance.



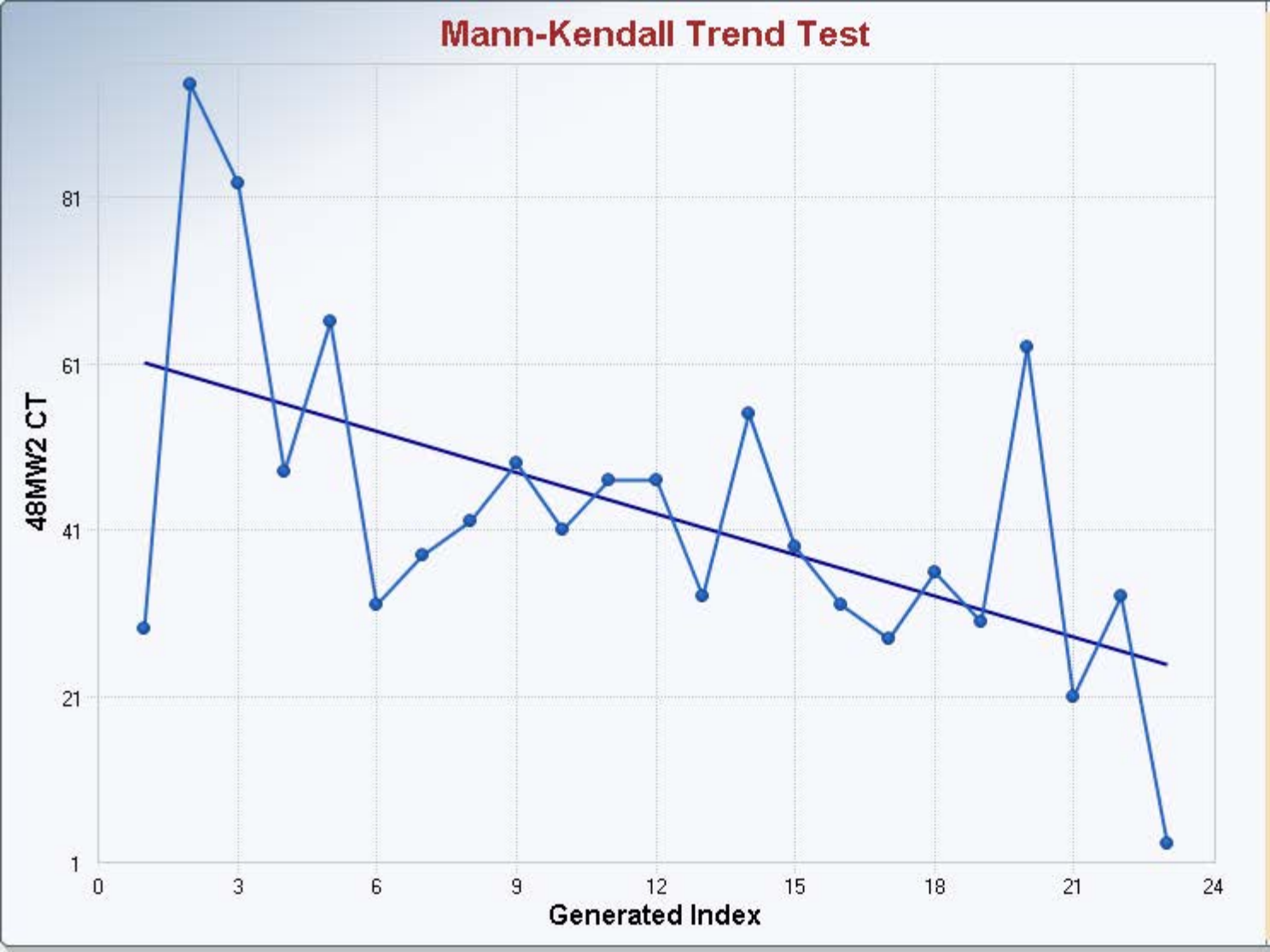
Mann-Kendall Trend Analysis

n	25
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	42.7824
Standardized Value of S	-3.3191
M-K Test Value (S)	-143
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0005

OLS Regression Line (Blue)

OLS Regression Slope	-2.5572
OLS Regression Intercept	82.1160

Statistically significant evidence of a decreasing trend at the specified level of significance.



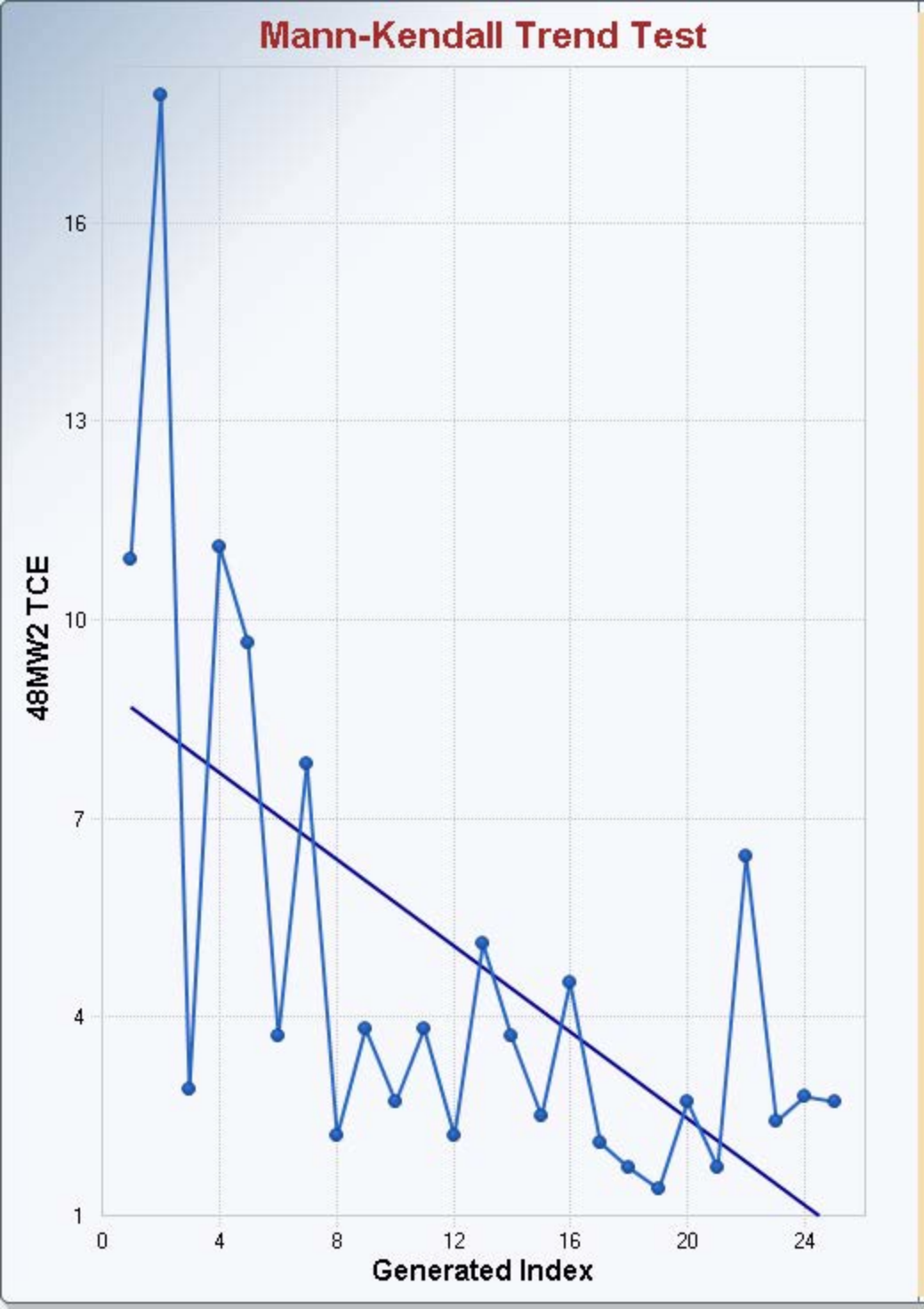
Mann-Kendall Trend Analysis

n	23
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	37.8242
Standardized Value of S	-2.6174
M-K Test Value (S)	-100
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0044

OLS Regression Line (Blue)

OLS Regression Slope	-1.6504
OLS Regression Intercept	62.8395

Statistically significant evidence of a decreasing trend at the specified level of significance.



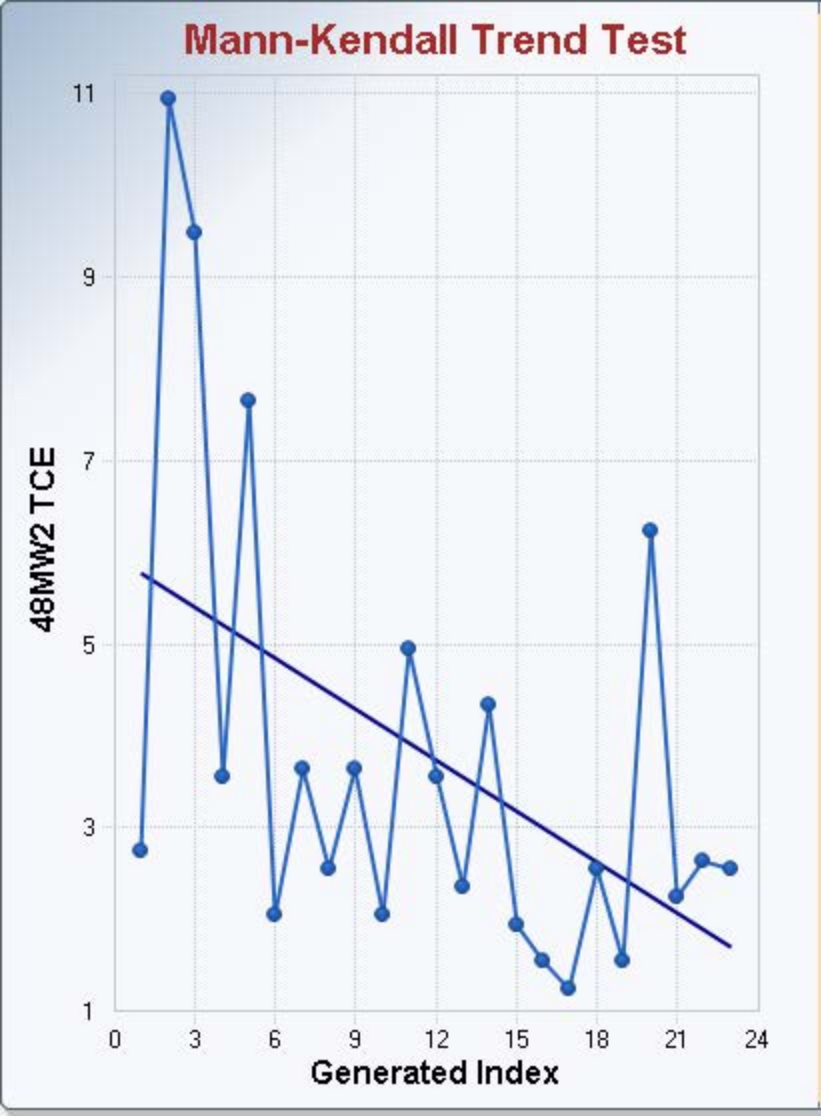
Mann-Kendall Trend Analysis

n	25
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	42.7278
Standardized Value of S	-2.9021
M-K Test Value (S)	-125
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0019

OLS Regression Line (Blue)

OLS Regression Slope	-0.3275
OLS Regression Intercept	9.0920

Statistically significant evidence of a decreasing trend at the specified level of significance.



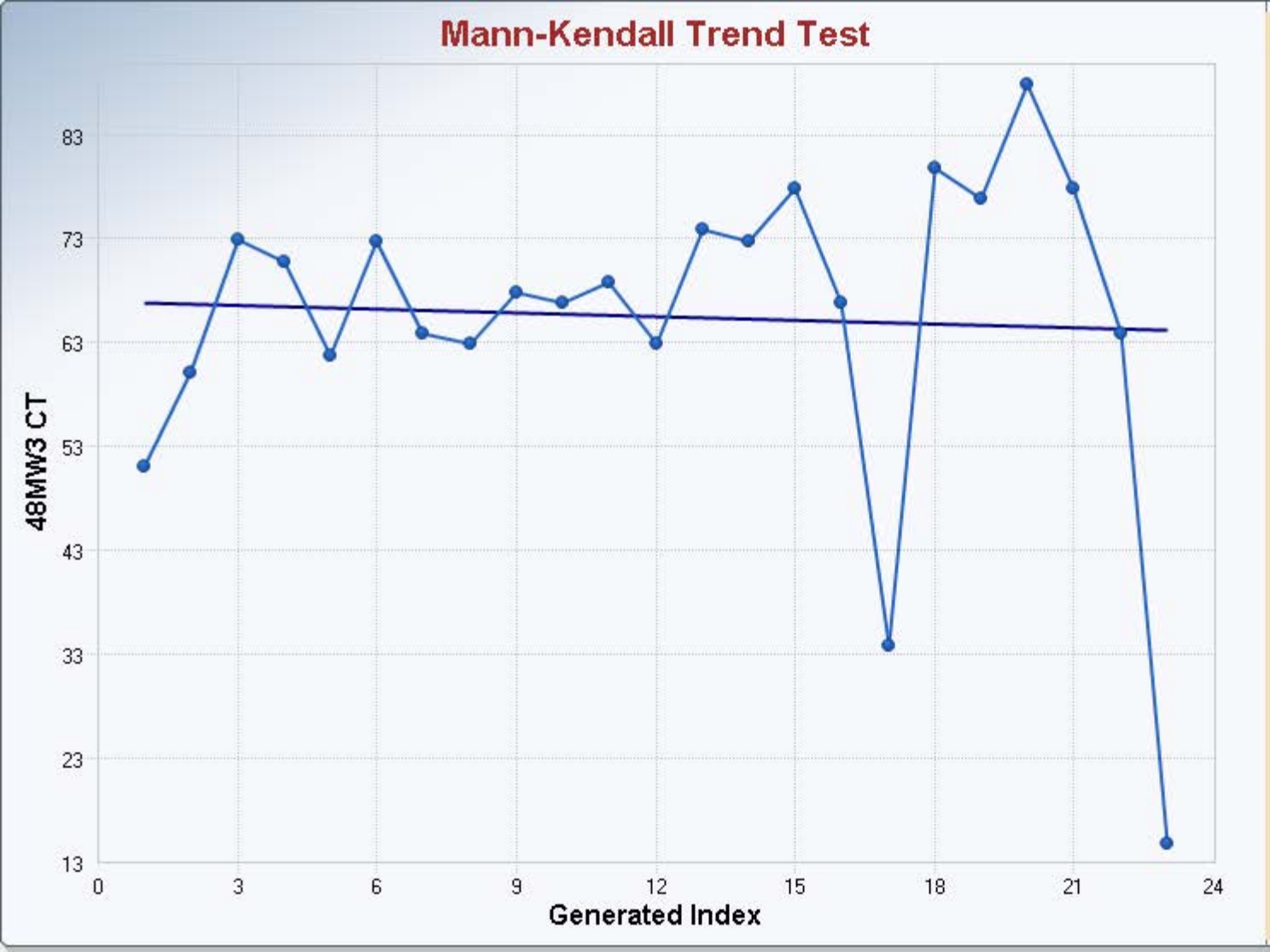
Mann-Kendall Trend Analysis

n	23
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	37.7624
Standardized Value of S	-2.1450
M-K Test Value (S)	-82
Appx. Critical Value (0.05)	-1.6449
Approximate p-value	0.0160

OLS Regression Line (Blue)

OLS Regression Slope	-0.1854
OLS Regression Intercept	6.2186

Statistically significant evidence of a decreasing trend at the specified level of significance.



Mann-Kendall Trend Analysis

n	23
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	37.7977
Standardized Value of S	1.5609
M-K Test Value (S)	60
Appx. Critical Value (0.05)	1.6449
Approximate p-value	0.0593

OLS Regression Line (Blue)

OLS Regression Slope	-0.1197
OLS Regression Intercept	67.2012

Insufficient statistical evidence of a significant trend at the specified level of significance.

Mann-Kendall Trend Analysis

n	25
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	42.7590
Standardized Value of S	0.3274
M-K Test Value (S)	15
Appx. Critical Value (0.05)	1.6449
Approximate p-value	0.3717

OLS Regression Line (Blue)

OLS Regression Slope	-1.3758
OLS Regression Intercept	89.5890

Insufficient statistical evidence of a significant trend at the specified level of significance.

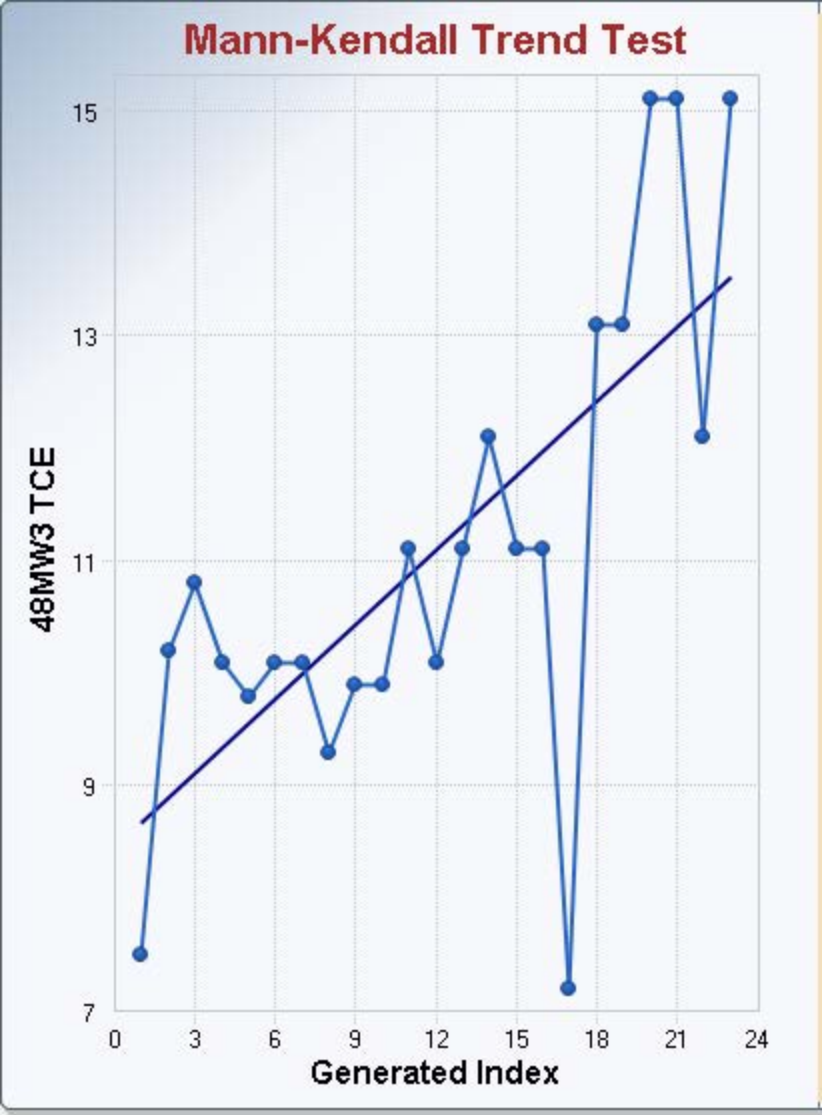
Mann-Kendall Trend Analysis

n	25
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	42.5363
Standardized Value of S	2.0453
M-K Test Value (S)	88
Appx. Critical Value (0.05)	1.6449
Approximate p-value	0.0204

OLS Regression Line (Blue)

OLS Regression Slope	-0.2547
OLS Regression Intercept	16.2230

Statistically significant evidence of an increasing trend at the specified level of significance.



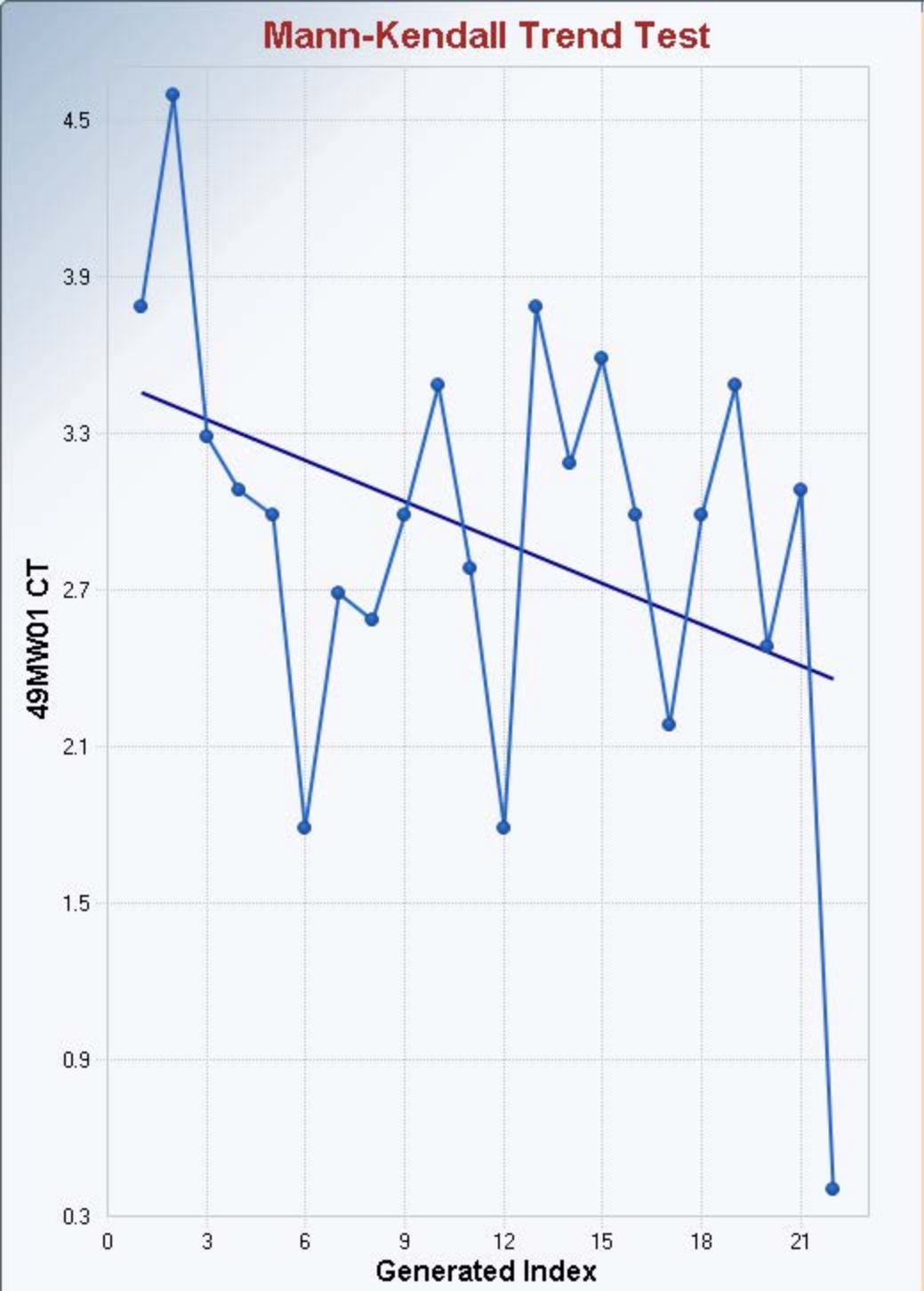
Mann-Kendall Trend Analysis

n	23
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	37.5455
Standardized Value of S	3.5690
M-K Test Value (S)	135
Appx. Critical Value (0.05)	1.6449
Approximate p-value	0.0002

OLS Regression Line (Blue)

OLS Regression Slope	0.2205
OLS Regression Intercept	8.3458

Statistically significant evidence of an increasing trend at the specified level of significance.



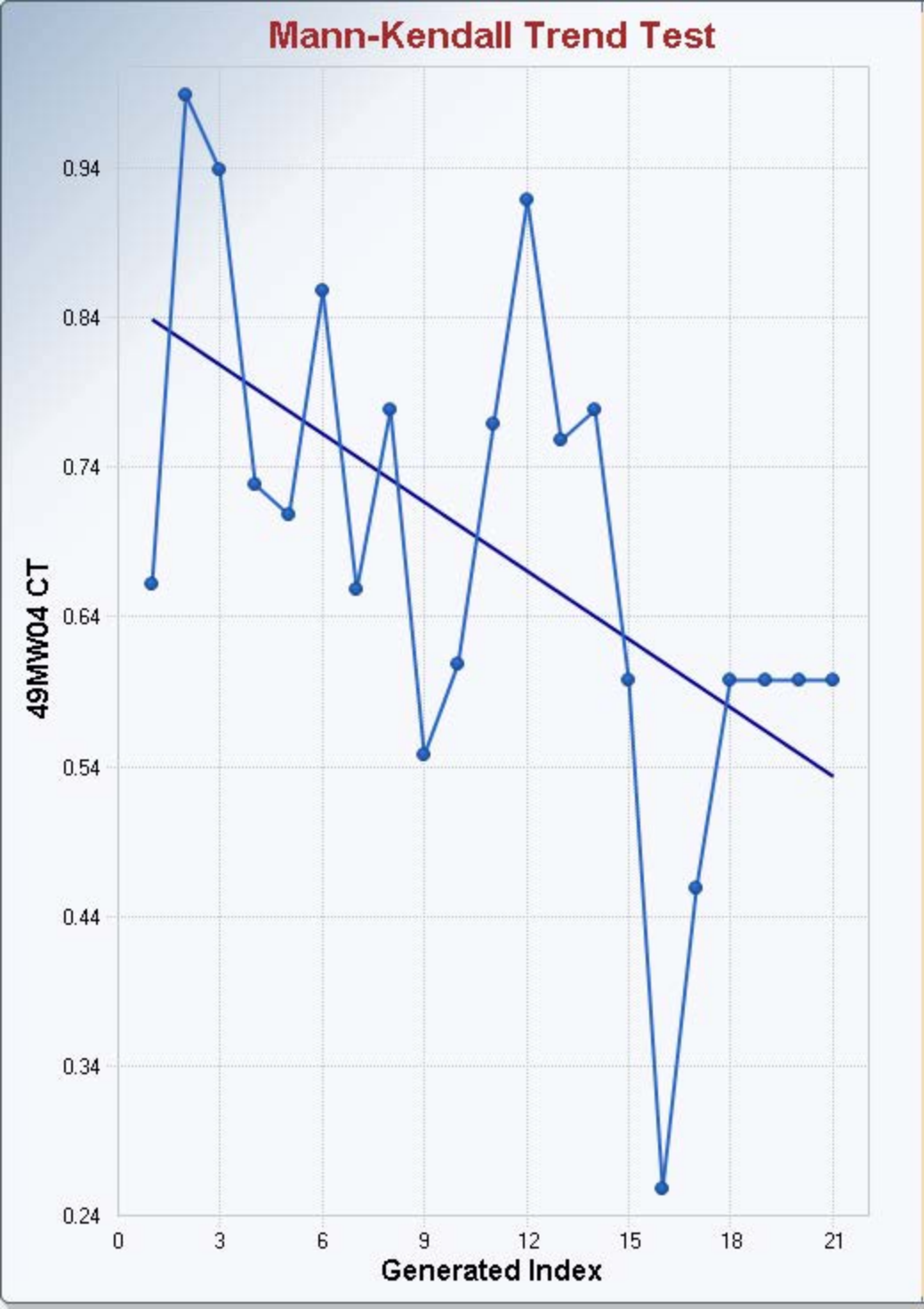
Mann-Kendall Trend Analysis

n	22
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	35.2846
Standardized Value of S	-1.4171
M-K Test Value (S)	-51
Tabulated p-value	0.0800
Approximate p-value	0.0782

OLS Regression Line (Blue)

OLS Regression Slope	-0.0521
OLS Regression Intercept	3.5232

Insufficient statistical evidence of a significant trend at the specified level of significance.



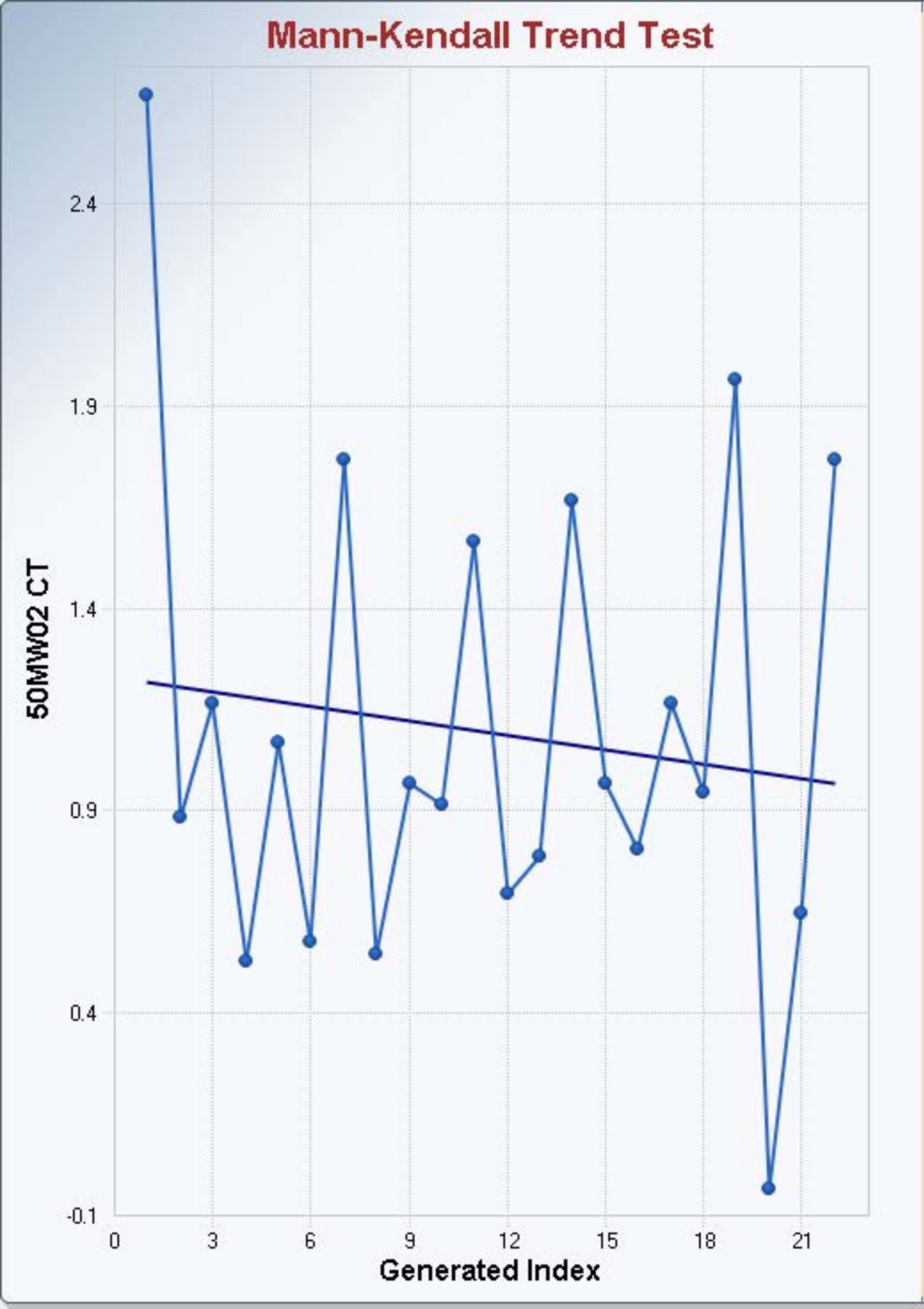
Mann-Kendall Trend Analysis

n	21
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	32.8481
Standardized Value of S	-2.6790
M-K Test Value (S)	-89
Tabulated p-value	0.0040
Approximate p-value	0.0037

OLS Regression Line (Blue)

OLS Regression Slope	-0.0153
OLS Regression Intercept	0.8562

Statistically significant evidence of a decreasing trend at the specified level of significance.



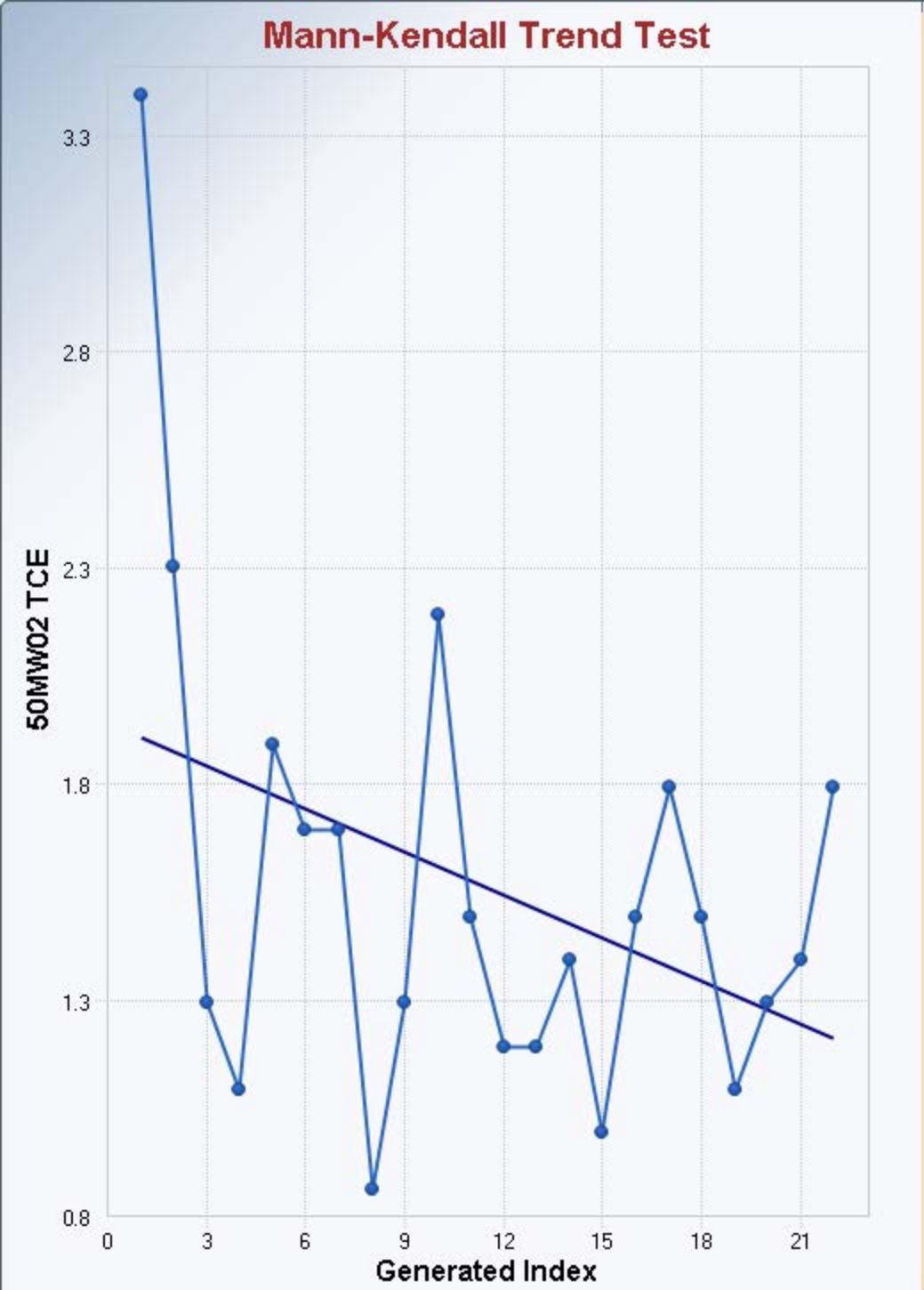
Mann-Kendall Trend Analysis

n	22
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	35.4213
Standardized Value of S	
M-K Test Value (S)	0
Tabulated p-value	0.5000
Approximate p-value	

OLS Regression Line (Blue)

OLS Regression Slope	-0.0117
OLS Regression Intercept	1.2607

Insufficient statistical evidence of a significant trend at the specified level of significance.



Mann-Kendall Trend Analysis

n	22
Confidence Coefficient	0.9500
Level of Significance	0.0500
Standard Deviation of S	35.2893
Standardized Value of S	-1.0485
M-K Test Value (S)	-38
Tabulated p-value	0.1440
Approximate p-value	0.1472

OLS Regression Line (Blue)

OLS Regression Slope	-0.0331
OLS Regression Intercept	1.9483

Insufficient statistical evidence of a significant trend at the specified level of significance.